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PUBLIC UTILITIES  
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BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

----	In the Matter of	----	)	
			)	
	PUBLIC UTILITIES COMMISSION		)	DOCKET NO. 03-0371
			)	
	Instituting a Proceeding to Investigate		)	
	Distributed Generation in Hawaii		)	
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TESTIMONY (HREA-T-1) OF WARREN S. BOLLMEIER II  
ON BEHALF OF THE HAWAII RENEWABLE ENERGY ALLIANCE

RE:

THE IMPLEMENTATION OF A COMPETITIVE MARKET

FOR

DISTRIBUTED GENERATION IN HAWAII

AND

CERTIFICATE OF SERVICE

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**SECTION I -- INTRODUCTION**

**Q PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.**

A Warren S. Bollmeier II. I am an independent consultant, dBa WSB-Hawaii, in the fields of renewable energy, energy policy, integrated resource planning and public utility regulation. My office is located at 46-040 Konane Place, #3816, Kaneohe, HI.

**Q PLEASE DESCRIBE YOUR EXPERIENCE AND EDUCATIONAL BACKGROUND**

A I have worked since 1977 in research and development of renewable technologies on the mainland and in Hawaii since 1990, including development of windfarm projects, energy policy, and public utility integrated resource planning and regulation. I have degrees in engineering from the University of Texas and the Air Force Institute of Technology, and an MBA from Georgia State University. More details are given in **Exhibit No. HREA-A.**

**Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS DOCKET?**

A I am appearing on behalf of the Hawaii Renewable Energy Alliance (HREA).

**Q WHAT IS THE SUBJECT OF THIS TESTIMONY?**

A The subject of this testimony is the structure and restructuring of the market for distributed generation (DG) in Hawaii.

1 Q WHAT IS THE PURPOSE OF THIS TESTIMONY?

2 A The purpose of this testimony is to describe and recommend a framework to implement  
3 a competitive market for DG in Hawaii.

4 Q PLEASE SUMMARIZE THE MAIN POINTS OF YOUR PROPOSED FRAMEWORK  
5 FOR A COMPETITIVE MARKET FOR DG IN HAWAII

6 A They are:

- 7 • While I believe there is agreement among the Parties in this docket that a  
8 competitive DG market with a level playing field is desirable, if not mandatory,  
9 there is not agreement at the present time as to the appropriate role of  
10 regulated electric utility (the "utility"),
- 11 • The primary argument herein is that Hawaii cannot have a competitive market  
12 with a level playing field, if the utility is a direct participant,
- 13 • The appropriate role of the utility is to facilitate the DG market, and
- 14 • Should the utility decide to participate directly, they should be allowed to set up  
15 an unregulated affiliate for that purpose, and
- 16 • That unregulated affiliate would then compete with other DG providers to supply  
17 DG equipment and services to DG customers.

18 Q HOW IS THIS TESTIMONY ORGANIZED?

19 A **Section II** presents the definition of key terms used herein.

20 **Section III** presents a brief history of competition in Hawaii.

21 **Section IV** presents and discusses a framework of structured competition in the DG  
22 market in Hawaii.

23 **Section V** presents recommendations for the next steps to implement the proposed  
24 framework for a competitive DG market in Hawaii.

**SECTION II -- DEFINITIONS**

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**Q PLEASE IDENTIFY AND DEFINE TERMS RELEVANT TO THIS TESTIMONY.**

A The following are the relevant terms:

- Central Generation (CG) is large conventional, fossil-fueled facilities (one or more units of one or more types of prime movers/electrical generators), which provide electricity to customers via a transmission and distribution network.
- Distributed generation (DG) includes supply- and/or demand-side devices and measures that provide electricity, thermal and/or mechanical energy. These resources can be located on-site or nearby to users. They can be used to meet baseload power, peaking power, backup power, remote power, power quality, and cooling, heating and power needs. DG includes energy supply devices (“prime movers”) for providing electricity, thermal, and/or mechanical energy to users from on-site or nearby locations, and energy storage and interconnection equipment needed to interconnect with customers and/or the utility grid. Examples of DG are wind turbines, biomass cogeneration, hydroelectric plants, photovoltaics, fuel cells, microturbines, reciprocating engines, and pumped hydro storage. DG also includes demand-side devices and measures include energy conservation and energy-efficiency.
- A Competitive Market is a market with several key characteristics including: (1) a large number of buyers and sellers; (2) no one or several Buyers or Sellers can dominate the market by determining or fixing either the supply or prices of commodities, goods or services; and (3) no barriers can be erected by one or more Sellers to discourage or exclude other Sellers from entering the market.
- A Level Playing Field is the essential element that enables a truly competitive market. Specifically, a level playing field describes a market that has all three characteristics noted above.

- 1 • Direct Participation means that a utility that is allowed to provide DG systems  
2 and/or services directly to its customers, i.e. the utility would be a DG provider.
- 3 • Market Facilitation, or indirect participation, means that a utility employs one or  
4 more programs and/or activities to encourage the implementation of DG, such as  
5 planning for DG additions and soliciting and awarding bids for DG systems.  
6 Market facilitation does **not** include direct participation, but could include  
7 participation by the utility through an unregulated affiliate.
- 8 • Unregulated Affiliate means a company that is formed by the utility or the utility's  
9 holding company, but is not a subsidiary, division or other entity of the utility.

### 10 **SECTION III -- BACKGROUND ON COMPETITION IN HAWAII'S ELECTRICITY MARKET**

11 **Q PLEASE PROVIDE SOME BACKGROUND ON COMPETITION IN HAWAII'S**  
12 **ELECTRICITY MARKET**

13 **A** Hawaii's electricity utilities started as distribution companies, e.g., distributing  
14 hydropower from Nuuanu stream on Oahu and the Puunene sugar plantation on Maui.  
15 Thus, while our energy roots are in independent power generation (and renewables at  
16 that), as Hawaii's population and electrical load in Hawaii grew rapidly following the  
17 Second World War, it became convenient to use fossil fuels, i.e., petroleum and coal.

18 Over time, the "Companies" (HECO, MECO and HELCO) have constructed and  
19 operated most of their generation. However, wholesale power generation [supplied  
20 under contract by Independent Power Producers (IPPs)] was opened to competition with  
21 the passage of the Public Utility Regulatory Act (PURPA) by the U. S. Congress in 1978.  
22 Today, the Companies own approximately 76% of their generation capacity, while 24%  
23 is owned and operated by (IPPs) as indicated by utility/island in the chart in **Exhibit No.**  
24 **HREA-B.**

1           Thus, while competition at the wholesale level has existed since 1978,  
2 competition at the retail level was introduced only recently, i.e., net energy metering in  
3 2001. Of course, retail competition has expanded recently with the advent of non-utility  
4 Combined, Heat and Power (CHP) systems on Hawaii, Maui and Oahu, and there has  
5 been discussion of government wheeling of electricity.

