Hawaiian Electric Company, Inc. PO Box 2750 • Honolulu, HI 96840-0001

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PUBLIC UTILITIES
COMMISSION

William A. Bonnet
Vice President
Government and Community Affairs

February 28, 2003

Mr. Wayne H. Kimura, Chairman
Public Utilities Commission
465 South King Street, First Floor
Kekuanaoa Building
Honolulu, Hawaii 96813

Dear Chairman Kimura:

Attached for your information is the Renewable Portfolio Standards status report for the year ended December 31, 2002 for Hawaiian Electric Company and our subsidiaries, Hawaii Electric Light Company and Maui Electric Company.

We hope you find this a valuable tool for tracking progress and understanding at quick glance the status of various renewable energy projects.

If you have any questions or would like to discuss this further, feel free to call me at 543-5660.

Sincerely,

Attachment

2002 RPS NUMBERS SHOW THE POWER OF SOLAR ENERGY AND VULNERABILITY TO THE LOSS OF GEOTHERMAL PRODUCTION

After posting a Renewable Portfolio Standard (RPS) of 6.92% in 2001, the consolidated Hawaiian Electric Company percentage for 2002 came in at 6.76%. However, 2002 results would have dropped to 5.60%, almost entirely as a result of geothermal production problems at Puna Geothermal Ventures (PGV), had it not been for an adjustment to include the renewable benefits from all solar water heating systems on Oahu, the Big Island and Maui, the areas served by Hawaiian Electric Company and its subsidiaries, Hawaii Electric Light Company and Maui Electric Company.

The Hawaii State Legislature adopted the RPS standards in 2000, establishing targeted amounts of electric sales to be derived from renewable energy resources. The goals are 7% in 2003, 8% in 2005, and 9% in 2010. HECO, HELCO and MECO began in 2001 to publish an annual tracking of the RPS percentage for our franchise areas and how the number is being achieved in order to provide an ongoing status report and more information on the dynamics of renewable energy production in Hawaii.

As noted above, PGV's production problems brought down the 2002 RPS results. These problems began in April 2002 from a blockage in their steam well and continued through the end of the year, resulting in PGV only producing an average since then of 5.6 MW out of the 30 MW it is under contract to provide. PGV has worked hard to correct the problems, taking a number of remedial steps and ultimately drilling a new well. It has stated it intends to get production back to 30 MW by mid-2003.

One clear result of last year's experience is to spotlight the vulnerability of the RPS number to two key producers of renewable energy: PGV and the H-Power facility at Campbell Industrial Park. PGV contributed 32% of the 2001 RPS results and H-Power contributed 44%, combining for 76% of the total RPS for the year. If either or both of these companies generate less than their usual level for any significant length of time, the RPS percentage is very deeply impacted. (In that respect, it is worth noting that the establishment of the 2010 goal of 9% appeared to assume, among other expected developments, that PGV would increase from 30 MW to 60 MW of production. If that does not occur, it will require a significant effort in other areas to make up for that lost source.)

The other major item impacting the RPS result for 2002 was a more complete accounting of all solar water heating systems in HECO, HELCO and MECO's franchise areas. The definition of renewable energy under the RPS law specifically includes the electrical energy savings achieved from the use of solar water heating. Our 2001 report only accounted for the savings from solar water heating systems installed since 1996 under our formal solar water heating programs. During the last year, the Company has worked to derive a more complete calculation that includes all solar water heating systems in the areas we serve. The more thorough calculation of energy savings from solar water heating helped boost 2002 results by 1.16%, making up a significant amount of the backslide from PGV's reduced production.

Recent proposals have suggested a possible increase in the RPS goal. Given the current challenges and the possibility that an even more ambitious goal might be envisioned, we need, as a State, to examine much more seriously what it will take to achieve and maintain strong renewable portfolios. These steps may include land use changes, tax incentives, creation of other funding mechanisms to subsidize higher cost renewable energy, and others.

Hawaiian Electric is also determined to play an increasingly significant role in meeting these challenges. Among the Company's major initiatives in 2002:

- The formation of Renewable Hawaii, Inc., a HECO subsidiary, to provide an initial $10 million in investment capital to help increase commercial renewable energy projects.

- A partnership with Hawaii Natural Energy Institute (HNEI), the Office of Naval Research (ONR), and UTC Fuel Cells to develop the Hawaii Fuel Cell Test Facility on HECO's Ward Avenue property to test hydrogen fuel cells. We are committed to playing a continuing role in the research, development and demonstration of fuel cell technology.

- Another partnership involving Navy Region Hawaii, ONR, HNEI, and HECO which secured a $2.5 million federal appropriation to build a Renewable Energy Park in Ewa, Oahu. At full build-out this Park could house the largest photovoltaic system in the State, producing up to 2-3 megawatts of energy. The project will also include the modeling and conceptual design of an integrated system combining photovoltaics, hydrogen production and storage, and fuel cells.

