

REBUTTAL TESTIMONY OF
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PUBLIC AFFAIRS
HAWAIIAN ELECTRIC COMPANY, INC.

Subjects: Having More Renewables on Hawaiian
Electric's System; Compatibility of the
Proposed Project with More Renewables;
Hawaiian Electric's Plans on Biofuels; and
Working Together on the Development of a
Biofuel Industry in Hawaii

INTRODUCTION

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- Q. Please state your name and business address.
- A. My name is Robert A. Alm and my business address is 900 Richards Street, Honolulu, Hawaii.
- Q. What is your present position with Hawaiian Electric Company, Inc. (“Hawaiian Electric or Company”)?
- A. I am the Senior Vice President of Public Affairs.
- Q. Have you previously submitted testimony in this proceeding?
- A. Yes. I submitted direct testimony HECO T-12 and exhibit HECO-1200.
- Q. What are your areas of responsibility in this testimony?
- A. In my testimony, I will address Hawaiian Electric’s position on having more renewable projects on its systems, how the proposed Campbell Industrial (“CIP”) Park Generating Station Project fits into the Company’s overall energy plan, Hawaiian Electric’s plans on biofuels; and working together on the development of a biofuel industry in Hawaii.
- HAWAIIAN ELECTRIC’S COMMITMENT FOR MORE RENEWABLES**
- Q. How committed is Hawaiian Electric with respect to having more renewables on its system?
- A. I believe that all parties to this docket are in agreement that Hawaii as a whole needs to reduce our dependence on imported oil and that there are increasing concerns regarding the future of our environment, one of which includes global warming. Having more renewables on our system as well as a variety of renewable technologies on our system is an integral piece of our energy plan to meet future energy needs responsibly and reliably. We are required under the law

1 to meet a renewable portfolio mandate of 20% of its net electricity sales by
2 December 31, 2020 (“20/20”) and Hawaiian Electric is committed to making that
3 happen.

4 Q. Could you please explain why Hawaiian Electric is looking at having a portfolio
5 of renewable energy sources to be added to the existing systems on Oahu, Maui
6 and the Big Island?

7 A. As the only electric utility on Oahu, Maui and on the Big Island, we need to create
8 reliable and effective power systems. Having a full portfolio of renewable
9 resources will assist us in reaching that goal. For example, adding only
10 as-available renewable energy such as wind to our system will at some point
11 impact the reliability of the power we deliver to our customers, which in turn
12 could affect our obligation to service our customers. We also realize that many of
13 these renewable technologies may cost more initially, but are worthwhile in the
14 long run.

15 Q. Besides renewable energy sources such as solar and wind, what is the Company’s
16 position on other renewable energy sources that were raised by Life of the Land in
17 its direct testimony, such as wave, sea water air conditioning and OTEC?

18 A. We are very supportive of these new technologies and our company has had many
19 discussions with representatives from Sea Water Air Conditioning, Energy
20 Technologies, Hans Krock, of OCEES International, Inc., and Pelamis and others.
21 We have offered to Sea Water Air Conditioning, our King Street office to be part
22 of their downtown Honolulu project. Although wave and ocean power
23 technologies are not yet commercial as of this date, we are optimistic that these
24 types of technologies will come to fruition in the near future. With respect to
25 commercial wave energy, there are proposed installations in Portugal and the

1 United Kingdom. Internal discussions with Pelamis, a wave energy company that
2 is involved in the above two projects, are ongoing. OCEES International Inc., is
3 planning a 1 MW demonstration project on the Big Island with Natural Energy
4 Laboratory of Hawaii. We have also been part of an ongoing project with Ocean
5 Power Technologies (OPT) off Kaneohe on Oahu.

6 We are still actively looking at other proven renewable technologies,
7 including as-available energy (such as wind) projects, pumped hydro storage,
8 landfill gas, biomass, and waste to energy, to add to our renewable energy
9 portfolio. Although permitting issues and community opposition have made it a
10 challenge on the island of Oahu for wind projects, we continue to meet and work
11 with developers who are interested in developing wind projects here in other parts
12 of Oahu, as well as on the neighbor islands. Mr. Seki summarizes (HECO RT- 5)
13 some of our discussions with these companies and others to explore future
14 opportunities in Hawaii.