6           Barriers to the Market (Overall). Growth of the independent power industry has  
7 been limited by a number of barriers to market entry. The 1992 U.S. Federal Trade  
8 Commission (FTC) and Department of Justice (DOJ) Guidelines were adopted by FERC  
9 in 1996 in its Order No. 592. This order states that market entry cannot be timely unless  
10 achieved within 2 years from initial planning until significant market impact. Barriers to  
11 entry can include control over favorable new plant sites, access to generation fuel  
12 supplies on terms not available to others; transmission constraints, excessive pricing of  
13 transmission, distribution, and other services, the continued enforcement of existing  
14 wholesale and retail contracts that prevent a customer from switching suppliers; and the  
15 advantages of incumbency (e.g., name recognition, long-term customer relationships,  
16 control over infrastructure, etc.). Despite these guidelines, WSB-Hawaii notes that in  
17 1998, after 20 years under PURPA, only 11% of the generation capacity in the U. S.  
18 was non-utility.

19           Barriers to the Market in Hawaii (Wholesale). In relevant part, the utility, like  
20 utilities on the mainland, have had the upper hand in negotiating power purchase  
21 agreement (PPAs) with IPPs. The key issues have been the price the utility is willing to  
22 pay for electricity, the technical and cost aspects of the interconnection to the grid, and,  
23 in some cases, the term of the PPA.

24           Regarding price, under PURPA, the utility is required to pay its avoided cost, i.e.,  
25 the cost of generating the electricity that the utility avoids when purchasing power from a  
26 Qualified Facility (QF). A QF is essentially an IPP that meets PURPA QF requirements.

1        Avoided cost has always been a contentious issue, in part, since the Federal Energy  
2        Regulatory Commission (FERC) has never promulgated guidelines on the calculation of  
3        avoided cost. In the absence of FERC guidelines on avoided cost, the task of  
4        determining and establishing avoided cost has been left to local jurisdictions, i.e., the  
5        PUC. Similarly, interconnection requirements have also been left to the PUC..

6                Referencing **Exhibit No. HREA-B**, the level of wholesale competition in Hawaii,  
7        has actually been higher than the national average (at least through the year 1998).  
8        However, the current level of IPP capacity actually masks what has happened over the  
9        past 15 years or so. Specifically:

- 10                • The last fossil IPP to be approved for a PPA by the PUC was Hamakua  
11                Energy Partners, after protracted negotiations and competition with HELCO  
12                (Keahole) and another IPP (Waimana Enterprises, Inc. – Kawaihae site) and  
13                came on-line in 2000;
- 14                • The last renewable IPPs to be constructed and operated for export of  
15                wholesale power are Kamao'a Windfarm, South Point (1987), Wailuku River  
16                Hydro project (1993) near Hilo and Puna Geothermal Ventures (1993) near  
17                Pahoehoe, all on the Big Island;
- 18                • After lengthy negotiation periods (in excess of five years each), two windfarm  
19                PPAs have been signed and approved by the PUC. The first, the Zond-  
20                Pacific project for 10 MW at Kahua Ranch was signed by the utility in 2000  
21                and approved by the PUC in 2001. The project transitioned first to Enron  
22                Wind Corporation, then to General Electric Wind Energy and finally to Hawi  
23                Renewable Development (HRD), but by that time the PPA had expired and  
24                HRD decided to focus on a 10 MW windfarm at Hawi;

- 1 • The second project is the HRD 10 MW windfarm at Hawi on the Big Island,  
2 which includes two separate 5 MW contracts. The first was signed in 2002  
3 by HELCO and approved by the PUC in 2003, the second was approved in  
4 June 2004. In total, the negotiations took more than seven years, primarily  
5 due to the length of time it took to resolve interconnection requirements; and
- 6 • Other PPAs in negotiation for five or more years include the 20 MW  
7 Kaheawa Pastures windfarm on Maui, and the repowering of the Kamao'a  
8 windfarm on the Big Island to 20 MW. The Kaheawa Pastures farm, started  
9 by Zond-Pacific, et al, was purchased from GE by HRD and has recently  
10 been sold again. Meanwhile, outstanding PPA issues still remain on the  
11 Apollo Energy Corporation's efforts since 1999 to repower the site.

12 In short, IPPs have had to invest significant resources to negotiate PPAs with the  
13 Companies. HREA believes that those that have survived have provided significant  
14 benefits to the utility and its ratepayers. Specifically, IPPs have shown that new  
15 capacity can be brought on line and operated successfully without direct utility  
16 investments, and rate increases to the ratepayer have been avoided.

17 Barriers to the Market (Retail). Until recently there have been no policy drivers,  
18 such as PURPA, to foster retail competition. HREA believes the move towards retail  
19 competition occurred naturally as small-scale technologies have matured and  
20 consumers have become interested in alternatives to reduce their energy bills, and for  
21 other reasons, such as protecting the environment. As in other states, Hawaii has  
22 supported retail competition through policy initiatives (e.g., net energy metering and the  
23 proposal for government wheeling) and interest in customer-sited generation (e.g.,  
24 CHP). While some retail customers have decided to go off-grid, most haven't, and  
25 therefore must reach agreement, like IPPs, on interconnection requirements with the  
26 utility.

1           In the case of net energy metering in Hawaii, agreement has effectively been  
2 accomplished at the legislature with the passage of enabling legislation. Specifically,  
3 guidelines for net metering agreements were included as part of the legislation, along  
4 with requirements to limit the size and number of net metered systems on each of our  
5 island grids. These limitations were imposed primarily to address concerns about utility  
6 revenue losses. However, HREA would like to note that the limitations were set without  
7 a detailed assessment of off-setting benefits that net metered systems provide.

