

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)

HAWAIIAN ELECTRIC COMPANY, INC.)

DOCKET NO. 05-0217

For Approval to Commit Funds in)
Excess of \$2,500,000 (Excluding)
Customer Contributions) for Item)
Y00045, Ocean Pointe Substation)
Transformer #1 and Circuit.)
_____)

DECISION AND ORDER NO. 22201

Filed December 29, 2005

At 10 o'clock A.M.

Brooke K. Kane
for Chief Clerk of the Commission

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DIV. OF CONSUMER ADVOCACY
DEPT. OF COMMERCE AND
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STATE OF HAWAII

ATTEST: A True Copy
BROOKE K. KANE
Administrative Director
Public Utilities Commission
State of Hawaii

Brooke K. Kane

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_____)

Docket No. 05-0217

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DECISION AND ORDER

By this Decision and Order, the commission approves HAWAIIAN ELECTRIC COMPANY, INC.'s ("HECO") requests to: (1) commit approximately \$3,633,001 for Item Y00045, Ocean Pointe Substation Transformer #1 and Circuit, pursuant to Paragraph 2.3.g.2 of the commission's General Order No. 7, Standards for Electric Utility Service in the State of Hawaii ("G. O. No. 7"); and (2) construct forty-six kilovolt ("46kV") subtransmission lines above and below the surface of the ground, pursuant to Hawaii Revised Statutes ("HRS") § 269-27.6(a).

I.

Background

A.

The Application

1.

Procedural History

HECO is a Hawaii corporation, which was initially organized under the laws of the Kingdom of Hawaii on or about October 13, 1891. HECO, a public utility as defined by HRS § 269-1, is engaged in the production, purchase, transmission, distribution, and sale of electricity on the island of Oahu in the State of Hawaii.

On August 29, 2005, HECO filed an application seeking commission approval to: (1) commit approximately \$3,633,001, excluding customer contributions, in accordance with Paragraph 2.3.g.2 of G. O. No. 7, as amended by Decision and Order No. 21002, issued on May 27, 2004, in Docket No. 03-0257; and (2) construct 46kV subtransmission lines above and below the surface of the ground for Item Y00045, Ocean Pointe Substation Transformer #1 and Circuit ("Proposed Project").¹ In its Application, HECO requests that the commission: (1) conduct a public hearing pursuant to HRS § 269-27.5 regarding its proposal to construct 46kV overhead and underground subtransmission lines through a residential area; and (2) determine that HECO's

¹Application and Certificate of Service ("Application"), filed on August 29, 2005.

46Kv lines being constructed above the surface of the ground are consistent with HRS § 269-27.6(a).

HECO served copies of its Application on the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY ("Consumer Advocate"), an ex officio party to this docket, pursuant to HRS § 269-51 and Hawaii Administrative Rules § 6-61-62.²

On October 25, 2005, the commission held a public hearing regarding HECO's proposed construction plans at Ewa Beach Elementary Cafeteria, 91-740 Papipi Road, Ewa Beach, HI 96706, in accordance with HRS § 269-27.5 ("Public Hearing").³

2.

HECO's Proposed Project

HECO contends that two (2) residential home developments (Ocean Pointe by Haseko Homes, Inc. and Ewa by Gentry Homes) have accelerated their construction schedules due to the increase in home sales spurred by low mortgage interest rates. Based upon area reviews completed in March 2005, HECO projects a cable and transformer overload under emergency conditions in August 2006.

The Proposed Project includes: (1) the acquisition of land for a new substation (the "Ocean Pointe Substation");

²No persons moved to intervene or participate in this proceeding.

³Aside from HECO and the Consumer Advocate, no other person provided public testimony during the scheduled Public Hearing. The transcript of the Public Hearing was filed with the commission on October 28, 2005.

(2) construction of a new system distribution substation, consisting of civil, electrical, and communication work in the Ocean Pointe development; (3) extension of two (2) existing 46 kV subtransmission lines, partially overhead and partially underground, consisting of civil and electrical work, to the new substation site; and (4) installation of two (2) 3-phase, fifteen kilovolt ("15kV") underground cables in an existing underground infrastructure from the new Ocean Pointe Substation to the Ocean Pointe development.

a.

Land Acquisition

HECO intends to purchase approximately 20,000 square feet of land for the new Ocean Pointe Substation.

b.

