



EXECUTIVE CHAMBERS

HONOLULU

NEIL ABERCROMBIE  
GOVERNOR

Testimony SB 2787 SD2  
Relating to Electricity

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Representative Robert N. Herkes, Chair  
Representative Ryan I. Yamane, Vice Chair

And

HOUSE COMMITTEE ON JUDICIARY  
Representative Gilbert S.C. Keith-Agaran, Chair  
Representative Karl Rhoads, Vice Chair

March 19, 2012  
2:00 pm, Room 325

Chair Herkes, Chair Keith-Agaran, Vice Chair Yamane, Vice Chair Rhoads, and members of the committees, thank you for hearing Senate Bill 2787, Senate Draft 2, Relating to Electricity. I respectfully request your support of this important measure.

This measure would allow the Public Utilities Commission (PUC) to develop and enforce local electric reliability standards and to oversee access to the grid. To ensure that the PUC has accurate and dependable information, this bill allows the PUC to contract with the Hawaii Electricity Reliability Administrator.

Currently, there are no clear rules for reliability and interconnection. This ambiguity has been identified as a principal roadblock for big and small scale renewable energy projects. By giving this authority to the PUC and adopting clear standards that will be enforced, Hawaii will be better equipped to meet its renewable energy goals and plan for a clean energy future.

Reducing our dependence on imported oil remains a priority of this administration and will be a cornerstone of Hawaii's economy for generations.

Thank you again for consideration of this measure.



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

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Statement of  
**RICHARD C. LIM**  
Director  
Department of Business, Economic Development, and Tourism  
before the  
**HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE**  
Monday, March 19, 2012  
2:00 p.m.  
State Capitol, Conference Room 325  
in consideration of  
  
**SB2787 SD2**  
**RELATING TO ELECTRICITY.**

Chair Herkes, Vice Chair Yamane, and Members of the Committee.

The Department of Business, Economic Development, and Tourism (DBEDT) **supports** SB2787 SD2 to ensure fair and transparent grid access, which is critical to achieving Hawaii's transformation to clean energy.

SB2787 SD2 will authorize the Public Utilities Commission (PUC) to perform necessary electric system reliability and grid access oversight functions, allow the PUC to contract for the services of a Hawaii electricity reliability administrator, and allow the PUC to establish a surcharge for the purpose of maintaining system reliability. Ensuring reliability and resiliency of the electric grid as more renewable energy systems are developed is important to successfully achieve the State's renewable energy portfolio standard. Replacing utility control of grid access with a neutral, third party entity will encourage clean energy development as appropriate.

Thank you for the opportunity to offer these comments.

**Testimony before the  
House Committee on Consumer Protection & Commerce**

**S.B. 2787, S.D. 2 -- Relating to Electricity**

**Monday, March 19, 2012  
2:00 pm, Conference Room 325**

**By Mathew McNeff  
Manager, Renewable Energy Services Department  
Maui Electric Company, Ltd.**

Chair Herkes, Vice-Chair Yamane, and Members of the Committee:

My name is Mathew McNeff. I am the Acting Manager of the Renewable Energy Services Department for Maui Electric Company. I am testifying on behalf of Hawaiian Electric Company and its subsidiary utilities, Maui Electric Company and Hawaii Electric Light Company. We support S.B. 2787, S.D. 2 to establish electric reliability standards to govern all segments of the electric power system

Ensuring reliability and resiliency of the electric system as we increase renewable energy levels on Hawaii's electric grids is an important aspect to successfully achieve the State's ambitious renewable energy portfolio standard mandate. It is critical for the Public Utilities Commission to have the clear authority to perform necessary electric system reliability and grid access oversight functions, and to allow the commission to contract for the services of a Hawaii electricity reliability administrator to support the commission in carrying out those critical functions throughout the State.

As we work toward adding significant levels of new renewable resources to the grid, it is also important that the Commission oversees and make determinations regarding any disputes that arise from the process of interconnecting an electric generator with the electric system to facilitate timely resolution and advancement of projects as quickly as possible.

Thank you for the opportunity to testify in support of this measure.



# Sierra Club Hawai'i Chapter

PO Box 2577, Honolulu, HI 96803

808.538.6616 hawaii.chapter@sierraclub.org

## HOUSE COMMITTEE ON CONSUME PROTECTION & COMMERCE HOUSE COMMITTEE ON JUDICIARY

March 19, 2012, 2:00 P.M.