8           In the case of CHP and other non-net-metered technologies, a new competitive  
9 market is emerging. However, companies seeking to enter this market, especially those  
10 promoting CHP, have experienced barriers including:

- 11           1. Transaction costs, such as cost of establishing a new business or a new  
12           business office in Hawaii, and participation in applicable PUC dockets;
- 13           2. Buyers may be uncertain about new Sellers. This will be especially true for  
14           DG providers that approaching potential DG users that have had a long term  
15           relationship with the Companies;
- 16           3. Access to affordable financing. While all DG providers have this challenge,  
17           the Companies have access to lower cost financing - a potentially significant  
18           advantage;
- 19           4. Uncertainty of performance in a new market. While all DG providers have  
20           this challenge, the Companies may have "deeper pockets" than other DG  
21           providers. The Companies definitely have the advantage of being able to  
22           rate-base their costs;
- 23           5. Difficulty in reaching potential DG users, especially builders and renters. For  
24           example, the Companies have an intimate knowledge of its customers, and  
25           other DG providers will be at a significant disadvantage. Ultimately, non-utility

1 DG providers may be able to reach potential DG customers, but at a much  
2 greater expense than for the Companies;

- 3 6. Time and expense required to obtain a sales or use agreement (such as a  
4 lease or easement) with a DG user;
- 5 7. Potential hidden costs such as meeting utility interconnection requirements;
- 6 8. Time and expense required to negotiate and obtain interconnection  
7 agreements and/or power purchase agreements. As with IPPs, to date,  
8 independent CHP providers have also had difficulty in reaching agreement  
9 with the utilities;
- 10 9. Requirements that third party CHP developers must share competitive  
11 information about pending CHP projects with the utility as part of the  
12 interconnection agreement negotiation process; and
- 13 10. Permitting costs, especially for projects on government or military lands.  
14 Since there are many DG opportunities on government and military lands or  
15 properties, the permitting costs will remain a barrier that all DG providers  
16 must overcome.

17 Note: if the Companies are allowed to participate directly in the DG market,  
18 these barriers will be more difficult to overcome, virtually making it impossible  
19 for there to be a level playing field. Unfortunately, WSB-Hawaii believes this  
20 is the inevitable consequence of the exercise of monopoly market power.  
21 Consequently, just as has already been shown in the wholesale market,  
22 competition is good and both wholesale and retail should be encouraged.

23

24

1 Q PLEASE DESCRIBE AND DISCUSS YOUR PROPOSAL FOR A FRAMEWORK TO  
2 CREATE A DG MARKET WITH STRUCTURED COMPETITION IN HAWAII

3 A My response will include first the: (1) need for and benefits of a market with structured  
4 competition to implement DG in Hawaii, and (2) description and discussion of the key  
5 elements of the framework,

6 Need For A Market With Structured Competition. The Companies, in their filing for a  
7 CHP tariff (Reference Docket No. 03-0366), have presented their case for direct utility  
8 participation in the DG market. However, WSB-Hawaii does not find the Companies'  
9 arguments to be persuasive. Specifically, after conducting a critical review of the filing,  
10 WSB-Hawaii believes, the proposed CHP tariff if approved, would result in the following:

- 11 1. the playing field would be tilted heavily in the Companies' favor, such that  
12 other DG providers would be discouraged from entering the market and the  
13 Companies would be guaranteed a lion's share of the market as they would  
14 be able to continue to exercise their monopoly market power;
- 15 2. customer choice would be effectively limited to the Companies' offerings;
- 16 3. ratepayers would be: (a) subject to rate increases due to the Companies'  
17 CHP investments, and (b) required to assume additional risk for fuel costs;
- 18 4. the benefits of a true competitive DG market would not be realized; and
- 19 5. the Consumer Advocate would be faced with the additional burden of having  
20 to review and verify the Companies' CHP program costs.

21 Note: see **Exhibit No. HREA-C** for WSB-Hawaii's detailed review of the CHP  
22 filing, which includes a comparison of the Companies' approach with WSB-  
23 Hawaii's proposed structured competition framework.

24 Therefore, WSB-Hawaii believes the market must be restructured in order to enhance  
25 competition, i.e. to: (1) make it truly competitive, and (2) ensure that the playing field is  
26 level. In short, WSB-Hawaii does not believe the playing field can be level, if the  
27 Companies are allowed to participate directly in the DG market.

1 Key Elements Of The Framework. The key elements of the DG market framework with  
2 structured competition are presented and illustrated by describing the roles of the: (1)  
3 utility, i.e., the Companies and the Kauai Island Utility Cooperative (KIUC), (2) DG  
4 providers, (3) DG customers, and (4) the PUC.

5 (1) The role of the **utility** would be to facilitate the implementation of DG as part  
6 of the utility's Demand-Side Management (DSM) and Supply-Side (SSM)  
7 activities as follows:

8 (a) planning – in IRP, the utility will identify the amounts, timing, locations,  
9 and any locational restrictions, such as an inability of a circuit or area of  
10 the system that is already at its maximum for “as available” power to  
11 handle more than “X” kW without system upgrades. This information  
12 would be released on its web site, in advance of need (when possible), to  
13 all DG providers, customers, affiliates and others at the same time. The  
14 utility would also develop the desired DG specifications, including  
15 standardized interconnection requirements and agreements, subject to  
16 input from DG providers and review and approval by the PUC. Note: the  
17 requirements would likely include provisions for coordination between the  
18 DG owner/operator and the utility on operation of the DG facility; and

19 (b) implementation – the utility would recommend to the PUC, as  
20 appropriate, a number of DG providers to be pre-qualified for competitive  
21 bidding on DG RFPs; the utility would issue DG RFPs to both DG  
22 providers and potential DG customers; and select and forward winning  
23 proposals to the PUC for approval along with an explanation of the basis  
24 for its selection. The utility would inspect all approved DG systems  
25 during their installation and initial operation to ensure compliance with the  
26 system specifications and interconnection requirements.

1 (2) The role of the **DG providers** would be to compete with each other to provide  
2 high quality, cost-effective DG systems and services to DG customers. The  
3 DG providers would apply to the utility to become qualified for solicitations on  
4 the utility DSM and SSM activities.

5 The DG providers would also have the option to not participate with the  
6 utility, and provide products and services directly to DG customers. Note: the  
7 utility can elect to participate as a DG provider via an unregulated affiliate DG  
8 provider (“utility affiliate”).

9 If the utility or its holding company elects to establish an unregulated  
10 affiliate, the appropriate firewalls between the utility and its unregulated  
11 affiliate must be established and ensured by the PUC. These firewalls  
12 include: (a) no utility employee, Officer or Director can also be an employee,  
13 Officer or Director in the utility affiliate, (b) the utility affiliate must have a  
14 totally independent office and facilities and share, in no way, any office  
15 materials, supplies, furniture, equipment, web sites, fuel contracts, access to  
16 below-market financing, etc., with the utility, (c) the utility affiliate must not be  
17 provided any data or information that is **NOT** provided to all of the other DG  
18 providers at the same time and to the same extent, and (d) no funds can be  
19 transferred from the utility to the utility affiliate, including funds for start-up,  
20 engineering, equipment and supplies, operation and maintenance, and  
21 commissioning.

