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07-14-06

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

--- In the Matter of ---)
)
PUBLIC UTILITIES COMMISSION)
)
HAWAIIAN ELECTRIC COMPANY, INC.)
For Approval and/or Modification of Demand-)
Side and Load Management Programs and)
Recovery of Program Costs and DSM Utility)
Incentives)
_____)

DOCKET NO. 05-0069

PUBLIC UTILITIES
COMMISSION

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FILED

HREA RESPONSE TO
INFORMATION REQUESTS FROM VARIOUS PARTIES
REGARDING
HREA'S FINAL STATEMENT OF POSITION
AND
CERTIFICATE OF SERVICE

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I. INTRODUCTION AND SUMMARY

The Commission, by Order No. 21698 filed March 16, 2005, opened the instant docket, referred to hereafter as the "DSM" docket. The Commission, by Order No. 21749 filed on April 14, 2005, granted the April 4, 2005 motion of Hawaii Renewable Energy Alliance (HREA) to intervene in the DSM docket. Included herein is HREA's response to Information Requests (IRs) from various Parties on HREA's Final Statements of Position (FSOP) on the DSM docket, in accordance with the Schedule of Proceedings in Docket No. 05-0069 as amended by the Commission in its letter to William Bonnet dated April 13, 2006.

II. HREA's Response to Information Requests from Various Parties on HREA's Final

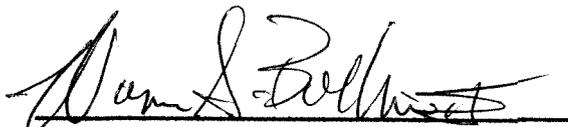
Statement of Position

HREA's response to the various Parties is included in the following Exhibits to this document:

- A. Hawaiian Electric Company ("HECO")
- B. Kauai Island Utility Cooperative ("KIUC")
- C. The Gas Company ("TGC")
- D. Life of the Land ("LOL")

<End of HREA Response to IRs from the Various>

DATED: July 14, Honolulu, Hawaii

A handwritten signature in black ink, appearing to read "Dan S. Bellmont". The signature is written in a cursive style with a horizontal line underneath it.

President, HREA

HREA's Response.

HREA's understanding is that there are at least three third-party DSM providers that implement DSM programs in other jurisdictions. These are:

- (1) Illinois Community at: <http://www.illinoiscleanenergy.org/>;
- (2) the Oregon Energy Trust at: <http://www.energytrust.org/>; and
- (3) Efficiency Vermont at: <http://www.encyvermont.com/>.

In addition, Wisconsin's Department of Administration has been collecting public benefits charges and bids out administration, efficiency and renewables programs to nonprofits. See www.renewwisconsin.org/pubben/pubben/html.

Furthermore, York and Kushler⁴, in their review of over 20 energy efficiency programs in the U. S. state that the ratio of the programs administered by utilities has decreased from two-thirds to one-half from 1999 to 2004, indicating a trend towards non-utility administered programs.

HECO/HREA-FSOP-IR-104 Ref: HREA FSOP, Page 6. "In our proposal for competitive bidding of DSM, all bidders (including HECO) should be allowed to propose their costs plus a profit for administering and managing Commission-approved DSMs."

- a. Based on the above, does HREA support utility profit for administering and managing Commission-approved DSMs?

HREA's Response. Yes, with the following caveat. HREA can support all bidders proposing a profit for administering and managing Commission-approved DSMs in response to a Commission RFP. As such, HECO could propose a profit.

- b. What is HREA's recommended profit level and methodology for calculating the profit level "for administering and managing Commission-approved DSMs"?

⁴ Kushler, York and Witte, Five Years In: An Examination of the first Half-Decade of Public Benefits Energy Efficiency Policies, ACEEE, Washington, DC, April, 2004.

HREA's Response.

HREA has no recommendations regarding profit levels, and leaves that up to bidders in their response to a Commission-administered RFP.