*(Testimony is 1 page long)*

### TESTIMONY IN SUPPORT OF SB 2787 (SD2)

Aloha Chair Herkes, Chair Keith-Agaran, and Committee Members -

The Sierra Club, Hawai'i Chapter, with over 10,000 members and supporters, *supports* SB 2787 (SD2). This bill would, among other things, allow the Public Utilities Commission to develop grid reliability and interconnection standards. We support the changes made in the revised drafts.

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, a year ago HEI imposed a moratorium on additional distributed power 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 these Committees to move this bill forward. Mahalo for the opportunity to testify.

The Twenty-Sixth Legislature  
Regular Session of 2012

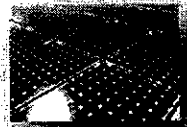
HOUSE OF REPRESENTATIVES  
Committee on Consumer Protection and Commerce  
Rep. Robert N. Herkes, Chair  
Rep. Ryan I. Yamane, Vice Chair  
State Capitol, Conference Room 325  
Monday, March 19, 2012; 2:00 p.m.

**STATEMENT OF THE ILWU LOCAL 142 ON S.B. 2787, SD2  
RELATING TO ELECTRICITY**

The ILWU Local 142 supports S.B. 2787, SD2, which authorizes the Public Utilities Commission to develop, adopt and enforce reliability standards and interconnection requirements; authorizes the PUC to contract for the performance of related duties with a party that will serve as the Hawaii electricity reliability administrator; and authorizes the collection of a Hawaii electricity reliability surcharge collected by the electric utilities.

S.B. 2787, SD2 will allow the PUC to establish and enforce reliability standards for electricity on all islands. Renewable energy resources are available on all islands to one degree or another, but efforts have yet to be coordinated to ensure consistent availability of electricity. With this bill, the PUC will have regulatory oversight of the state's electrical grids to ensure reliability of service. With oversight provided by the PUC, and the renewable sources of energy being actively developed, Hawaii will be well on its way to achieving its goal of having 40% of its electricity generated from renewable sources by 2030.

The ILWU urges passage of S.B. 2787, SD2. Thank you for the opportunity to testify.



## HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

March 19, 2012, 2:00 P.M.

Room 325

(Testimony is 4 pages long)

### TESTIMONY IN SUPPORT OF SB 2787 SD2

Chair Herkes and members of the Committee:

The Blue Planet Foundation strongly supports SB 2787 SD2, a measure which authorizes the Public Utilities Commission (PUC) to perform necessary electric system reliability and grid access oversight functions and to allow the commission to contract for the services of a Hawaii Electricity Reliability Administrator (HERA) to support the commission in carrying out those critical functions throughout the State.

#### *Rationale*

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Blue Planet views establishment of the HERA as a keystone clean energy legislation to enable more accessible, fair, transparent, and predictable grid interconnection for renewable energy generators while maintaining reliable system operations for the grid. Adoption of this policy will provide quasi-independent oversight of grid interconnection and operations to ensure that the utility is doing everything it can to reliably maximize the amount of renewable energy Hawaii uses.

Numerous technical, operational, and regulatory issues concerning Hawaii's century-old electrical system are stifling the full potential of renewable energy production. The proposed policy in SB 2787 SD2 can help clear the path by proposing a separate entity within the PUC to oversee grid interconnection and reliability. HERA would open the doors to greater integration of renewables while establishing formal, objective, and verifiable reliability and interconnection standards for Hawaii's electricity grids. Clear regulatory oversight of the state's grids would ensure system reliability, resiliency, and accountability.

## ***What are reliability standards?***

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Blue Planet believes that all generators of electricity who plug into the various island electricity grids should be governed by formal electric system reliability standards similar to those promulgated by the North American Electric Reliability Corporation (NERC). Although Federal Power Act provisions concerning electric reliability standards do not apply in Hawaii, electric utility companies electric system planning and operations, including decisions concerning the interconnection and curtailment of renewable energy providers, should be governed by formal reliability standards.

Reliability standards are planning and operating rules that utilities follow to ensure system reliability. These standards are typically developed using a stakeholder-driven process similar to the current Reliability Standards Working Group. On the mainland, once the standards are approved by the U.S. Federal Energy Regulatory Commission (FERC), NERC reliability standards become legally binding on all owners, operators and users of the bulk power system. NERC has the legal authority to enforce compliance with NERC reliability standards, which it achieves in part through the imposition of financial penalties.

