

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Application of)  
HAWAII ELECTRIC LIGHT COMPANY, INC.)  
For Approval to Provide Renewable )  
Resource Power to Support )  
Technology Validation of a Hydrogen )  
Fueling System by Hawaii Natural )  
Energy Institute at the Hawaii )  
Hydrogen Power Park in the Hawaii )  
Gateway Energy Center Located at )  
the Natural Energy Laboratory )  
Hawaii Authority Campus. )

DOCKET NO. 2007-0014

DECISION AND ORDER NO. 23800

DIVISION OF CONSUMER ADVOCACY  
DEPARTMENT OF PUBLIC UTILITIES AND  
ENERGY  
STATE OF HAWAII

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Karen Higashi.  
Chief Clerk of the Commission

ATTEST: A True Copy  
KAREN HIGASHI  
Chief Clerk, Public Utilities  
Commission, State of Hawaii.

Karen Higashi.

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Docket No. 2007-0014

Decision and Order No. 23800

DECISION AND ORDER

By this Decision and Order, the commission approves:

(1) the request of HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO") to provide renewable resource power at a reduced rate, for the four-year project term, to support technology validation of a hydrogen fueling system by the Hawaii Natural Energy Institute ("HNEI") at the Hawaii Hydrogen Power Park; and (2) HELCO's written agreement with HNEI, which codifies the terms and conditions between HELCO and HNEI for supplying the renewable resource power at a reduced rate to HNEI.<sup>1</sup>

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<sup>1</sup>The Parties are HELCO and the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio party to this proceeding, pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 6-61-62(a).

I.

Background

A.

Subject Entities

HELCO is the franchised provider of electric utility service on the island of Hawaii.

The Hawaii Hydrogen Power Park was established to support the United States Department of Energy's ("U.S. DOE") Technology Validation Program.<sup>2</sup> Specifically, the Hawaii Hydrogen Power Park "conducts engineering and economic valuation of pre-commercial hydrogen technologies in a real-world environment."<sup>3</sup> The Hawaii Hydrogen Power Park is funded by the U.S. DOE through the State of Hawaii, Energy Office, with HNEI as its implementing partner.

B.

Hydrogen Fueling System  
(Technology Validation Project)

To expand the capabilities of the Hawaii Hydrogen Power Park, HNEI, in June 2006, leased new laboratory building and office space in the Hawaii Gateway Energy Center, located at the Natural Energy Laboratory of Hawaii Authority ("NELHA") campus on

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<sup>2</sup>Attachment A, Statement of Work: Hawaii Hydrogen Power Park - Technology Validation of a Hydrogen Fueling System ("Attachment A"), at 1, of HELCO's Application, filed on January 16, 2007 ("Application").

<sup>3</sup>HELCO's Application, Attachment A, at 1.

the island of Hawaii.<sup>4</sup> HNEI intends to utilize the new hydrogen fueling facility to: (1) test and validate distributed energy resource technologies; and (2) continue to validate hydrogen technologies under the continuation of the Hawaii Hydrogen Power Park project.<sup>5</sup> HNEI's proposal, in essence, is described as "a technology validation of a hydrogen fueling system[,]"<sup>6</sup> or HNEI's Technology Validation Project.

The scheduled duration of the Technology Validation Project is between two to four years:<sup>7</sup>

1. During the first year, HNEI will install and demonstrate the operation of an electrolyzer to produce hydrogen gas.

2. During the second year, HNEI will install additional hardware to allow for the fueling of vehicles.

3. During the third and fourth years, HNEI will continue to provide hydrogen for the fueling of vehicles.

With respect to the operation of the hydrogen fueling system, HELCO states:

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<sup>4</sup>HELCO's Application, Attachment A, at 1. NELHA is a State of Hawaii agency established to "facilitate research, development, and commercialization of natural energy resources and ocean-related research, technology, and industry in Hawaii and to engage in retail, commercial, or tourism activities that will financially support that research, development, and commercialization at a research and technology park in Hawaii." HRS § 227D-2(a).

<sup>5</sup>HELCO's Application, Attachment A, at 1.