22 (3) The role of the **DG customers** would be to seek out and become informed of  
23 the advantages and benefits of the various types of DG in supplying the  
24 energy needs of their particular operations, taking into account their load  
25 profiles, any site or other restrictions, and participate in the market by: (a)  
26 responding to utility and DG provider solicitations, and, as appropriate, (b)

1 purchase, own and operate DG systems or contract with DG providers for  
2 DG systems and/or services.

3 (4) The role of the **PUC** would be to establish and manage the administrative  
4 rules for DG market, including the participation of the utility as the DG market  
5 facilitator. Specifically, the PUC would review and approve: (a) DG  
6 requirements, including interconnection agreements, developed by the utility,  
7 (b) criteria for pre-qualifying DG providers for utility DG solicitations, (c) pre-  
8 qualified DG providers as recommended by the utility, and (d) DG systems  
9 as recommended by the utility. The PUC would also resolve any disputes  
10 arising between the utility, DG providers, and DG customers.

11 **Q WHAT ARE THE BENEFITS OF THIS PROPOSED MARKET FRAMEWORK?**

12 **A** There are a number of potentially significant benefits to the utility, the DG  
13 customer, the DG industry, the ratepayers and the state. Specifically, the:

- 14 1. **Utility** would benefit from: (a) obtaining timely DG (especially new firm generation)  
15 at no cost to the ratepayer in the amounts and in the locations desired and possibly  
16 avoiding complications that would arise if too much DG were developed and/or in the  
17 wrong area (s), (b) increased system reliability at a low (or no) cost to the utility, (c)  
18 support to its grid, similar to that provided by wholesale IPPs, (d) increased options  
19 to meet its RPS, and (e) potentially, an appropriate profit for its facilitation of the DG  
20 market.
- 21 2. **DG customer** would benefit from: (a) a wider range of choices to meet its electricity  
22 and/or energy needs, (b) opportunities for increased reliability and quality of the  
23 power to meet its loads, (c) options to reduce emissions by choosing renewable DG  
24 or utilizing waste heat, (d) lower electricity rates and/or energy costs, and (e)  
25 contributions to our state's energy goals;

- 1 3. **DG industry** will benefit from: (a) lower front-end costs to identify market  
2 opportunities, (b) predictable costs for meeting system specifications and  
3 interconnection requirements and agreements, and (c) the opportunity to compete  
4 on a level playing field for specific projects;
- 5 4. **ratepayers** would benefit from non-utility investments in DG projects. Specifically,  
6 the non-utility investments will result in a lower utility rate base and help mitigate  
7 potential utility rate increases, especially in times of load growth; and
- 8 5. **state** would benefit by the: (a) greater reliance on indigenous resources and  
9 reductions in the amount of fossil fuel consumed, (b) resulting reduction of fossil  
10 emissions, and (c) economic benefits that derive from improving our state's  
11 export/import ratio.

12 **Q WHAT ARE THE CHALLENGES TO IMPLEMENTATION OF THIS PROPOSED**  
13 **FRAMEWORK?**

- 14 **A** While WSB-Hawaii wholeheartedly supports the proposed framework for a DG market  
15 with structured competition, WSB-Hawaii realizes there are several challenges to  
16 accomplish its implementation. These include:
- 17 1. The long-term consequences of the move towards DG, including addressing the  
18 potential for utility revenue losses. Specifically, we believe the utility rate structure  
19 must be redesigned to encourage DG, as well as minimize, if not, eliminate negative  
20 rate impacts;
- 21 2. Protecting the ratepayer's interests. Specifically, to date, the ratepayers have had to  
22 shoulder the financial risk of new generation investments. WSB-Hawaii believes the  
23 ratepayer can benefit from a truly competitive DG market (in which all DG  
24 investments are made by non-utility entities) and find a measure of relief, including  
25 holding off future rate increases due to new DG generation; and

1 3. Impacts on the Companies' profit structure, especially given the increase in  
2 competition in generation, which ultimately (30 years or so from now, maybe less),  
3 will result in 100% wholesale power from IPPs and, a to-be-determined amount of  
4 DG from non-utility suppliers. Specifically, in parallel with rate redesign, the utility  
5 profit structure must be redesigned. WSB-Hawaii does not believe this will  
6 necessarily take the form, but may include certain aspects, of performance-based  
7 ratemaking as has been proposed by the Companies.

8 **Q WHAT ARE THE RECOMMENDED NEXT STEPS LEADING TO IMPLEMENTATION**  
9 **OF THIS FRAMEWORK?**

10 **A** WSB-Hawaii does not have all the answers, and thus is committed to participating in a  
11 collaborative effort with all the Parties to address these and other challenges. In that  
12 spirit, WSB-Hawaii recommends the following as the next steps:

- 13 1. Reaching consensus on WSB-Hawaii's proposed framework for a DG market with  
14 structured competition or an alternative that will produce a truly competitive market  
15 with a level playing field;
- 16 2. Pursuing, either as part of this docket or in a follow-on docket, the redesign of the  
17 utility rate structure to encourage DG, as well as minimize, if not, eliminate negative  
18 rate impacts; and
- 19 3. Pursuing, either a part of this docket or in a follow-on docket, the redesign of the  
20 utility profit structure to allow the utilities to make a reasonable profit on the efforts to  
21 facilitate the DG market and to protect the ratepayers in the process. For example,  
22 WSB-Hawaii believes the utility profits should be decoupled from the amount of kWhs  
23 of utility investment and kWhs sold by the utilities.

1 Q DO YOU HAVE ANY FINAL COMMENTS?

2 A Hawaii has benefited from competition in the supply of wholesale power (electricity) to  
3 our island grids for over 25 years. Now the wave of the future is upon us – retail  
4 competition in generating electricity for Hawaiians. To ride this wave, we have  
5 presented the rationale and a proposed framework for a DG market with structured  
6 competition.

7 Implementation of increased competition in the DG market is a reasonable next  
8 step to take. It will put us on the path to a long-term future where the generation market  
9 is truly competitive. This market can provide benefits to all participants, including the  
10 utility, DG providers, DG customers, ratepayers and the state.

11 While there are significant challenges ahead, the time to start is now. WSB-  
12 Hawaii encourages all Parties to participate in collaborative process to resolve all the  
13 issues relevant to creating a truly competitive market for DG in Hawaii.