## ***Successful models elsewhere***

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The experience of New Zealand demonstrates that formal reliability standards are appropriate and utilized not only in North America, but on isolated island electric grids similar to those in Hawaii. The electric system in New Zealand consists of two separate island grids with limited interconnection via a high voltage direct current undersea cable. The bulk power electric system is subject to formal reliability standards established by the New Zealand Electricity Commission<sup>1</sup>. These New Zealand standards are comparable to NERC reliability standards governing North America.

For example, under New Zealand reliability standards, "Principal Performance Obligations," or PPOs, establish real-time reliability standards (i.e., system frequency and voltage control) the bulk electric system operator must comply with to ensure reliable operation of generation and transmission<sup>2</sup>. Similarly, grid reliability standards set forth the requirements for the design and upgrade of the high voltage transmission system; these requirements are analogous to NERC reliability standards related to transmission planning<sup>3</sup>. The grid system operator is also required

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<sup>1</sup> Available at [www.electricitycommission.govt.nz/opdev/transmis/gridreliability/index.html#grs](http://www.electricitycommission.govt.nz/opdev/transmis/gridreliability/index.html#grs)

<sup>2</sup> Available at [www.electricitycommission.govt.nz/pdfs/rulesandregs/rules/rulespdfypartC-20Jul09.pdf](http://www.electricitycommission.govt.nz/pdfs/rulesandregs/rules/rulespdfypartC-20Jul09.pdf)

<sup>3</sup> Available at [www.electricitycommission.govt.nz/opdev/transmis/gridreliability/index.html#grs](http://www.electricitycommission.govt.nz/opdev/transmis/gridreliability/index.html#grs).

to submit monthly system performance reports to the Electricity Commission. The reports must summarize power system performance, including compliance with system frequency PPOs<sup>4</sup>.

Formal reliability standards similar to the NERC reliability standards are appropriate to guide Hawaii's transition to electric grids supplied by increasing amounts of renewable energy. Grid reliability has emerged as a critical issue in the addition of greater amounts of variable energy resources (solar, wind, etc.) to Hawaii's grid. Addressing the various technical impacts of increasing amounts of variable renewable energy on the electric grids demands formal reliability standards and operating practices tailored for Hawaii. Formal reliability standards (such as the NERC standards) may be particularly valuable in Hawaii because they provide an objective basis to assess any grid reliability impacts and ensure reliable grid operation.

### *Funding*

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Senate Bill 2787 SD2 contemplates establishing a surcharge to fund the reliability standards and the HERA. Blue Planet supports this surcharge but we note that a surcharge could be avoided by simply appropriating a greater share of the PUC special fund to the PUC.

Currently, the PUC is funded through the PUC special fund which collects funding from various sources, most significantly an annual fee of one-half of one per cent of the gross income of the public utility's previous year's business. About half of the revenue in this special fund—which receives approximately \$17 million to \$18 million annually—is diverted to the state's general fund, however. The PUC is currently deliberating dockets that will fundamentally reshape Hawaii's electric utility sector. Smart grid, reliability standards, on-bill financing, integrated resource planning—these dockets require thorough deliberation, research, and expert input. The PUC must have the talent and resources to adequately investigate and develop the right policies for Hawaii's 21st century electricity industry. The total funding available to them through their revenues should be available for their work.

The public utilities commission needs funding to navigate the multi-billion dollar transition to Hawaii's clean energy economy. Adoption of formal reliability and interconnection standards and HERA is a necessary additional expense. Appropriating the full amount of the PUC special fund to the PUC for the purposes of this important new role is a possible sensible solution to avoid an additional surcharge.

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<sup>4</sup> Available at [www.systemoperator.co.n2/f1947.26087875/so-system-perf-repon-dec-09.pdf](http://www.systemoperator.co.n2/f1947.26087875/so-system-perf-repon-dec-09.pdf)



Achieving the preferred system of energy self-sufficiency for Hawaii—one where wind and solar are no longer considered “alternative” energy—requires restructuring established paradigms in electricity production and distribution. An effective first step is 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.

Thank you for the opportunity to testify.