HECO/HREA-FSOP-IR-105 Ref: HREA FSOP, page 6. "In our proposal for competitive bidding of DSM, all bidders (including HECO) should be allowed to propose their costs plus a profit for administering and managing Commission-approved DSMs."

If the Commission determines that a competitive bidding process is the best way to administer and implement DSM, would the winning bidder be subject to the same criteria as HECO regarding the cost-effectiveness of the programs it implements? If the answer is no, why wouldn't the same criteria apply? Also, what criteria would apply, and who would determine the criteria?

HREA's Response.

HREA believes a winning bidder's objective will be to provide DSM programs and services to consumers at the lowest cost. As such, the implementation criteria could be different than those placed on HECO. Perhaps the basic criteria could be spelled out by the Commission in the RFP, with the proviso that bidders could offer modifications to the criteria.

In any case, given the overall requirements of the Commission-administered RFP, HREA believes the winning bidder will propose DSM programs based on the bidder's assessment of their cost-effectiveness, in terms of the figures of merits as specified in the RFP. Such figures of merit could include the cost/kWh/yr savings per proposed program.

HECO/HREA-FSOP-IR-106 Ref: HREA FSOP, page 7. "HREA observes that the benefits provided by and success of the REWH and RNC programs have been well-established. We do have concerns about the commercial/industrial DSM programs (CIEE, CINC and CICR). Specifically, we do not believe all potential DSM technologies are being treated equitably."

Exhibit A
HREA Response to HECO IRs

Please provide examples of other utilities involved in energy efficiency programs where those programs do not target measures and technologies that cover a broad and equitable range of customer classes.

HREA's Response.

HREA can think of none. Our point was simply that all potential DSM technologies should be identified and evaluated in an equitable manner based on the system benefits provided,. We do not believe HECO has done that to date, and has allocated money customer classes by pro-rating amounts based on the total amount of electricity sales per class.

HECO/HREA-FSOP-IR-107 Ref: HREA FSOP, Exhibit A, page 1

Under HREA's Competitive Bidding Model, what kind of standards would the winning bidder be held to so that the electric utility is assured that the energy efficiency DSM goals are met and can be relied upon?

HREA's Response.

The winning bidder could be regulated as a utility by the Commission, but we believe it would be more efficient, and possibly more effective, for a third party winner to be accountable to the Commission through a contract. We also believe and prefer a DSM Portfolio Standard (DPS). Given the DPS (or an energy efficiency standard, if that is the final result), the winning bidder (DSM utility) could be provided with incentives for meeting its contractual goals (which could embody a DPS) and bonus for exceeding its goals, and disincentives for failure to meet a specified threshold.

If the winning bidder is the host utility, HREA would support a similar treatment of incentives/incentives/penalties for the DPS as for the RPS. However, structure of utility incentives on RPS is currently under

Exhibit A
HREA Response to HECO IRs

2. The best performing state was Texas at \$.006/kWh in 2000 to \$.016/kWh in 2003, and
3. The worst performing state was Hawaii at \$.20/kWh in 2000, but improving to \$.14/kWh in 2003, but still 7 times more than the average.

HECO/HREA-FSOP-IR-115 Ref: HREA FSOP, Exhibit B, page 1, footnote 3.
Please provide a copy of the cited report.

HREA's Response.

In order to reduce the amount of paper required to respond to this question, HREA provides the following link for accessing the requested report:

<http://www.aceee.org/pubs/u023.htm>

HECO/HREA-FSOP-IR-116 Ref: Load Management Programs
Does the HREA support utility administration of load management programs?

HREA's Response.

Within an overall consensus to bid out DSM programs, HREA could possibly support HECO administration of load management programs within its service territory. However, before we would make a firm commitment of support, we would need to review and discuss the load management programs proposed by HECO. Specifically, we would need to be assured that the load management programs envisioned by HECO would actually provide overall system benefits, including a reduction in the amount of fuel required by HECO's generators, reductions in customer demand, and/or other tangible benefits.