14 Q DOES THIS CONCLUDE YOUR TESTIMONY?  
15

16 A Yes

17

## EXHIBIT HREA-A

### **RESUME** **WARREN S. BOLLMEIER II**

#### **PROFESSIONAL SUMMARY**

Mr. Bollmeier has over 33 years of experience in solving technical, management and personnel problems. He has 27 years of experience in supervising, managing and conducting renewable energy projects and activities for government and private clients. He has extensive, detailed knowledge of and expertise in wind, solar and hybrid system technologies. He also has a working knowledge of biomass, geothermal, hydro, hydrogen, ocean and wave resources and energy conversion technologies. He has managed government-sponsored research, development and demonstration (RD&D) projects with a variety of industry, utility and other collaborative partners. He has developed and maintained a detailed knowledge of the design and deployment of renewable energy systems for remote power, village power and utility commercial applications. He has extensive, detailed knowledge and experience in developing and promoting energy policy issues at utility, state and federal levels, including integrated resource planning and regulated utility regulation.

Mr. Bollmeier has the abilities to provide clear definition of problems and to form and work with teams to implement sound projects and activities. He has excellent communication skills and has worked with a variety of U.S. and foreign government agencies, laboratories, universities, private organizations, industry, utilities and environmental advocacy groups. He has managed numerous projects both in the U.S. and overseas.

#### **PROFESSIONAL EXPERIENCE**

Wind Project Development (1996 to present). Mr. Bollmeier is a consultant to developers of new commercial windfarms in Hawaii. His clients include Zond-Pacific, Wailuku, HI and its successors, and Hawi Renewable Development, Chico, CA. The total expected capacity additions are 30 to 50 MW. This work has included preparation of an environmental impact statement for a windfarm that would be installed on State of Hawaii land on Maui.

Energy Policy Issues (1993 to present). Mr. Bollmeier is an advisor to Hawaiian Electric Company and Maui Electric Company on their Integrated Resource Plans (IRPs). In 1994 to 1995, he participated on a docket at the Hawaii Public Utility Commission (HPUC) investigating the role of renewables in Hawaii's utility market. In 1995, he helped found the Hawaii Renewable Energy Alliance (HREA) to promote the increased use of renewables in Hawaii. As HREA's President, he is working closely with State Legislators, the utility, state agencies, industry members, environmental activist groups and others to secure a renewable future for Hawaii. Mr. Bollmeier has also led HREA's lobbying activities at the Hawaii State Legislature. Mr. Bollmeier led HREA's intervention on HPUC docket initiated in 1997 on the possible restructuring of Hawaii's electric utility market and is currently leading HREA's intervention in a HPUC docket to investigate the role of distributed generation in Hawaii's electric utility market.

Solar Policy Analysis Workshop, Honolulu, HI, 1997. Mr. Bollmeier organized, coordinated and led a workshop for USDOE/NREL and the State Energy Office on solar policy options for Hawaii. The successful workshop included discussion of the State of Hawaii's solar tax credits, green pricing programs, net energy metering and broad-based policy support initiatives.

## EXHIBIT HREA-A

Sustainable Home Energy Use Guide, County of Maui, 1996. Mr. Bollmeier prepared a consumer-oriented guide for Maui County residents. The guide includes energy-efficiency, solar-hot water collector, photovoltaic system and small wind turbine options for homeowners.

Solar-Kiln Dryer Project, Pacific Center for High Technology Research (PICHTR), 1992 to 1994. Mr. Bollmeier managed a \$250K joint project with Sumitomo Engineering Company, Tokyo, Japan. The project included a test evaluation of an innovative solar system that was used to dry wood and fruit products at a test site on the Island of Hawaii.

Wind/Pumped-Hydro Integration and Test (WPHIT), Pacific Center for High Technology Research (PICHTR), 1992 to 1994. Mr. Bollmeier managed a \$550K project on the Island of Hawaii (Kahua Ranch) to demonstrate the integration of wind with pumped-hydro storage for utility application. The project included participation from the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT)-Energy Division, the Hawaii Natural Energy Institute, Kahua Ranch Limited, and the Hawaii Electric Light Company.

Downhole Coaxial Heat Exchanger (DCHE) Demonstration, 1990 to 1993. Mr. Bollmeier managed a \$560K, U.S.-Japan project to demonstrate the DCHE concept. The U.S. partners included PICHTR and DBEDT. The Japanese partners included the Ministry of International Trade and Industry (MITI) and Sumitomo Engineering Company. An experimental test evaluation was performed at the HGP-A geothermal site on the Island of Hawaii.

Cooperative Field Test Program, SERI, 1984 to 1989. Mr. Bollmeier managed 13 cooperative research agreements for USDOE with wind industry partners. The projects included testing of utility scale wind turbines and siting studies (\$2.3M total value).

Wind Energy Conversion Systems (WECS) Technology Group, Small Wind System Program, 1982-1984. Mr. Bollmeier managed a small group of engineers and technicians that were responsible for field testing of commercial wind turbines in California.

Wind Energy Assessment, USDOE/Government of Yugoslavia, 1984. Mr. Bollmeier was a member of a USDOE team that assessed wind energy potential in Yugoslavia.

Wind Turbine Demonstration Project, USAID, Cape Bon, Tunisia, 1983 to 1984. Mr. Bollmeier managed a demonstration project for USAID in conjunction with the Solar Projects Office, NASA, Plumbrook, Ohio. He coordinated with the Tunis Mission Office and the Tunisian Electricity and Gas Company (STEG). The project included resource and site assessment, design, procurement, pre-commissioning tests, packaging, shipment and installation of two 10 kW wind turbines at Cape Bon, Tunisia.

Hybrid-Energy System Project, 1982 to 1983. Mr. Bollmeier managed a hybrid energy system project for the U.S. Army, Ft. Huachuca, AZ. The project included design and testing of a complete system consisting of three small wind turbines (total of 5 kW), two photovoltaic systems (total of 3 kW), a battery and control system.

System Development Group Manager, Small Wind Systems Program, 1980 to 1982. Mr. Bollmeier managed the System Development Group (three engineers and one administrative assistant) and directed 14 separate projects for new wind turbine designs (\$15M total value). The project included design, fabrication, and testing of prototype units at Rocky Flats, CO.

## EXHIBIT HREA-A

Technical Monitor, Small Wind Systems Program, 1997 to 1980. Mr. Bollmeier managed three subcontracts (\$1.7M total value) for the development of small (1 to 2 kW), high-reliability, wind turbines for remote applications. Two of these contractors subsequently commercialized wind turbines for remote and village power applications.

