

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
HAWAIIAN ELECTRIC COMPANY, INC.)
For Approval of a Dynamic Pricing)
Pilot Program and Recovery of)
Program Costs)
_____)

DOCKET NO. 2008-0074

ORDER DIRECTING HECO TO MODIFY
ITS DYNAMIC PRICING PILOT PROGRAM

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DEPT. OF COMMERCE AND
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STATE OF HAWAII

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In the Matter of the Application of)
HAWAIIAN ELECTRIC COMPANY, INC.) Docket No. 2008-0074
For Approval of a Dynamic Pricing)
Pilot Program and Recovery of)
Program Costs)

ORDER DIRECTING HECO TO MODIFY
ITS DYNAMIC PRICING PILOT PROGRAM

By this Order, the commission directs HAWAIIAN ELECTRIC COMPANY, INC. ("HECO") to modify its proposed Dynamic Pricing Pilot ("DPP") Program, as described in its application, filed on April 24, 2008 ("Application"), to address the recommendations and concerns outlined in the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY's ("Consumer Advocate") Statement of Position, filed on February 18, 2009 ("Consumer Advocate's SOP").¹

I.

Application

On April 24, 2008, HECO filed its Application, requesting approval of a DPP Program that would evaluate the effectiveness of dynamic pricing on residential customer

¹The Consumer Advocate is an ex officio party to this docket pursuant to Hawaii Revised Statutes § 269-51 and Hawaii Administrative Rules § 6-61-62. The Consumer Advocate and HECO, the only parties to this docket, are jointly referred to as the "Parties."

electricity usage and the ability to recover costs associated with that pilot program. HECO filed its Application pursuant to Paragraphs II.B.7, III.F and V, cited below, of the Commission's Framework for Integrated Resource Planning (revised May 22, 1992) ("IRP Framework"), which was issued pursuant to Decision and Order No. 11523, filed on March 12, 1992, as amended by Decision and Order No. 11630, filed on May 22, 1992, in Docket No. 6617.

As proposed by HECO, the DPP Program is expected to have the following characteristics:

- The DPP Program, considered a demand response program, will attempt to evaluate the effectiveness of dynamic pricing in influencing residential customer class participants to curtail their electricity consumption during critical peak periods.
- The DPP Program would make use of a peak time rebate ("PTR"), whereby HECO will pay participants \$1 for every kWh saved.
- The DPP Program will be comprised of ten critical peak periods, with each period no more than six hours long.
- Customers would be provided a one to four hour advance notification of when the critical peak period would be initiated.
- Savings would be calculated based on a comparison to the average of the three days preceding the critical event. This calculation would not be weatherized since the three-day average should reduce the impact of weather on customer usage patterns, and there would be no distinction between weekends, weekdays and holidays.

- The DPP Program will result in the installation of free central air conditioning ("a/c") thermostats to certain test participants. These a/c thermostats, when signaled by HECO, will automatically increase the set temperature by four degrees during the critical peak period.
- HECO anticipates recruiting approximately 600 residential pilot program test participants who will be voluntarily participating in the DPP Program and subject to a PTR. Another 400 residential customers will be identified as a control group. The test group will be stratified along the following lines: (1) With central a/c: 400 (with and without the new thermostat); and (2) Without central a/c: 200.
- The DPP Program will result in the participants having their current electric meters being upgraded to advanced meter infrastructure digital meters that are necessary to collect and transmit data to HECO.

II.

Consumer Advocate's SOP

On February 18, 2009, the Consumer Advocate filed its SOP, in which the Consumer Advocate stated that it did not object to the Application.² The Consumer Advocate, however, noted several concerns and recommendations it had with respect to the proposed DPP Program, including, but not limited to:

- HECO did not clearly identify system needs in connection with the proposed

²Previously, on May 15, 2008, the Consumer Advocate submitted information requests ("IRs") to HECO regarding the Application; HECO responded to those IRs on July 18, 2008.

program, and it should be required to do so in the future.

- Because the proposed program does not seem to be a demand response program as much as it is a load control program, HECO should consider testing the remote technology separately as a load control pilot and, if successful, consider creating a residential load control program that would include residential appliances and other end uses that consume high levels of electricity.
- Further consideration should be given to redesigning the program to not only evaluate the effectiveness of offering a PTR, but also whether a critical peak pricing ("CPP") program might effectively encourage residential customers to decrease energy usage. To better understand and compare the effectiveness of PTR and CPP, some possible modifications might entail: (1) increasing the sample size to allow both the PTR and CPP aspects of the program to run concurrently and still have sufficient customers in each program to obtain statistically meaningful data; (2) deciding whether to require customers to participate in both the PTR and CPP programs to not only compare the relative impact of PTR versus CPP on the same customer, but also to save costs on meter installation, and identification and recruitment of eligible participants; and (3) developing comparable incentives such that customers are not biased towards one measure over the other.
- While less than 7% of HECO's residential users have central a/c units, 66% of the sample to be tested in the DPP Program would have central a/c units. Thus, HECO's proposed sample selection to evaluate the program may not lead to results that should be extrapolated to represent HECO's overall residential customer class.