<sup>6</sup>HELCO's Application, at 4.

<sup>7</sup>Specifically, "[t]he term of [the] agreement shall not exceed the project term, or four years, which occurs first." HELCO's Application, Attachment B, ¶ 6, at 1.

1. The electricity required to operate the electrolyzer is approximately 50 kilowatts ("kW"). The electrolyzer will operate twenty-four hours a day, seven days a week, to produce the required amount of hydrogen.

2. Subject to the commission's approval, HELCO agrees to provide electricity to HNEI at a reduced rate, limited to electricity used by HNEI's electrolyzer and associated ancillary equipment,<sup>8</sup> for a maximum period of four years, pursuant to a written agreement between HELCO and HNEI.<sup>9</sup>

3. Specifically, HELCO proposes to provide electric service at the reduced rate of approximately 20.36 cents per kW hours for HNEI's electrolyzer and associated ancillary equipment, for a maximum of four years. The proposed reduced rate: (A) is based on HELCO's test year 2006 marginal energy cost at secondary voltage of 17.55 cents per kW hour, plus a contingency fee of one cent per kW hour and revenue taxes;<sup>10</sup> and (B) will reduce HNEI's electric bill by approximately \$20,000 per year.<sup>11</sup>

3. The electric service will be provided pursuant to HELCO's Schedule J, or other applicable rate schedule, with the

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<sup>8</sup>HNEI's electrolyzer and ancillary equipment will be separately metered to determine the electricity usage for the reduced rate.

<sup>9</sup>An unsigned copy of the written agreement is attached as Attachment B to HELCO's Application. Subsequently, an executed copy of the HNEI Agreement, signed by HELCO on June 19, 2007 and HNEI on June 28, 2007, was filed with the commission on June 29, 2007.

<sup>10</sup>See HELCO's Application, at 5, and Attachment B; and HELCO's responses to CA-IR-3b and 3c.

<sup>11</sup>See HELCO's response to CA-IR-3b.

monthly bill manually adjusted to reflect the reduced electric rate. In addition, electric service will be subject to an interruptible provision, in the event that HELCO determines that an interruption of service is appropriate.

C.

Procedural Background

HELCO seeks the commission's approval: (1) to provide renewable resource power at a reduced rate, for the four-year project term, to support technology validation of a hydrogen fueling system by HNEI at the Hawaii Hydrogen Power Park; and (2) of its written agreement with HNEI, which codifies the terms and conditions between HELCO and HNEI in supplying the renewable resource power at a reduced rate to HNEI. HELCO makes its requests pursuant to HRS § 269-16(b) and its Tariff Rule 4(C), governing service contracts.

HELCO responded to the Consumer Advocate's information requests on August 16, 2007 and September 20, 2007. On October 18, 2007, the Consumer Advocate filed its Statement of Position, stating that it does not object to the commission's approval of HELCO's Application.<sup>12</sup> On October 24, 2007, HELCO informed the commission that "it will not be submitting a response to the Consumer Advocate's Statement of Position and that this proceeding is now ready for decision making."<sup>13</sup>

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<sup>12</sup>Consumer Advocate's Statement of Position; and Certificate of Service, filed on October 18, 2007 (collectively, "Statement of Position").

<sup>13</sup>HELCO's letter, dated October 24, 2007, at 1.

D.

HELCO's Position

In support of its Application, HELCO asserts:

1. The reduced electric rate is in the public interest because it will support the research and development of a hydrogen fueling system.

2. HELCO proposes to provide the electricity used by HNEI's equipment from renewable energy resources. The primary source of renewable energy supplied by HELCO to HNEI will be the HELCO-owned photovoltaic facilities, and other sources of renewable energy will include geothermal energy and wind energy. In particular, HELCO proposes to provide the renewable energy resource through a power exchange, by which renewable energy is produced or purchased by HELCO at the renewable energy resource site, and an equal amount of electrical energy is provided to HNEI's Technology Validation Project.

3. The use of renewable energy will benefit renewable energy producers to the extent that it reduces the curtailment of HELCO power purchases due to low load conditions.