15 Q. Could you please provide an update on additional renewables that have been
16 added to HECO/HELCO/MECO electric systems since the filing of your direct
17 testimony.

18 A. On page 4 of my Direct Testimony, I stated that in addition to the 108 MW
19 statewide commercial renewable energy under contract, HELCO and MECO
20 signed power purchase agreements with developers of about 53 MW of new wind
21 generation and 500 KW of new run of river hydroelectric generation. MECO is
22 now receiving approximately 30 MW from the Kaheawa Wind Farm and will be
23 receiving an additional 500 kW from Makila's 500 KW run of river hydroelectric
24 generation station shortly. HELCO is now receiving approximately 11 MW from
25 the Hawi Wind Farm and an additional 12 MW is expected from Apollo next year

1 (resulting in a repowered wind farm with a total capability of 20 MW).

2 Q. Do you have any other comments regarding renewable resources?

3 A. Yes, as previously stated, Hawaiian Electric is fully supportive of having
4 renewable resources, as well as a variety of renewable technologies, on our system
5 as an integral part of our energy plan. While we realize that many of these
6 renewable resources and technologies may cost more and may take time to
7 mature, many of these renewable resources and technologies will be worthwhile in
8 the long run. We also recognize that if renewable resources and technologies are
9 more costly than traditional fossil fuel generation, we will be faced with additional
10 challenges relating to the recovery of these renewable costs, as well as dealing
11 with a myriad of issues in the event a large customer disconnects from the system
12 in order to use less costly traditional fossil fuel generation. We are, however,
13 confident and optimistic that in this endeavor, government and the community at
14 large will join with us and will be flexible and creative in exploring a wide variety
15 of options in order to obtain the best results for our customers and the State of
16 Hawaii.

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18 **HAWAIIAN ELECTRIC'S ENERGY PLAN**

19 Q. What is Hawaiian Electric's energy plan?

20 A. In order to support Hawaii's growing economy and energy needs, our energy plan
21 has two critical components, reducing growth in demand and increasing the
22 supply. Through load management and conservation and efficiency programs, we
23 hope to reduce growth in demand. We are looking to increase our supply in new
24 generation in three ways: central station, renewable energy and distributed
25 generation. Hawaiian Electric, MECO and HELCO have three central station

1 projects (i.e., CT-1, ST-7, and M-18) which are grandfathered under the
2 Commission's Framework for Competitive Bidding (Proposed: June 30, 2006),
3 attached to Decision and Order No. 22588, issued June 30, 2006. CT-1 is the
4 subject of this docket, M-18 will be in service by the end of this year for MECO,
5 and ST-7 should be in by the summer of 2009 for HELCO. Hawaiian Electric
6 currently has 15 MW of substation distributed generation and has plans for
7 another 10 MW by the end of the year and an additional 5 MW in the first quarter
8 of next year (the 30 MW leased distributed generating units at substations is being
9 used to mitigate the reserve capacity shortfall pending the installation of new
10 long-term capacity). We are currently working with the military to add leased
11 distributed generation which will service both their security and our operational
12 needs. We are also developing PV DG at our Ward facility. Mr. Seu provides an
13 in depth discussion of Hawaiian Electric's efforts to develop distributed
14 generation resources on Oahu (HECO RT-6). With respect to renewables, Mr.
15 Seki describes in detail (HECO RT-5) Hawaiian Electric's efforts for renewable
16 energy development in Hawaii.

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18 **THE CIP PROPOSED NEW UNIT FITS**
19 **INTO HAWAIIAN ELECTRIC'S ENERGY PLAN**

20 Q. How does the proposed new unit fit into Hawaiian Electric's energy plan?

21 A. Our proposed new generating peaking unit will provide the firm generation that
22 can be easily and quickly started and will continue to provide power when we
23 need the power. As discussed by Mr. Sakuda (HECO RT-2), the peaking
24 capabilities of this type of unit generally cannot be met with the as-available
25 generation and the renewable projects proposed by Life of the Land. As described
26 in Mr. Simmons rebuttal testimony (HECO RT-1), time is of the essence, and the

1 need for additional reliable generation is now.