Project Engineer, Solid Rocket Division, Air Force Rocket Propulsion Laboratory, Edwards AFB, CA, 1974 to 1977. As an USAF Captain, Mr. Bollmeier was responsible for two RD&D projects (\$3.1M total value) to develop solid rocket motors for upper stage launch vehicles. He also provided technical support to the Space Defense Vehicle and Space Shuttle Programs.

Systems Engineer, Engineering Division, Air Force Plant Representative Office, Lockheed-Georgia Company, Marietta, Georgia, 1971 to 1974. As an USAF lieutenant, Mr. Bollmeier approved production design changes to the C-5A landing gear, ground-support and personnel subsystems, and monitored Lockheed's system safety and human engineering programs.

### EDUCATION

B.S., Aerospace Engineering, University of Texas-Austin, Austin, TX, 1969  
M.S., Aeronautical-Mech. Engineering, Air Force Institute of Technology, Dayton, OH, 1971  
M.B.A., Management, Georgia State University, Atlanta, GA, 1973

### PROFESSIONAL ORGANIZATIONS

America Society of Mechanical Engineers

American Solar Energy Society  
American Wind Energy Association  
Geothermal Resources Council  
Hawaii Renewable Energy Alliance  
Hawaii Solar Energy Association

### TECHNICAL REPORTS/PUBLICATIONS

List available upon request.

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## EXHIBIT HREA-B

### COMPANIES' INSTALLED CAPACITY

Utility	Capacity-Total (MW)	Capacity – IPP (MW)	Fraction – IPP (%)
HECO	1,669	406	24
MECO	273	16	6
HELCO	265	112	42
Totals:	2,207	534	24

Source of data: HECO web-site<sup>1</sup>

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<sup>1</sup> In addition there is a small amount of additional renewable IPP capacity, including 12 MW of hydropower and 6 MW or so of windpower on Hawaii.

**Exhibit HREA-C**  
**WSB-Hawaii Review and Comments on**  
**Companies' CHP Tariff Filing**

**Overall Comments:**

The "Companies" (HECO, MECO and HELCO) have proposed a special tariff for CHP for on-site heat and power, and it appears that the Companies are not interested in: (1) other types of DG, and (2) CHP that feed power into the grid.

Their proposal is to install, own and operate CHP systems at customer's sites for customers that meet specific criteria, including the willingness to sign a 20-year contract with the Companies. The Companies propose to rate-base their investments of the traditional utility components of the CHP systems (e.g., diesel generator, waste heat recovery system, and controls). Non-traditional utility components, such as absorption chillers, would be paid for by the customer in a monthly facilities charge. The customer would be given a discount on the electricity used (1.0 to 1.6 cents/kWh depending on the island), and would be charged for the: (1) waste heat used (40 to 50 cents/therm depending on the island), and (2) cooling system facilities (as appropriate). The Companies estimate that the overall savings to the customer will be 10% to 14%, depending on the island. Also note that the Companies are proposing to pass on fuel costs as is done with their Central Generation (CG) plants, i.e., fuel costs will be passed on to the ratepayer via the Energy Cost Adjustment Clause (ECAC). In a request for the CHP tariff, the Companies are asking for approval for estimated expenditures for the first five years of the proposed CHP program.

**Detailed Comments:**

Note: WSB-Hawaii's detailed by-page comments follow below. Also note that: the Companies' CHP tariff filing is compared below with an alternative model referred to herein as "structured competition." In this model, a level playing field would be created for a competitive market, which, by definition, cannot include direct participation by the Companies. For example, the Companies would facilitate the market and DG implementation by: (1) planning for DG in IRP, (2) soliciting and selecting competitive bids from DG providers with approval by the PUC, and (3) competing, if they wished, via a utility affiliate.

<b>Page</b>	<b>Subject/Comments</b>
7	The Companies estimate 14.6 MW of CHP in 5 years (30 projects); MECO (13.4 MW) and HELCO (9.9 MW). Each would be on 20-year contracts.  <b>Comments: Most customers will not sign contracts over 10 years. If approved, the Companies could lock up customers for 20 years with not options to take advantage of alternatives. Scheibert Energy Company – Hawaii (SECOHI) has estimated they will install 9 MWs over the next 2 years (not included in the Companies' estimate) and will offer 7 year contracts.</b>
8	General Order 7 refers to a requirement for PUC approval of expenditures over \$500K.  <b>Comments: WSB-Hawaii opposes HECO's request to get an exemption.</b>
9	The Companies have stated that CHP program overhead would be \$250K.  <b>Comments: an example of a cost that ratepayers would bear.</b>
10	The Companies talks about the possible "lumpiness" in CHP installations.  <b>Comments: WSB-Hawaii notes that the lumpiness of CHP is significantly less in comparison that for CG. In any case, if the Companies facilitated CHP</b>

**Exhibit HREA-C**  
**WSB-Hawaii Review and Comments on**  
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	<p>installations by seeking competitive bids on a schedule, said lumpiness could be minimized, if not avoided.</p>
11	<p>The Companies talks about the possible “oversubscriptions” in CHP installations.</p> <p><b>Comments: oversubscriptions could be minimized, if not avoided, if the Companies sought CHP installations by seeking competitive bids on a schedule.</b></p>
13	<p>The Companies provides a justification for CHP, including the expansion of options available to the State’s energy consumers.</p> <p><b>Comments: WSB-Hawaii believes that the Companies’ proposed tariff will serve to limit the options available to consumers. Specifically, the Companies’ direct participation will serve to tilt the playing field heavily in favor of the Companies.</b></p>
14/15	<p>The Companies lists customer, environmental and economic benefits, e.g., “one-stop shopping” for customers, creation of a bigger market, and increasing customer confidence in CHP.</p> <p><b>Comments: As note above, the Companies’ plan will tilt the playing heavily in their favor. Effectively, the market would be limited to one choice, and thus limit actual implementation. WSB-Hawaii believes that the Companies can best increase customer confidence and actual implementation by facilitating DG.</b></p>
15	<p>In a footnote, the Companies raise the issue of revenue losses and the impact on non-DG customers.</p> <p><b>Comments: WSB-Hawaii notes that the Companies’ treatment of this issue is not consistent. On one hand, they argue that revenue losses are bad, as they will be passed on to the non-CHP customer. On the other hand, they suggest that revenue impacts are not as important in times of load growth, which is being experienced on all the islands, as the CHP units will effectively be helping to meet new demand. In any case, WSB-Hawaii believes that open competition, as a vital component of the DG market structure, is critical to providing the maximum benefits to DG customers and the ratepayers. WSB-Hawaii further believes that the utility rate structure must be redesigned to encourage DG, as well as minimize, if not, eliminate negative rate impacts.</b></p>
16	<p>The Companies refer to a methodology for conducting a quantitative analysis of their proposed tariff.</p> <p><b>Comments: WSB-Hawaii has not been able to find (in the main body of the filing) a definition of what the Companies mean by not burdening the ratepayer, much less a quantitative analysis of the impacts.</b></p>
18	<p>The Companies talks about meeting customer cooling needs by using waste heat to drive absorption chillers (this is good), and later (on page 21 discuss that high-efficiency, electrically-driven chillers are a good alternative for those customers that don’t need or want a CHP or heat pumps.</p> <p><b>Comments: WSB-Hawaii notes that the Companies do not mention non-fossil alternatives, such as solar air conditioning and sea water air conditioning.</b></p>
19	<p>The Companies discuss their initial effort to do CHP and to team with Hess-Microgen.</p> <p><b>Comments: WSB-Hawaii notes that all this was/is done at ratepayer’s expense.</b></p>