Installation of Substation Transformer #1

HECO will construct a new system distribution substation - the Ocean Pointe Substation - along Kapolei Parkway in the Ocean Pointe development. Construction of the new substation includes the installation of:

(i) one (1) 46-12kV, 10/12.5 megavolt ampere, low-sound transformer;

(ii) one (1) 15kV metal-clad outdoor switchgear with two (2) twelve kilovolt ("12kV"), 1200 amp, circuit breakers and associated microprocessor-based relay protection equipment;

(iii) one (1) direct current battery bank;

(iv) three (3) 46kV, 1200 amp, group operated, disconnect switches;

(v) 46kV bus conductors and connectors;

(vi) Supervisory Control and Data Acquisition/Remote Terminal Unit ("SCADA/RTU") equipment; and

(vii) Associated electrical cable and wiring.

Within the Ocean Pointe Substation boundaries, HECO will construct:

(i) a concrete pad for the transformer;

(ii) a concrete pad for the switchgear;

(iii) approximately 2,600 square feet of asphalt concrete driveway;

(iv) approximately 200 feet of two (2)-inch underground ductline;

(v) approximately 400 feet of five (5)-inch underground ductline; and

(vi) foundations and steel structures to support bus conductors.

c.

46kV Line Extensions

HECO will extend two (2) existing 46kV subtransmission overhead lines, known as Ewa Nui A-Ewa Nui #41 and CEIP #3-CEIP #46, to feed the new Ocean Pointe Substation. The two (2) new 46kV subtransmission line extensions will be installed partially overhead and partially underground, as further described in the Application.

As part of the Proposed Project, HECO will install the following as part of its underground electrical work:

- (i) approximately 2,910 feet and 2,940 feet of 3-phase, 46kV, 1500 KCM, aluminum, polyethylene insulated underground cables and #2 bare copper neutral conductor;

- (ii) thirty-three (33) 46kV splices; and

- (iii) twelve (12) 46kV terminations.

In addition, HECO will install the following as part of its overhead electrical work:

- (i) two (2) new sixty (60)-foot and one (1) new sixty-five (65)-foot 46kV subtransmission wood poles; and

- (ii) approximately 920 feet of 3-phase, 46kV, 556.5 KCM AAC (all aluminum conductor) overhead conductors.

d.

Ocean Pointe #1 and #2 12kV Circuits

HECO will install two (2), 3-phase, 15kV underground cables in an existing underground infrastructure from the new substation to the Ocean Pointe development to become the new "Ocean Pointe #1-Ocean Pointe #1" and "Ocean Pointe #1-Ocean Pointe #2" 12 kV circuits.

3.

Proposed Project's Cost

The Proposed Project's total estimated cost is \$3,757,801, which includes in-kind contributions-in-aid-of-construction ("CIAC") of approximately \$753,400 and cash CIAC of

approximately \$124,800 to be made by Haseko Homes, Inc. (the "Developer").⁴ The capital cost to HECO is approximately \$3,633,001.

HECO described the manner in which it determined its cost estimates for the Proposed Project. HECO represents that the material costs (estimated at \$1,057,918) are or will be based on a competitive bid process it will conduct.⁵ It further represents that a significant portion of the outside services (approximately \$870,816) will also be selected by HECO through a competitive bid process.⁶ HECO estimated the labor hours for engineering and construction components based upon its past experience. It then input the labor hour estimates into its Pillar cashflow program to determine the direct labor costs and associated on-costs for each job classification. In its response to the Consumer Advocate's information request, HECO notes that it is still in negotiations with the land owner to acquire the real property that will be used for the Ocean Pointe Substation. Accordingly, HECO advises that "given the age of the comparables [used to determine the agreed upon value of the property] and the rapid appreciation in values over the last two years, the agreement value is now probably below market."⁷

⁴See Exhibit XVII to the Application for estimated cost detail. The total Developer's cash contribution is approximately \$130,000, including a State of Hawaii General Excise Tax payment of \$5,200.

⁵See HECO's response to CA-IR-16a.

⁶See HECO's response to CA-IR-17.

⁷See HECO's response to CA-IR-15c.

4.

Proposed Project Justification

As stated above, HECO explains that it projects a cable and transformer overload under emergency conditions in August 2006 for the Ocean Pointe development area. In particular, HECO anticipates that in 2006, the Ewa Beach transformer #1 emergency rating would be exceeded by approximately 20.8 percent upon failure of either the Ewa Beach #2 transformer or the Ewa Beach#2-Ewa Beach #3 12 kV circuit. In addition, in 2006, HECO projects that the Ewa Beach #1 12kV circuit will exceed its emergency limit by approximately 26.3 percent by the failure of either the Ewa Beach #2 transformer or the Ewa Beach #2-Ewa Beach #3 12kV circuit (if the auto transfer at the switching vaults is not blocked).

5.

Alternatives to the Proposed Project

a.

