

REBUTTAL TESTIMONY OF
ALAN K.C. HEE

MANAGER
ENERGY SERVICE DEPARTMENT
HAWAIIAN ELECTRIC COMPANY, INC.

Subject: Demand-Side Management Programs

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INTRODUCTION

- Q. Please state your name and business address.
- A. My name is Alan K.C. Hee and my business address is 220 South King Street, Honolulu, Hawaii.
- Q. Have you previously submitted testimony in this proceeding?
- A. Yes, I submitted written direct testimony and exhibits as HECO T-4.
- Q. What is the subject of your rebuttal testimony?
- A. My rebuttal testimony will
- 1) update the regulatory status of HECO’s Demand Side Management (“DSM”) programs,
 - 2) discuss the integration of Seawater Air-Conditioning into DSM planning, and
 - 3) respond to Life of the Land’s (“LOL”) comments regarding an “Efficiency Negawatt Utility”.

DSM PROGRAMS

- Q. What is the status of the DSM programs?
- A. On April 26, 2006, the Commission approved HECO’s request to implement its Interim DSM Proposals (see HECO T-4, page 7, line 4, to page 8, line 5). The increases to the customer incentive levels for prescriptive energy efficiency measures in the Commercial and Industrial (“C&I”) Energy Efficiency (“CIEE”) Program and C&I New Construction (“CINC”) Program and the elimination of the 2-year payback threshold in the C&I Customized Rebate (“CICR”) Program have been implemented. HECO continues to work with compact fluorescent lamp (“CFL”) manufacturers, distributors, and retailers on the Interim Energy Solutions

1 for the Home Program.

2 Q. What is the status of the Energy Efficiency Docket?

3 A. The regulatory proceeding for the Energy Efficiency Docket, Docket No.
4 05-0069, is on-going. Panel hearings on the full slate of DSM programs proposed
5 in the docket were completed on September 1, 2006. The next step is the
6 submittal of opening briefs and reply briefs by the Parties and Participants to the
7 proceeding, after which a Commission decision would be issued.

8 Q. What is the status of HECO's load management programs?

9 A. HECO now intends to file modifications to its Residential Direct Load Control
10 ("RDLC") Program and its C&I Direct Load Control ("CIDLC") Program by the
11 end of this year rather than during the first half of 2006, as indicated in HECO
12 T-4.

13 Q. Does the current status of the energy efficiency and load management programs
14 affect the estimated peak reductions shown in HECO-402 through HECO-404?

15 A. Not to any significant degree. As indicated in my direct testimony, the peak
16 reductions in those exhibits assumed that the Interim DSM proposals would be
17 implemented beginning in July 2006, and that the enhanced energy efficiency and
18 load management programs would be implemented beginning in January 2007.
19 HECO received approval for the Interim DSM proposals on April 26, 2006, prior
20 to July 2006. The load reduction estimates continue to reasonably account for the
21 earlier than projected approval of the Interim DSM Proposals, the recent
22 completion of the Energy Efficiency Docket panel hearings, and the delay in filing
23 the RDLC and CIDLC Program modifications.

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SEA WATER AIR CONDITIONING

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2 Q. Two of the Life of the Land witnesses, Dr. Rezachek and Mr. Bellinger, identify
3 seawater air conditioning (“SWAC”) as having “significant potential [in] Hawaii”
4 (LOL T-7, page 19, lines 10-11), and “a proven technology” (LOL T-8, page 2,
5 lines 10-12.) Does HECO agree?

6 A. Yes, HECO agrees that SWAC has significant potential and, in fact, HECO
7 supports the Honolulu SWAC (“HSWAC”) system, as demonstrated in an August
8 1, 2006 open letter to its commercial customers. (See HECO-R-401, page 2, for a
9 copy of the HECO letter. HECO’s letter was an attachment to a HSWAC letter
10 dated August 1, 2006, attached as HECO-R-401, page 1.) The HECO letter
11 recommends that each customer “carefully consider the HSWAC proposed
12 renewable energy program for [its] building.” The letter also indicates that HECO
13 hopes that its “headquarters located at 900 Richards Street will be the first or
14 among the first buildings to join the HSWAC system.”