4. HELCO's customers will not be unduly prejudiced by the reduced electric rate, "because the proposed reduced electric rate is based on HELCO's out-of-pocket cost (marginal cost, plus a contingency amount and revenue taxes). In addition, the limited duration of the reduced electric rates, and the limitation of the applicability of the reduced electric rates to HNEI's electrolyzer and ancillary equipment, mitigates the potential revenue erosion that will result from the proposed

electric rate. Finally, the interruptible electric service provision eliminates the potential adverse impact HNEI's hydrogen project might have on HELCO's ability to meet its electric load."<sup>14</sup>

5. To the extent that the agreement terminates prior to HELCO's next rate proceeding, "HELCO does not plan to seek recovery of lost revenues associated with the HNEI agreement in its revenue requirement in HELCO's next rate proceeding."<sup>15</sup>

#### E.

##### Consumer Advocate's Position

The Consumer Advocate notes its support for the research and development of renewable energy resources such as hydrogen fuel cell technology, provided that the ratepayers are not detrimentally affected. That said, the Consumer Advocate does not object to the commission's approval of the agreement or to HELCO's proposal to provide electric service at a reduced rate to HNEI for its operation of the electrolyzer and associated ancillary equipment.

Furthermore, the Consumer Advocate concurs with HELCO that the reduced electric rate should not significantly impact HELCO's ratepayers, based on the following reasons:

1. The savings provided to HNEI as a result of the reduced rate electric service is minimal compared to HELCO's total revenues, estimated at approximately \$339,553,650, as of

<sup>14</sup>HELCO's Application, at 6-7; see also HELCO's response to CA-IR-1 (HELCO's out-of-pocket cost).

<sup>15</sup>HELCO's response to CA-IR-4.

December 2006. Thus, to the extent that the lost revenues associated with the agreement are not imputed to HELCO in its next rate proceeding, the effect on HELCO's rates should not be significant.

2. There does not appear to be any other significant costs to HELCO associated with the agreement.

3. The interruptible electric service provision should minimize any service impacts to HELCO's other customers.

II.

Discussion

HRS § 269-16(b) provides in relevant part:

(b) No rate, fare, charge, classification, schedule, rule, or practice, other than one established pursuant to an automatic rate adjustment clause previously approved by the commission, shall be established, abandoned, modified, or departed from by any public utility, except after thirty days' notice to the commission as prescribed in section 269-12(b), and prior approval by the commission for any increases in rates, fares, or charges . . . . The commission, upon notice to the public utility, may:

. . . .

(2) After a hearing, by order:

. . . .

(B) Prohibit rebates and unreasonable discrimination between localities or between users or consumers under substantially similar conditions;

. . . .

HRS § 269-16(b).

HELCO's Tariff Rule 4(C) states:

RULE NO. 4

Service Contracts

. . . .

C. COMMISSION APPROVAL

Form contracts for service other than regular utility service provided under the provisions of the tariffs contained in these rules, are contained in these rules and are authorized by the Public Utilities Commission. Special contracts for service other than that provided under the tariffs or attached form contracts must be authorized by the Public Utilities Commission prior to the effective date of said contract.

Each contract for service will contain a statement that it shall at all times be subject to changes or modifications by the Public Utilities Commission as said commission, may from time to time direct in the exercise of its jurisdiction.

HELCO's Tariff Rule 4(C) (emphasis added).

Here, the reduced electric rate proposed by HELCO is limited to HNEI's electrolyzer and associated ancillary equipment and a maximum four-year term, and are subject to HELCO's interruptible electric service provision. Moreover, HELCO does not intend to seek recovery of the lost revenues associated with this project from its other ratepayers. In addition, the reduced electric rate will support and encourage the research and development of hydrogen fuel cell technology, which is defined as a renewable energy resource under HRS § 269-91.

Accordingly, the commission: approves: (1) HELCO's request to provide renewable resource power at a reduced rate, for the four-year project term, to support technology validation

of a hydrogen fueling system by HNEI at the Hawaii Hydrogen Power Park; and (2) HELCO's written agreement with HNEI.