Exhibit C
HREA Response to TGC's IRs

"DSM Measure Effectiveness" is defined as the incremental cost per kWh of energy savings brought about by the DSM measure over its expected lifetime. In the example above, the CFL (operating 4 hours/day or 1,460 hrs/yr over an expected lifetime of five years) would save 75 watts times 1460 hrs/yr divided by 1000 for 109.5 kWh/year or 547.5 kWh over 5 years. If the incremental costs, between a 25 watt CFL bulb and a 100 watt incandescent bulb were \$5, then the DSM Measure Effectiveness would be \$5/547.5 or approximately 0.9 cents/kWh⁹.

Finally, assuming a \$0.20/kWh utility retail residential rate, the value of the energy saved by the CFL (i.e., 547.5 kWh) would be \$109.50. Thus, the simple payback period would be about 83 days, i.e., less than 3 months.

⁹ Note: in fact the savings would be even more dramatic, since an incandescent bulb might have to be replaced 1 or more times during the same 5 year period.

Exhibit D
HREA Response to LOL's IRs

Management (DSM) programs of the state's public utilities. Honolulu Seawater Air Conditioning LLC (HSWAC) has analyzed the value of solar water heating systems and seawater air conditioning (SWAC) district cooling systems, on a side-by-side basis.¹⁰

The value of solar water heating systems was determined and used as a base case for determining the value of SWAC. The total value of these renewable energy and energy efficiency systems to the utility system is the sum of (1) avoided demand and (2) avoided energy.

The results of this analysis are presented in the following table:

System		Parameter Value	Value Based on HECO Formula	Net Present Value (NPV) Over System Life	Actual Rebate
Solar Water Heating	Avoided Energy (w/ T&D Losses)	2,797 kWh/yr	\$139.85	\$691	
	Avoided Capacity (w/ T&D Losses)	0.732 kW	\$91.50	\$3,507	
			\$231.35	\$4,198	\$750 - \$1,000
Seawater Air Conditioning	Avoided Energy (w/ T&D Losses)	3,444 kWh/yr	\$172.20	\$593	
	Avoided Capacity (w/ T&D Losses)	0.627 kW	\$78.38	\$4,112	
		-	\$250.58	\$4,704	TBD

Solar Water Heating Systems

HECO has determined that an average solar water heating system saves 2,485 kWh/yr (2,797 kWh/yr when system transmission and distribution losses of 11.13%

¹⁰ "Seawater Air Conditioning Value Analysis prepared by Honolulu Seawater Air Conditioning LLC. Contact David Rezachek @ (808) 282-5594 or rezachekd001@hawaii.rr.com

3. rebates help consumers overcome the initial costs of DSM technologies.

LOL-HREA-IR-3. How many barrels of oil does it take to make a solar water heater?

HREA Response.

HREA thanks LOL for this interesting question, which we interpret to mean how much energy (in barrels of oil) does it take to manufacture a solar hot water (SHW) system. At the present time, HREA is not aware of a specific analysis of the cost to manufacture, install and operate a SHW system (collector, tank, installation, and operation and maintenance costs).

However, an analysis¹¹ was conducted by Peter Jolly (University of Queensland, St. Lucia, Australia) and Richard O'Sullivan (Royal Melbourne Institute for Technology, Melbourne, Australia) for SHW and PV systems in Australia, which we believe provides us with a good proxy for Hawaii. In comparing the results to Hawaii, we assume: (i) the average system in Australia is equivalent to the average system installed in Hawaii; (ii) given that a number of locations within Australia were examined, Brisbane is the location in Australia that best approximates Hawaii, and (iii) while there are a number of variables that come in to play in this type of analysis, the amount of error introduced by these variables is nominal and therefore acceptable for providing an estimate as an answer to LOL's question.

If possible, please answer in

(a) barrels of oil equivalence used per system kW installed; and

HREA Response.

¹¹ Jolly, P. and O'Sullivan, R. The Energy Required to Manufacture Renewable Energy Technologies, presentation at Solar 89 Conference, Australian and New Zealand Solar Energy Society.

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Dated: July 14, 2006



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