15 Q. Has HECO included the impact of potential HSWAC systems in its projections of
16 DSM energy and load reductions?

17 A. Energy and demand savings associated with increased HVAC efficiencies for
18 downtown office buildings have been included in the Company’s projections.
19 (HVAC in downtown office buildings are the main focus of HSWAC’s marketing
20 efforts for its Downtown Honolulu project.) For example, HECO’s estimates of
21 DSM energy and demand reductions include efficiency improvements in
22 downtown office building air-conditioning usage resulting from replacement of
23 the existing chillers with new, more efficient, equipment. Thus, some portion of
24 the efficiency gains from a SWAC system have already been incorporated into the
25 Company’s reduction estimates.

1 Q. Dr. Rezachek states that “Energy savings with SWAC systems are 75%, or more,
2 compared to conventional A/C.” (LOL T-7, page 24, lines 22-23.) Does HECO
3 agree with that statement?

4 A. HECO agrees that SWAC is likely more efficient than the conventional A/C
5 equipment existing in many commercial buildings. However, without further
6 information about the amount of energy that a customer could save and about the
7 energy consumption of the SWAC plant itself, HECO is unable at this time to
8 confirm Dr. Rezachek’s statement. As part of the Energy Efficiency Docket, on
9 September 8, 2006, HECO issued information requests (“IRs”) to Hawaii
10 Renewable Energy Alliance (“HREA”) to obtain additional information, including
11 the expected levels of net savings, to further evaluate the proposed SWAC project
12 in the context of HECO’s CICR Program. On September 22, 2006, HREA
13 provided responses to HECO’s IRs, but certain key information, which HREA
14 deemed confidential, has not yet been provided and would be provided following
15 the issuance by the Commission of a protective order in the Energy Efficiency
16 Docket. Position statements on HREA’s proposal for a \$500/kw prescriptive
17 rebate for customers taking service from SWAC systems are scheduled to be filed
18 by HECO and the other parties to the Energy Efficiency Docket on October 6,
19 2006.

20 Q. Given the significant potential for energy and demand savings, should HECO
21 include the potential impact of SWAC in its estimates for DSM savings?

22 A. The proposed SWAC systems offer the potential for significant energy and
23 demand savings, but there is significant uncertainty regarding the timing of the
24 systems, as well as uncertainty regarding the level of customer savings and
25 SWAC plant energy usage. As a result, inclusion of estimated energy and demand

1 savings from the potential HSWAC system is probably not appropriate at this
2 time, at least pending review of HREA's IR responses and the review of position
3 statements in the Energy Efficiency Docket. For example, while Dr. Rezachek
4 states that the first delivery date for an operational Downtown Honolulu SWAC
5 facility is a little more than two years from now, in December 2008 (LOL T-7,
6 page 27, lines 5-7), information regarding the status of 1) land acquisition (or
7 development agreements) for the plant site, 2) rights of way for the chilled water
8 distribution piping, and 3) service agreements with facility and building managers
9 would help HECO understand the progress HSWAC is making toward
10 commercial operations.

11 Q. What preliminary information has been provided by HREA/SWAC in the Energy
12 Efficiency Docket?

13 A. Dr. Rezachek identified the potential for four 25-ton plants on Oahu, but also
14 indicated that SWAC's focus is on the first system. Based on the non-confidential
15 information provided by SWAC in the Energy Efficiency Docket on September
16 22, 2006, SWAC believes that its first system (the Downtown System) can begin
17 operations in January 2009, and that a second system could begin operating in
18 Waikiki in 2011. SWAC also believes that each 25-ton system, when fully
19 operational, could help HECO avoid up to 16MW of demand. According to
20 SWAC, the minimum start-up load would be 20 tons, with expansion to 25 tons
21 expected over 18 months. What is also not clear from the limited information
22 provided to date is how feasible a 2009 operational date is (without a detailed
23 schedule and timelines, given the apparent need to acquire a plant site, sign up the
24 customers for the first plant, complete an environmental review process, obtaining
25 the necessary permits and approvals, complete the bond financing, order and

1 install the equipment and materials for the plant, seawater pipe and downtown
2 pipe infrastructure, and complete the customer on-site interconnections), and the
3 net coincident peak effect of the proposed 2009 system (given that the plant itself
4 will use energy, which will affect some of the building energy savings, and the
5 target is to begin operations at 80% capacity and the 16MW estimate apparently is
6 a day peak estimate).