- The commission should require that, as a part of the data to be recorded to evaluate the proposed pilot program, HECO should record temperature and humidity data for the appropriate days preceding and including critical event days. At the end of the study, if the data suggests that there is a correlation between weather and electricity consumption that is not mitigated by taking the three days average, additional consideration may be required related to the need for some recognition of weather in the determination of the estimated energy saved.
- The one to four hour advance notification period may not allow all participants to take full advantage of the pilot program. For example, HECO may elect to identify a critical peak period during working hours. Although customers with the remote load control thermostats would be able to receive the full benefit of the period since no action would be required by them, the notification period may need to be modified to allow all participants an opportunity to determine their responses to an impending critical event, even if they may not be home for part or all of the critical event period.
- As currently designed, the DPP Program might be perceived as implementing a type of undesirable wealth transference. "[S]ince only 7% of customers own central a/c systems, that small subset of customers would definitely benefit from not only having the opportunity to earn rebates with no actions on their part, but also to have the equipment necessary to earn those rebates paid for by other customers."³ In other words, all residential customers would be held responsible for compensating HECO for the costs associated with the program,

³Consumer Advocate's SOP at 21.

but only a very small subset of customers could take advantage of certain aspects of the DPP Program.

- If certain geographical areas have a greater degree of central a/c penetration whether due to affluence or geographical conditions, customers in all other areas might be required to not only pay for certain equipment to be installed at those homes, but also the rebates that might be earned. Thus, the DPP Program might also result in certain geographical biases.
- HECO should be required to consider means by which to test the sensitivity of participants to different levels of rebates. Additionally, if the commission requires HECO to modify the program design to evaluate the effectiveness of the CPP and PTR measures concurrently, it might be cost effective to test participant sensitivity to various peak pricing tariffs, as well.
- Where possible, HECO should take advantage of ongoing education efforts to help customers better understand the potential impact of this program on their own bills as well as how it affects the overall system.
- HECO should be required to consider whether the proposed program can be modified to encourage consumers to adopt energy efficient appliances where possible. One possibility is that in order to receive the proposed rebates, the consumer must have energy efficient major appliances. An alternative possibility is that customers that do not have efficient major appliances will be limited to some portion, i.e., only half, of the rebate.

III.

Discussion

As set forth above, HECO filed its Application pursuant to Paragraphs II.B.7, III.F and V of the IRP Framework. Paragraph V of the IRP Framework states:

V. Pilot Demand-Side Management Programs

A. Purposes

1. A purpose of piloting demand-side management programs is to ascertain whether a given program, not yet proven in Hawaii, is cost-effective--whether it will have the penetration and will achieve accomplishment of the utility's objectives as originally believed.
2. A second purpose of piloting demand-side management programs is to determine whether the program design and configuration (including how it is managed and promoted) are such as to permit implementation of the program as efficiently and effectively as desired.

B. Utility Pilot Programs

1. A utility may implement on a full-scale basis (without pilot testing) any demand-side management program that has been proven cost effective as result of a full-scale or pilot implementation of the program in another comparable utility service territory or as a result of pilot testing by a utility in Hawaii. In all other cases, the utility shall pilot test a demand-side management program before implementing it on a full-scale basis.
2. Each utility shall develop appropriate pilot demand-side management programs for implementation without awaiting

commission approval of its initial integrated resource plan. For each program, the utility shall clearly articulate the parameters of the program, the objectives to be attained by the program, the expected level of achievement of the objectives, the measures by which the attainment of the objectives is to be assessed, the data to be gathered to assist in the evaluation of the pilot program, and the expenditure it proposes to make by appropriate cost components.

3. All proposed pilot demand-side management programs are subject to commission approval.

Upon review of the Application, the commission shares the concerns about the DPP Program expressed by the Consumer Advocate. For example, the commission agrees with the Consumer Advocate that HECO needs to better articulate the system needs it expects to address and how the program will meet those needs. HECO proposes that 66% of the sample in the DPP Program have central air conditioning units while less than 7% of HECO's residential customers have central air conditioning units. HECO also proposes a \$1 per kWh rebate, but at the same time states that customers are unfamiliar with how they are billed.

Notably, the record does not adequately demonstrate that the DPP Program, as currently designed, complies with the IRP Framework requirements and will be cost-effective.⁴

⁴As set forth in the Application, HECO proposes that, under the DPP Program, it would pay a customer \$1/kWh to save a kWh, which is approximately four times the cost of a kWh. In addition, as proposed, the incremental cost to be recovered is \$337,500, of which only \$11,000 comprise incentive payments.

The commission therefore directs HECO to modify the DPP Program to, at a minimum, address the recommendations and concerns outlined in the Consumer Advocate's SOP. Alternatively, HECO and the Consumer Advocate may file a stipulated proposed DPP Program for the commission's review and approval. With either alternative, HECO is required to provide sufficient supporting evidence to demonstrate that the DPP Program complies with the IRP Framework and will be cost-effective.⁵

IV.

Order

THE COMMISSION ORDERS:

HECO is directed to modify the DPP Program to, at a minimum, address the recommendations and concerns outlined in the Consumer Advocate's SOP. Alternatively, HECO and the Consumer Advocate may file a stipulated proposed DPP Program for the commission's review and approval. With either alternative, HECO is required to provide sufficient supporting evidence to demonstrate that the DPP Program complies with the IRP Framework and will be cost-effective.

⁵The commission recently opened a docket to consider proposed amendments to the IRP Framework. Unless and until any amendments are approved, the current IRP Framework controls. Should the commission approve any amendments, the revised framework should control.

DONE at Honolulu, Hawaii JUN - 5 2009.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By 
Carlito P. Caliboso, Chairman

By 
John E. Cole, Commissioner

By 
Leslie H. Kondo, Commissioner

APPROVED AS TO FORM:


Kaiulani Kidani Shinsato
Commission Counsel

2008-0074.laa

CERTIFICATE OF SERVICE

The foregoing order was served on the date of filing by mail, postage prepaid, and properly addressed to the following parties:

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