2 Q. Doesn't the proposed new unit also satisfy Hawaiian Electric's goal of having
3 more renewables on its system?

4 A. Yes, it does. Our plans include using a blend of ethanol in our proposed new unit.
5 Many vendors have responded to our solicitation of interest to supply ethanol for
6 the new unit. A request for proposal will be forthcoming. Mr. Isler provides more
7 detail of our plans in his rebuttal testimony (HECO RT-9).

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HAWAIIAN ELECTRIC'S PLAN ON BIOFUELS

10 Q. What is Hawaiian Electric's future plans with respect to the use of biofuels?

11 A. We realize that fuel switching of our existing units to biofuels may be the only
12 way we are able to reach our RPS percentages in the future, as required under the
13 law. We are currently looking at the use of biofuels in some of our existing units
14 on the island of Maui. There is currently no biofuels supply in Hawaii large
15 enough for our generation needs. However, there appears to be a strong interest in
16 starting a local agricultural energy industry in the state. The Governor's recent
17 summit on biofuels, which included the major businesses and leaders in the State,
18 was a great step in collectively looking at creating local renewable energy
19 alternatives so that Hawaii will become less reliant on fossil fuels in the future.
20 The biofuels industry in Hawaii is still at an early stage, but with support from our
21 state leaders and lawmakers, it will happen. As described in Mr. Simmons'
22 rebuttal testimony (HECO RT-1), we will be the first utility in the world to use
23 ethanol in a commercial unit. We are very excited to be on the forefront and
24 optimistic that any technical or supply problems that may arise during our testing
25 of the new unit with a biofuel blend will be addressed and will allow the unit to be

1 converted to use 100% biofuels in the near future.

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**WORKING TOGETHER ON THE
DEVELOPMENT OF A BIOFUEL INDUSTRY IN HAWAII**

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Q. What is Hawaiian Electric's role with respect to the start of a local biofuel industry in the State?

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A. Hawaiian Electric cannot itself create a biofuels industry. We are not in the agriculture business, we own no land suitable for agricultural production and we have no expertise in refining a biofuels like ethanol. We do, however, believe we can play a critical role by providing a stable market for biofuels. A fuel contract to supply Hawaiian Electric is according to the biofuel industry, one of the best means of securing financing for their business plans. There is an old adage about which comes first, the supply or the market. In this case, we have created the market and we believe the supply will come.

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As for a local industry, we intend to explore different ways to encourage the development and expansion of the local biofuel market. We are considering a variety of options, such as implementing test projects that use biofuels in generating units. For example, we are using biofuels as a startup fuel in several of MECO's generating units on the island of Maui now and we are exploring the further use of biofuels as the base fuel in some of these generating units as a test project. Test projects and other studies will help us iron out the technical issues as well as the logistical issues relating to the transportation, storage and use of biofuels in our various generating units. The positive results from these tests and studies will allow us to enter into long term supply contracts for biofuels.

We are also considering other mechanisms to encourage a local market and evaluating potential supply contract arrangements. For example, we are exploring

1 price incentive mechanisms that compensate for a secure local fuel supply, the
2 avoidance of certain costs incurred in the transportation and storage of biofuels, as
3 well as other factors.

4 While these efforts to encourage a local biofuel industry are not part of this
5 proceeding, we appreciate the role that we can play in creating and expanding the
6 market for biofuels in Hawaii.

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SUMMARY

9 Q. Do you have any concluding remarks?

10 A. We feel that we can do both as a utility, to continue to provide reliable service to
11 our customers and assist in the bigger picture in reducing Hawaii's dependence on
12 imported oil, by adding a portfolio of renewable energy sources to our system. It
13 may end up costing more initially, but it will be worthwhile for the State in the
14 long term, with respect to sustainability. In order to make Hawaii less reliant on
15 imported oil a reality, we all need to work together. A collaborative effort from
16 residents, neighborhoods, businesses, institutions, and the government (City and
17 State) will be required, as no one person or entity can accomplish this alone.
18 Hawaiian Electric realizes that we are a part of that equation and wants to do its
19 part in making it a reality.

20 Q. Does this conclude your testimony?

21 A. Yes, it does.

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Witness HECO RT-12 does not have any exhibits.