- And our parent company, HEI, took advantage of Act 221 passed by this legislature, to make a substantial investment in Hoku Scientific Inc., a local fuel cell development company.

As the 2002 experience has highlighted, there are challenges to meeting increasing Renewable Portfolio Standards, but we fully support the need to do so. We look forward to working together with others to help Hawaii achieve these important goals.

Renewable Portfolio Standard Status Report

Hawaiian Electric Company, Inc.
Hawaii Electric Light Company, Inc.
Maui Electric Company, Limited

For the Year Ended December 31, 2002

	GWh
HECO	
H-POWER	300
Kapaa Landfill Gas	2
Solar Water Heating[1]	30
Solar Water Heating (non-DSM Systems)[2]	78
Heat Pump[3]	5
Subtotal	414
HELCO	
PGV	74
Hydro-Wailuku	27
Hydro-HELCO owned	9
Wind-Lalamilo Wells	2
Other Hydro	1
Other Wind including Kamaoa	10
Solar Water Heating[1]	6
Solar Water Heating (non-DSM Systems)[2]	15
Heat Pump[3]	0
Subtotal	144
MECO	
Biomass & Hydro-HC&S[4]	58
Solar Water Heating[1]	10
Solar Water Heating (non-DSM Systems)[2]	18
Heat Pump[3]	2
Subtotal	88
TOTAL Renewable Energy (GWh)	**645**
TOTAL Sales[5] (GWh)	**9,544**
RPS Percentage[6]	**6.76%**
Energy Savings From DSM Programs[7]	341

2002 Renewable Portfolio Standard Status Report

Hawaiian Electric Company, Inc.
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For the Year Ended December 31, 2002

Act 272 of the 2001 Hawaii Legislature (codified as sections 269-91 to 269-94, Hawaii Revised Statues) established a renewable portfolio standard setting goals for electric utilities to guide them in incorporating renewable resources into their resource portfolios and to reduce the use of imported oil. Act 272 states that the renewable portfolio standard is the percentage of electricity sales that is represented by renewable energy. It further specifies that the renewable portfolio standard goals shall be 7% of electricity sales by December 31, 2003, 8% by December 31, 2005, and 9% by December 31, 2010. An electric utility company and its electric utility affiliates may aggregate their renewable portfolios in order to achieve the renewable portfolio standard.

Footnotes:

1. Act 272 specifies that renewable energy include the electrical energy savings brought about by the use of solar water heating. The gigawatt hours (GWh) for solar water heating are based upon the energy savings from solar water heating systems installed under the utility's demand-side management (DSM) programs. The energy savings from utility demand-side management programs are reported to the Public Utilities Commission and the Consumer Advocate and are verified by an independent consultant whose evaluation reports are also filed with the Public Utilities Commission and the Consumer Advocate.

2. Non-DSM solar water heating systems represent an estimate of energy saved by solar water heating systems in operation today that were installed prior to the inception of the utility DSM programs in 1996. This estimate is based on a survey of appliance usage by customers of HECO, HELCO, and MECO.

3. Act 272 specifies that renewable energy includes the electrical energy savings brought about by the use of heat pump water heating. The GWh for heat pumps are based upon the energy savings from heat pump systems installed under the utility's DSM programs.

4. HC&S utilizes bagasse (i.e. sugar cane residue) and hydropower, which are sources of renewable energy, in addition to coal and oil to generate the electricity it sells to MECO. Renewable energy is estimated to provide 66.8% of the electricity sold to MECO based upon historical average annual fuel consumption information provided by the Department of Business, Economic Development and Tourism.

5. Electricity sales for the period January 1, 2002 through December 31, 2002 were 7,390 GWh for HECO, 995 GWh for HELCO, and 1,159 GWh for MECO.

6. Renewable energy is defined in Act 272 to include the electrical energy savings brought about by the use of solar and heat pump water heating. Since solar and heat pump water heating are included with renewable energy and also reduce the amount of electricity sales, the renewable portfolio standards percentage might be viewed as double counting the benefits of solar and heat pump water heating. If the energy savings of 164 GWh were added back into the electricity sales, then the renewable portfolio standards percentage would be 6.65%.

7. Provided for reference only. One of the goals of the RPS is to reduce the State's use of oil. That end is accomplished by the use of both renewable energy AND energy efficiency. Although the RPS law does not include certain energy efficiency savings, for reference purposes, this is the estimated amount of energy saved during the 2002 in GWh by all participants in the HECO, HELCO and MECO-sponsored DSM (energy efficiency) programs to date (i.e. since the start of the programs in 1996 including solar water heating and heat pumps).

2002 Renewable Portfolio Standard Status Report

Hawaiian Electric Company, Inc.
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For the Year Ended December 31, 2002

SPECIFIC PROJECTS

The following is recent information regarding the status of various existing and proposed renewable energy projects.