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8 EFFICIENCY NEGAWATT UTILITY

9 Q. In LOL's response to HECO/LOL-IR-34, LOL contends that third-party
10 administration of DSM programs through an "Efficiency Negawatt Utility" would
11 "be able to achieve greater energy efficiency penetration levels and that utilities
12 will need less new generation." Does HECO agree with LOL?

13 A. No. In the Energy Efficiency Docket, LOL proposed an Energy Efficiency Entity,
14 Efficiency Hawaii, based on Efficiency Vermont. HECO opposed LOL's
15 proposal for third-party administration of all DSM programs, in part because the
16 transition from utility administration to a third-party administration would
17 increase DSM program costs and, more seriously, delay the acquisition of
18 demand-side resources as customer relationships are established and "bugs" in the
19 third-party's program provisioning are worked out (i.e., learning curve
20 inefficiencies, vendor responsibility scoping, request-for-proposal processing, and
21 contract negotiations). Therefore, the ability of an Efficiency Negawatt Utility to
22 achieve greater energy efficiency penetration levels than utility administered
23 programs is questionable.

24 Instead, HECO proposed hybrid administration of DSM programs, wherein
25 DSM programs targeting customer segments that can be clearly, or on balance,

1 more effectively served under utility administration be administered by HECO.
2 The remaining DSM programs or customer segments that the utility has difficulty
3 reaching could be administered by third-parties. In any event, issues regarding
4 third-party administration of energy efficiency DSM programs are appropriately
5 addressed in the Energy Efficiency Docket.

6 Q. Does this conclude your testimony?

7 A. Yes, it does.

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Honolulu Seawater Air Conditioning, LLC

Affiliate of Market Street Energy Company, LLC, the "Red Hot, Cool & Green™" Company

7 Waterfront Plaza, Suite 400; 500 Ala Moana Boulevard
Honolulu, Hawaii 96813

August 1, 2006

Re: Hawaiian Electric Company, Inc. Maximum Renewable Energy Effort

Dear Customer:

HSWAC is delivering the enclosed copy of the August 1, 2006 Hawaiian Electric Company, Inc. letter regarding the HSWAC renewable energy program.

In the 27 years I have been active in energy matters, I am not familiar with any investor owned utility that has recommended to its electricity customers consideration of an independent renewable energy service. There are numerous examples of other private utilities, general support for renewable energy projects, but the enclosed letter is concrete evidence of an unmatched renewable energy commitment from a large electric company.

Each building owner/manager must make its own determination regarding the suitability of HSWAC's district cooling service. We are very grateful to add HECO's support to our renewable energy efforts. Of course, we welcome HECO as one of our first downtown customers.

It is the fervent hope of HSWAC that HECO will be recognized by its national and international peers, environmentalists and renewable energy advocates for this selfless action.

Very truly yours,

Honolulu Seawater Air Conditioning, LLC



By: William M. Mahlum
Chief Executive Officer



David G. Waller
Vice President
Customer Solutions

August 1, 2006

Re: Hawaiian Electric Company, Inc. Maximum Renewable Energy Effort

Dear Prospective Honolulu Seawater Air Conditioning, LLC Customer:

The purpose of this letter is to urge you to carefully consider utilizing renewable energy deep-water cooling for your building's air conditioning requirements.

You may be surprised that HECO would urge you to consider converting your air conditioning system from an electricity dependent stand-alone air conditioning system to a service that uses less electricity. This letter reflects HECO's strong and unequivocal commitment to utilizing all feasible renewable energy sources on our island of Oahu. Of course, HECO will lose electric sales. HECO and our community will gain:

- reduced dependence on imported fossil fuels;
- help with generating stability;
- offset the growing demand for electricity;
- help to meet Hawaii's renewable energy goals;
- encouragement of renewable energy programs that are environmentally beneficial.

This letter should be viewed as a recommendation to carefully consider the HSWAC proposed renewable energy program for your building. Each customer must review HSWAC on its merits and this letter is an endorsement of the renewable energy elements of that program.

As further evidence of our commitment to renewable energy programs, we hope our headquarters located at 900 Richards Street will be the first or among the first buildings to join the HSWAC system. We will turn off our condensers, the cooling towers and related pumping equipment and convert to renewable energy.

Should you have any questions regarding this matter please contact your HECO Account Manager or our Account Management Offices at 543-4751.

Sincerely,