**Exhibit HREA-C  
WSB-Hawaii Review and Comments on  
Companies' CHP Tariff Filing**

19	<p>The Companies refer to their difficulty with initial pilot projects, in part, due to high CHP system costs.</p> <p><b>Comments: the Companies initially opposed the introduction of CHP, and discouraged it through several tactics, including customer retention discounts (HECO) and punitive stand-by charges (e.g., Orchid at Mauna Lani Bay).</b></p>
20	<p>The Companies indicate that they have accelerated the development of the CHP tariff, including a standard form of contract.</p> <p><b>Comments: WSB-Hawaii believes that this “standard form of contract” was developed by the Companies and does not incorporate input from industry. Thus, WSB-Hawaii argues that this “standard form of contract” will work for the Companies, but will not work or will create hardship for third Parties that seek to install CHP. This control over the contract negotiation process for CHP is similar to the control that the Companies have had for all purchased power from Independent Power Producers (IPPs), e.g., it has taken in excess of 5 years and at significant costs for windfarm IPPs to negotiate contracts for power purchase agreements (PPAs).</b></p>
22 <sup>+</sup>	<p>The Companies discuss their pricing scheme for CHP, which includes: (1) energy discount (1 cent/kWh on Oahu, 1.6 cent on Hawaii, and 1.5 cents on Maui); (2) facility charge for non-traditional equipment (such as absorption chillers) – varies from \$1,130/month for a 150 ton absorption chiller to \$3,150/month for 500 tons; (3) thermal charge (\$.40/therm-Oahu, \$.45 on Maui, \$.50 on Hawaii) for waste heat utilized for heating and cooling. The Companies seek to recover the cost of the basic CHP equipment from the rate base and energy/facilities charges from the CHP customer. The Companies also request recovery of all fuel costs to the rate base via the ECAC, as they do for their CG.</p> <p><b>Comments: the Companies propose treating CHP as miniature CG. Miniature power plants they are, CG they are not. WSB-Hawaii believes this approach will create an accounting challenge for the Consumer Advocate (CA). Under WSB-Hawaii’s proposed structured competition model, third Parties would sell electricity, heating and cooling services to the DG customer. The Companies would obtain new capacity without having to make any investments, and the CA will not have to verify all of the Companies’ expenditures during rate cases. Furthermore, with third Party investments, there is the potential for the ratepayer, as the Companies’ investments will not be rate-based.</b></p>
25	<p>The Companies argue that all electricity provided by the utility, whether CG or CHP, is simply utility power. Given that, the Companies state that the location of the utility-owned CHP will be interconnected on the utility-side of the customer’s meter.</p> <p><b>Comments: Consequently, WSB-Hawaii believes the customer may have no nor direct knowledge of what the CHP actually saved him during a given month or year, and will not be able to verify independently what energy benefits are being provided by the proposed CHP.</b></p>
26	<p>The Companies propose to give the customer a meaningful discount.</p> <p><b>Comments: WSB-Hawaii believes the customer will not receive the true benefits of the CHP unit if they are not separately metered or “netted” for their CHP energy use. Furthermore, in the proposed structured competition model, WSB-</b></p>

**Exhibit HREA-C**  
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	<p><b>Hawaii believes third Parties will be able to double the minimum proposed 10% energy bill savings that is predicted by the Companies.</b></p>
27	<p>The Companies discuss the capability of being able to effectively meet new load increments.</p> <p><b>Comments: WSB-Hawaii agrees that CHP can defer new generation. However, WSB-Hawaii does not believe the Companies have discussed how the ability of CHP to defer new load increments will be verified.</b></p>
29	<p>The Companies make it clear that all their costs will be covered.</p> <p><b>Comments: a third party would bear all costs, including any above-projected costs during installation and operation. Specifically, the third Party would assume all risks (technical and financial) associated with the installation and operation of the DG/CHP. As proposed, the Companies will assume no financial risks, passing them all on to CHP customer and the non-CHP ratepayer.</b></p>
30	<p>The Companies do bring up one cost that: (1) they would have to bear, and (2) would not be required by third Parties, e.g., reporting to the Commission.</p> <p><b>Comments: WSB-Hawaii notes this cost would be passed on to the ratepayer.</b></p>
30	<p>The Companies note that customers of third Party vendors (providers) would be at risk.</p> <p><b>Comments: under the structured competition model proposed by WSB-Hawaii, the risks to customer would be minimized. Specifically, the Companies would solicit proposals from a list of pre-qualified providers (based in larger part on their ability to meet the utility specifications and interconnection agreements) and potential DG customers.</b></p>
30	<p>The Companies suggest that third Party claims of 15% savings to DG customers on early CHP projects in Hawaii were not verified, claiming instead that the savings were only 12 to 14%.</p> <p><b>Comments: WSB-Hawaii notes that 12 o 14% is still greater than 10%, the target percentage for HECO, while MECO and HELCO targets are in the 12 to 14% range.</b></p>
31	<p>The Companies note that customers want someone else to be responsible for the operations and maintenance of any generating equipment, and are looking for the Companies to provide that service.</p> <p><b>Comments: WSB-Hawaii notes that the Companies will be depending on its captive vendor (Hess Microgen) to provide those services on Companies's behalf. Consequently, WSB-Hawaii fails to see why other qualified third Parties can't provide the same services.</b></p>
31	<p>The Companies note that their CHP systems will be comprised of two cogeneration units in order to provide back-up in case of forced outages and maintenance.</p> <p><b>Comments: WSB-Hawaii fails to appreciate how this provides the customer with cost-effective, increased system availability. As the Companies have pointed out, if the CHP is interconnected on the utility-side of the meter, the CHP becomes part of the overall utility grid. Thus, WSB-Hawaii questions the cost-effectiveness of installing a second unit, as opposed to relying on the grid to back-up. Specifically, while each CHP unit added to the grid helps improve the</b></p>