In approving HELCO's requests, the commission notes that the reduced rate HELCO intends to provide to HNEI, under the specific facts and circumstances of the Technology Validation Project, does not appear to constitute "unreasonable discrimination between localities or between users or consumers under substantial similar conditions," which is prohibited under HRS § 269-16(b)(2)(B).

Here, the purpose of the project is consistent with sound public policy, i.e., supporting the research and development of "[h]ydrogen produced from renewable energy resources[,]" HRS § 269-91(9), for the purpose of fueling vehicles. Moreover, the reduced rate is limited to HNEI's electrolyzer and associated ancillary equipment and a maximum four-year term, and HELCO will provide the renewable energy resource to HNEI through a power exchange, as envisioned under HRS § 269-91(9). Finally, of particular note, the lost revenues incurred by HELCO as a result of the Technology Validation Project will not be imputed to HELCO's other ratepayers. For these reasons, the inconsistent treatment in rates with HELCO's other Schedule J customers (or other applicable rate schedule) associated with the implementation of the Technology Validation Project, in the commission's view, appears reasonable under these specific facts and circumstances.<sup>16</sup>

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<sup>16</sup>The Technology Validation Project is distinguishable from the Residential Rate Reduction Program denied by the commission in In re Hawaiian Elec. Co., Inc., Docket No. 05-0146. There,

III.

Orders

THE COMMISSION ORDERS:

1. HELCO's request to provide renewable resource power at a reduced rate, for the four-year project term, to support technology validation of a hydrogen fueling system by HNEI at the Hawaii Hydrogen Power Park, is approved.
2. HELCO's written agreement with HNEI is approved.
3. This docket is closed unless ordered otherwise by the commission.

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the commission denied Hawaiian Electric Company, Inc.'s ("HECO") request to offer a discounted rate on the base energy charge for residential ratepayers who resided within a specific zip code area, as part of the utility's underlying request to commit funds for the construction of a 110 megawatt simple-cycle combustion turbine for peaking generation capacity.

The commission, in denying HECO's request to implement the Residential Rate Reduction Program, held in relevant part that "HECO has not offered sufficient evidence to support any distinction in the cost, quality, or character of utility service provided in zip code 96707 that would justify distinctly lower rates for customers in that area." Docket No. 05-0146, Decision and Order No. 23514, filed on June 27, 2007, at 55.

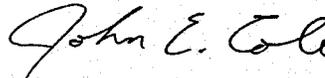
By contrast, the specific cases and circumstances set forth in Docket No. 2007-0014 justify a different conclusion from the one reached by the commission for the Residential Rate Reduction Program in Docket No. 05-0146.

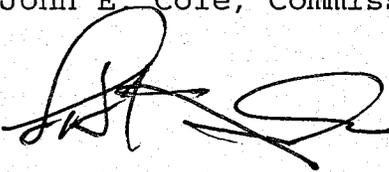
DONE at Honolulu, Hawaii

NOV - 5 2007

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:

  
Michael Azama  
Commission Counsel

2007-0014.laa

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 23800 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

CATHERINE P. AWAKUNI  
EXECUTIVE DIRECTOR  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS  
DIVISION OF CONSUMER ADVOCACY  
P. O. Box 541  
Honolulu, HI 96809

WARREN H.W. LEE  
PRESIDENT  
HAWAII ELECTRIC LIGHT COMPANY, INC.  
P. O. Box 1027  
Hilo, HI 96721-1027

DEAN K. MATSUURA  
DIRECTOR, REGULATORY AFFAIRS  
HAWAIIAN ELECTRIC COMPANY, INC.  
P. O. Box 2750  
Honolulu, HI 96840

THOMAS W. WILLIAMS, JR., ESQ.  
PETER Y. KIKUTA, ESQ.  
GOODSILL ANDERSON QUINN & STIFEL  
1800 Alii Place  
1099 Alakea Street  
Honolulu, HI 96819

Counsel for HELCO

  
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Karen Higashi

DATED: NOV - 5 2007