TESTIMONY OF HERMINA MORITA  
CHAIR, PUBLIC UTILITIES COMMISSION  
DEPARTMENT OF BUDGET AND FINANCE  
STATE OF HAWAII  
TO THE  
HOUSE COMMITTEE ON  
CONSUMER PROTECTION & COMMERCE

MARCH 19, 2012

**MEASURE:** S.B. No. 2787, S.D. 2

**TITLE:** Relating to Electricity

Chair Herkes and Members of the Committee:

**DESCRIPTION:**

This measure will provide the Commission with explicit authority to develop, adopt, and enforce electric reliability standards and interconnection requirements, and provide grid interconnection oversight for all parties connecting to the Hawaii electric system, including independent power producers. The Commission is also given the discretion to contract for the performance of monitoring, enforcement, and advisory functions related to electric reliability and grid oversight with an entity to be designated the Hawaii Electricity Reliability Administrator ("HERA"). The measure also provides for a surcharge mechanism to fund HERA operations.

**POSITION:**

The Commission strongly supports this measure and would like to offer the following comments for the Committee's consideration.

**COMMENTS:**

Three measures are currently advancing through the Legislature that will improve the State's ability to maximize its use of renewable energy resources,<sup>1</sup> this bill being a major

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<sup>1</sup> S.B. No. 2785, S.D. 2, H.D. 1, relating to interisland electric transmission cable systems, will establish the regulatory process by which the Commission would oversee the development and operation of an interisland high-voltage electric cable system or

component of that package of legislation. Formal reliability standards and interconnection requirements, along with a solid enforcement program to ensure compliance, will help build a clear, coordinated operating environment in which interested parties can have transparent access to Hawaii's grids and where grid reliability and stability are maintained.

The first set of formal reliability standards for Hawaii are now being developed through the Commission's Reliability Standards Working Group docket – a process bringing together various members from the utilities, government, industry, and the community to create operating rules and procedures for Hawaii's unique electrical system. The next step in this process would be the establishment of a HERA-like entity with the expertise to ensure that adopted rules and standards are complied with and updated as technology advances.

In addition, the Commission would like to reiterate that the surcharge provision in this bill is the optimal mechanism to fund HERA operations, since it closely ties the costs of electric system reliability to those benefiting most from interconnection transparency.

Please find attached a fact sheet prepared by the Commission regarding this bill.

Thank you for the opportunity to testify on this measure.

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systems. An appropriately regulated cable system will significantly bolster Hawaii's capacity for electricity produced from local renewable energy resources. S.B. No. 2752, S.D. 1, relating to electric utilities, will improve the ability of local electric utilities to enter into long-term renewable energy power purchase agreements ("PPA") by reducing the amount of imputed debt electric utilities must carry for such PPAs.

# FREQUENTLY ASKED QUESTIONS

## Hawaii Electricity Reliability Administrator (HERA) S.B. 2787 (2012)

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The increasing amount and diversity of renewable energy resources connecting to Hawaii's grids, such as solar photovoltaic, wind, and geothermal, means that more formal, transparent rules for reliable system operations must be developed. The PUC is currently working with various parties to develop electric reliability standards and interconnection requirements to satisfy this need. However, once these standards and requirements are developed, the PUC will require the ongoing assistance of a highly trained and experienced entity to properly monitor, enforce, and analyze issues associated with these standards and requirements.

### What does Senate Bill 2787 (The HERA Bill) do?

Senate Bill 2787 – The Hawaii Electricity Reliability Administrator or HERA bill – gives the Public Utilities Commission (PUC) the necessary authority and resources to create and enforce reliability standards and interconnection requirements for the Hawaii electrical grids. This measure specifically:

- Establishes the **authority of the PUC to develop, adopt, and enforce electric reliability standards and interconnection requirements** for connecting to the grid. The scope of this authority covers the electric utilities, as well as independent power producers.
- Authorizes the PUC to **select and contract a third-party entity to be designated the Hawaii Electricity Reliability Administrator (HERA)** to monitor and enforce standards, and to perform other technical interconnection-related support functions.
- Authorizes the PUC to establish a **minimal surcharge to fund HERA** operations.

### What are electric reliability standards and interconnection requirements?

Electric reliability standards are **formal rules governing the technical and operational functions of electrical grids** for the purpose of keeping the lights on. Interconnection requirements are, on the other hand, **standards of performance and/or operation that entities** must comply with to gain electrical grid access.

### Why are reliability standards and interconnection requirements necessary for Hawaii?

With the high penetration of variable and firm generation from independently owned and operated renewable energy projects – like large- and small-scale solar, geothermal, and wind – coming online, more formal, standardized rules for system reliability and interconnection are necessary.