**Exhibit HREA-C  
WSB-Hawaii Review and Comments on  
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	<p><b>system reliability, it is highly unlikely that a sufficient number of CHP units will be down at the same time, resulting in a situation that the grid cannot follow.</b></p>
32	<p>The Companies state that CHPs will be designed to meet the heat recovery needs, as opposed to electrical needs of the customer. The Companies go on to say, that the intent would be to meet peaking heating, cooling and electrical requirements with auxiliary boilers, electrically-driven chillers and the grid respectively.</p> <p><b>Comments. WSB-Hawaii notes that the Companies seem to be saying that for CHP installations will not be used as peaking units. WSB-Hawaii believes this flies in the face of the major benefits that CHPs can provide customers, i.e., reduction of peak demand, and the utility, i.e., reduction of system peak demand. Of course, WSB-Hawaii realizes individual customer peak demand may not coincide with system peak demand.</b></p>
37	<p>The Companies discuss the benefits of the 20-year contract term.</p> <p><b>Comments: WSB-Hawaii notes that some, perhaps many, customers will not be willing to sign a 20-year contract. In fact, WSB-Hawaii believes customers should not sign contracts for that long of a period, given that technology will continue to improve and they will be locking themselves into higher costs and they will have no options. Furthermore, WSB-Hawaii believes that the Companies will benefit from extraordinary profits, given that the equipment can be paid off in a matter of several years, certainly no longer than 10 years.</b></p>
38	<p>The Companies suggest that maintenance of the initial CHP units in Hawaii was geared to a short contract time period. In turn, this resulted in an emphasis on financial performance rather than reliability of service to the customer.</p> <p><b>Comments: WSB-Hawaii notes that there could be other explanations of the symptoms observed by HECO. For example, the initial projects should be viewed as "pilot" or "early production" systems. Consequently, problems and higher operating costs are to be expected.</b></p>
40	<p>The Companies indicate that they do not want their customer-sited CHPs to island. WSB-Hawaii understands this to mean that the CHPs will disconnect from the grid during a utility fault condition, and not re-connect until the fault has been cleared.</p> <p><b>Comments: WSB-Hawaii observes that the Companies are now requiring windfarms to ride through fault conditions, which effectively means the windfarm can island, in order to help stabilize the grid. Thus, WSB-Hawaii questions why CHPs, which arguably are firmer in capacity than windfarms, should not also be required to ride through fault conditions.</b></p>
41	<p>The Companies discuss the requirement that the Companies must be the sole supplier of the customer's total electric energy requirements during the term of the CHP agreement. There would be exceptions, e.g., where the customer chooses to generate a portion of its electrical requirements from non-fossil sources or from an emergency generator during times of emergency needs.</p> <p><b>Comments: WSB-Hawaii believes this requirement is overly-restrictive and clearly anti-competitive. For example, why shouldn't a customer be able to select another CHP provider?</b></p>
53 <sup>+</sup>	<p>The Companies discuss the possible impacts of Company vs. third Party systems, and indicated the impacts were included in their quantitative analysis of the Companies'</p>

**Exhibit HREA-C**  
**WSB-Hawaii Review and Comments on**  
**Companies' CHP Tariff Filing**

	<p>program. This approach to this analysis is carried for in the text until page 61.</p> <p><b>Comments: In less WSB-Hawaii is missing something, the Companies do not provide an answer to the question as to the potential rate impacts for either the Company or third Party CHP systems.</b></p>
56	<p>The Companies indicate that their approach will be to design CHP to meet the primary heating and cooling needs, while electrical needs will be secondary.</p> <p><b>Comments: WSB-Hawaii recognizes that this approach might be viable, while customers most likely would also benefit from alternate approaches.</b></p>
63	<p>The Companies propose to modify their respective ECAC by adding a CHP Energy component separate from the Generation component of the ECAC.</p> <p><b>Comments: WSB-Hawaii believes it would only be fair to include the fuel costs for third Party CHPs in the appropriate Company ECAC. As an alternative, WSB-Hawaii proposes that all CHP providers not be allowed to recover fuel costs from the ratepayers. Instead, WSB-Hawaii proposes that all CHP providers be required to absorb the risk of fuel costs.</b></p>
67 <sup>+</sup>	<p>The Companies discuss the impacts of their proposed CHP tariff on competition, indicating that: (1) the rights of non-utility vendors will not be restricted, (2) non-utility vendors will have more than enough access to customer information, and (3) both utility and non-utility vendors will have to meet the same interconnection standards. The Companies then compare their offering with their perception of what non-utility vendors will offer.</p> <p><b>Comments: WSB-Hawaii believes the rights of non-utility vendors have already been restricted, and WSB-Hawaii will bring forward case studies via expert written testimony to illustrate this point. WSB-Hawaii will also show via expert testimony that access to customer information has been restricted and that it has been difficult to obtain interconnection agreements with the Companies on CHP projects, as well as other DG projects. In short, the playing field is already tilted heavily in favor of the Companies.</b></p>
72	<p>The Companies discuss the interconnection standards (Rule 14H) that were developed and reviewed by the CA and the PUC. Specifically, the Companies are to meet the same standards and be subject to the same review as non-utility DG providers.</p> <p><b>Comments: WSB-Hawaii observes that this concept is worthy, but questions who is going to conduct the review and ensure that non-utility DG providers are not treated unfairly?</b></p>
72	<p>The Companies discuss standby service requirements and appear to show some flexibility in how they might be applied in the future.</p> <p><b>Comments: given the system benefits can be provided by a customer-sited CHP, WSB-Hawaii believes there should be no standby charge, and, in HELCO's case, Rider A should be discontinued.</b></p>

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing Preliminary Statement of Position upon the following parties by causing a copy hereof to be hand-delivered or mailed, postage prepaid, and properly addressed the number of copies noted below to each such party:

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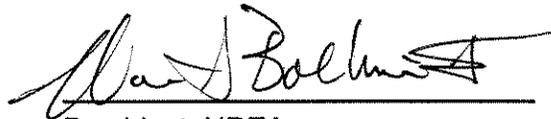
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Dated: July 14, 2004

  
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President, HREA