Big Island:

Puna Geothermal Venture (PGV) (Size: 30 MW)

PGV's normal rating is 30 MW. Since April 2002, its normal top load rating was reduced to an average of 5.6 MW due to blockage of a source well and decreasing steam quality from another source well. PGV is in the process of drilling additional source wells and a re-injection well to restore its output to 30 MW. PGV anticipates that it will be fully restored to 30 MW by mid-2003.

PGV has suspended discussions on its proposal to provide an additional 8 MW of capacity to HELCO, pending resolution of PGV's operational problems and a return to stable and reliable operation of its existing plant. PGV has stated its intention to eventually expand its capacity by 30 MW to a total of 60 MW.

Proposed Kahua Ranch Windfarm (Size: 10 MW)

The Hawaii Public Utilities Commission (PUC) approved the power purchase agreement (PPA) on June 1, 2001 for HELCO to purchase electricity from the windfarm. GE Wind Energy completed the acquisition of certain assets of Enron Wind Corporation in May 2002, including the proposed Kahua Ranch Windfarm project. GE Wind Energy and Hawi Renewable Development (HRD) have since indicated they are in discussions to sell the windfarm project to HRD.

Proposed Hawi Renewable Development (HRD) Windfarm (Size: 5.3 MW)

The PUC approved a PPA in January 2003 for HELCO to purchase electricity from the windfarm. The proposed HRD windfarm would be sized at 5.3 MW. Due to transmission line limitations, however, the power output of HRD would be limited to 3 MW, if the Kahua Ranch windfarm is connected to the electric grid through the same 34.5 kV line. HELCO and HRD are in negotiations for a new PPA, under which HRD would sell energy from an expanded windfarm (approximately 10.6 MW) at the proposed HRD windfarm site, if the Kahua Ranch windfarm project is cancelled.

Proposed Apollo Kamaoa Windfarm (Size: 20 MW)

Apollo is negotiating a PPA to repower and expand its existing windfarm from 7 MW to an installed capacity of 20 MW of instantaneous power. The PPA negotiations are the subject of a PUC Docket. While the parties have reached agreement on a substantial number of issues, discussions are still ongoing as to some of the performance standards expected of Apollo's windfarm.

Proposed Tradewinds LLC Cogeneration Facility (Size: To Be Determined)

Tradewinds has stated it is considering plans to build and operate a wood processing plant to process eucalyptus trees into various wood products. The plant would include a cogenerating facility to generate electricity fueled by wood waste with the excess electricity to be sold to HELCO.

Puueo Hydro (1.5 MW)
This 84 years old HELCO-owned unit sustained a catastrophic bearing failure in September 2002. HELCO is evaluating the repair or replacement of this unit.

Proposed Union Mill Hydro (size: 0.8 MW increasing to 1.5 MW in 5 years)
HELCO previously indicated to Union Mill that there would not be capacity on the transmission line in the area to accommodate the project, given that the capacity was taken by the Kahua Ranch and HRD windfarm projects. Subsequently, GE Wind Energy indicated the possibility that Kahua Ranch windfarm project may not be built, thereby possibly making transmission line capacity available for the Union Mill hydro project. HELCO and Union Mill have restarted discussions regarding Union Mill's proposal to sell power to HELCO.

Maui:

HC&S (Size: 12 MW)
MECO and HC&S have agreed to have their PPA remain in effect at least through December 31, 2007. Previously, it was agreed to keep the PPA in effect until at least December 31, 2004.

Proposed Kaheawa Windfarm (Size: 20 MW)
GE Wind Energy completed the acquisition of certain assets of Enron Wind Corporation in May 2002, including the proposed Kaheawa Windfarm. GE Wind Energy and HRD have since indicated they are in discussions to sell the project to HRD. Enron's Conservation District Use Permit (CDUP) to use conservation zoned land for the windfarm has since expired. GE Wind Energy and HRD jointly filed a Conservation District Use Application (CDUA) and another windfarm developer, Hawaii Wind Energy LLC, has filed a CDUA for the same site. The Board of Land and Natural Resources held public hearings in November and December 2002, and January 2003 to hear both permit applications. At the January 2003 hearing, the BLNR approved both applications and instructed its staff to prepare recommendations on leasing the site to one of the developers for discussion at a subsequent BLNR hearing.

Oahu:

Kapaa Landfill (Size: 3.2 MW)
Kapaa Generating Partners (KGP) had generated electricity from methane gas produced by the decomposition of landfill refuse. KGP requested termination of its PPA with HECO after a catastrophic failure of KGP's generating equipment in March 2002, and KGP determined that it would be uneconomic to continue electric generating operations because of the declining methane gas resource. HECO agreed to terminate the PPA on July 12, 2002.

H-Power (46 MW)
H-Power has stated that it is considering the addition of a third boiler at its facility, which would increase its reliability, enable it to process additional municipal solid waste, and defer the need for additional landfill space on Oahu. It would also increase the amount of electricity available to HECO. Plans are preliminary at this time.