As Hawaii's electrical grids evolve beyond a system in which electrons flowed in one direction – from the power plant to the customer – to a system where electricity can be generated from many different resources and where electrons can move in two directions, these kinds of rules will bring **clarity, consistency, and transparency** to the system. Thus, an important aspect of Senate Bill 2787 is the authority it gives to the PUC to oversee all parties connecting to Hawaii's evolving electrical grids.

### Why has the PUC not already developed reliability standards and requirements? Why is this legislation necessary?

The PUC does have authority to develop formal reliability standards and interconnection requirements – which it is currently doing through an investigative docket. However, once completed, the Commission also needs the authority to enforce all adopted standards and requirements upon non-utility power electricity producers. Senate Bill 2787 also

For questions, please contact the Hawaii Public Utilities Commission at (808) 586-2020

Hawaii Electricity Reliability Administrator (S.B. 2787)  
FACT SHEET – 2012

## FREQUENTLY ASKED QUESTIONS

### Hawaii Electricity Reliability Administrator (HERA) S.B. 2787 (2012)

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gives the Commission the authority to retain a third-party contractor with the requisite technical expertise and experience to perform HERA's monitoring and enforcement functions.

#### **Can Hawaii just adopt reliability standards like what FERC and NERC are already doing on the mainland?**

No. First of all, Hawaii is not under the jurisdiction of either the Federal Energy Regulatory Commission (FERC) or the North American Electric Reliability Corporation (NERC). Thus, Hawaii is not required to follow the extensive reliability standards system established throughout the Continental United States, nor should it.

The PUC's ongoing reliability standards investigation is aimed at ensuring that the developed *standards will be designed to meet the unique requirements and operational challenges of Hawaii's small and isolated island grids.*

#### **Will HERA be another state department/agency or some other type of entity?**

HERA is to be established as an *independent third-party* that will operate *under contract with the PUC*. Similar to how Hawaii's Public Benefits Fee Administrator (Hawaii Energy) is contracted by the PUC under HRS § 269-122 to carry out energy efficiency programs, the PUC will select and contract with a highly qualified and experienced organization to serve as the HERA. While HERA will be tasked with monitoring and enforcing electric reliability standards and interconnection requirements throughout the State, Senate Bill 2787 ensures the *PUC will retain ultimate authority over the process* through both statute and the HERA contracting process.

#### **Who will control Hawaii's electric system infrastructure (i.e. power plants, transmission lines, etc.) once HERA is established?**

*Hawaii's electric utilities will continue to retain ownership and control of the electric grids*, as they do currently. The PUC, through HERA, will simply take a greater role in the oversight of issues related to system reliability and interconnection. Compliance with PUC-adopted standards and requirements will be monitored and enforced by HERA. Significant interconnection disputes will be determined by the Commission with the assistance of HERA's added expertise.

#### **How will the surcharge provision affect monthly electricity bills?**

The specifics of the surcharge mechanism will be established through a PUC's docketed investigation. However, the preliminary estimated impact on a typical household's electricity bill is an increase of *no more than 10 to 15 cents a month* to fund HERA's annual operating expenses.

For questions, please contact the Hawaii Public Utilities Commission at (808) 586-2020

Hawaii Electricity Reliability Administrator (S.B. 2787)  
FACT SHEET – 2012



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TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE  
HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE  
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

SB 2787 SD2, RELATING TO ELECTRICITY

March 19, 2012

Chair Herkes, Vice-Chair Yamane 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 2787 SD2 are to: (i) authorize the Public Utilities Commission to develop, adopt, and enforce reliability standards for electric systems, (ii) authorize the Public Utilities Commission to contract for the performance of related duties with a party to be named the Hawaii Electricity Reliability Administrator, and (iii) authorize the collection of a Hawaii electricity reliability surcharge to be collected by Hawaii's electric utilities.

HREA **strongly supports** this measure as it supports the state's overall clean energy objectives, and we offer the following comments in support:

- 1) The Commission has already started the development of reliability standards on its Docket No. 2011-0206, and HREA is proud to be an Intervenor in the docket
- 2) This measure will strengthen the process in three ways:
  - a) First, the measure requires the adoption and enforcement of the reliability standards. It is our belief that this process will allow the integration of more renewables on our island grids, but also improve the reliability of our grids,
  - b) Second, the measure provides the Commission with the additional resources to oversee and enforce the reliability standards, and
  - c) Third, the Hawaii Electricity Reliability Administrator will be an independent entity that reports directly to the Commission.

Thank you for this opportunity to testify.