Alternatives to Ocean Pointe Substation

HECO investigated two (2) alternatives to installing the Ocean Pointe Substation. First, it considered the expansion of the Ewa Beach Substation. However, HECO did not pursue this alternative since the Ewa Beach Substation is fully built out with no available space to install additional transformers. Furthermore, HECO states that its attempts to purchase land from the adjacent golf course were unsuccessful.

Second, HECO considered installing additional transformers at the Fort Weaver Substation. HECO states that it did not choose this alternative because it determined that the additional transformers cannot provide sufficient capacity for the ultimate projected load in the Ocean Pointe development. HECO explains that: (1) any new 12kV circuits from the Fort Weaver Substation to serve the Ocean Pointe development would need to be installed along Fort Weaver Road since the Kapolei Parkway is not fully developed; (2) the total distance from the Fort Weaver Substation to the Ocean Pointe subdivision is approximately 13,000 feet; and (3) the new 12kV circuits on Fort Weaver Road would need to be installed underground since there is no available space on the wood poles to accommodate additional 12kV circuits.

b.

Alternatives for 46kV Line Extensions

The Developer requested that HECO place underground the 46kV subtransmission line extensions from the new substation site, along the border of the Developer's property, to the Fort Weaver Road right-of-way. As a result, the Developer agreed to pay the additional costs to underground the 46kV lines from the new substation to the Fort Weaver Road right-of-way. The 46kV subtransmission line extensions continuing from the Fort Weaver Road right-of-way to the existing Ewa Nui A-Ewa Nui #41 and CEIP #3-CEIP #46 46kV overhead lines will be installed partially overhead and partially underground.

HECO states that due to its subtransmission design criteria, and for operations and reliability reasons, it will not place two (2) 46kV subtransmission underground risers on the same pole. Therefore, HECO intends to install one (1) 46kV subtransmission line extension underground for approximately 110 feet before being reframed to a riser pole configuration and connected to the existing Ewa Nui A-Ewa Nui #41 46kV overhead line that runs along the West side of Fort Weaver Road right-of-way.

HECO considered three (3) alternatives to the 46kV subtransmission line extension from the corner of the Developer's property and Fort Weaver Road to the Ewa Beach Substation and the existing CEIP #3-CEIP #46 46kV overhead line: (1) a partial underground and partial overhead route; (2) an all overhead route; and (3) an all underground route.

For the partial underground and partial overhead alternative, HECO estimates a cost of approximately \$294,500. HECO projects that an all overhead alternative would cost approximately \$225,000, including a \$23,000 credit to the Developer for already installed underground infrastructure. Finally, HECO estimates that an all underground alternative would cost approximately \$753,300.

i.

All Overhead Alternative

HECO argues that constructing the all overhead alternative, "especially an overhead crossing of Fort Weaver

Road, would not be practical or prudent, given engineering, operating, and safety considerations."⁸ It further states that it prefers not to cross primary and back-up 46kV overhead lines unless there are no other feasible alternatives, due to "engineering and operating considerations."⁹

ii.

All Underground Alternative

HECO states that the all underground alternative similarly would not be practical or prudent, given the high cost of this alternative and the magnitude of the impact to traffic along Fort Weaver Road.

iii.

Partial Overhead and Partial Underground Alternative

HECO determined that the partial overhead and partial underground alternative (i.e., an underground crossing of Fort Weaver Road and overhead installation along the East side of Fort Weaver Road) "provides the best opportunity to meet the underlying need for this project in a timely and cost-effective manner, and accounts for engineering, operating, and safety considerations."¹⁰ HECO prefers this 46kV line alternative because: (1) there would not be an overhead crossing of primary and back-up 46kV lines; (2) maintenance on either the primary or

⁸Application at 14.

⁹Id.

¹⁰Id. at 15.

back-up 46kV line at or near the crossing would not require the outage of the other 46kV line; and (3) disruption of traffic on Fort Weaver Road would be less than the all underground alternative.

iv.

Cost Differentials

The difference in cost between the partial overhead and partial underground alternative and the all overhead alternative is \$69,500 (\$294,500 versus \$225,000). HECO notes that the cost differential between the partial overhead and partial underground alternative and the all underground alternative is "substantial" -- \$458,800 (\$294,500 versus \$753,300).¹¹

v.

HECO Asserts HRS § 269-27.6(a) is Satisfied

HECO represents that its Proposed Project satisfies the requirements of HRS § 269-27.6(a). Specifically, HECO contends that the benefits of the underground crossing of Fort Weaver Road, as discussed above, outweighs the costs of placing the 46kV line overhead. HECO further asserts that the benefits, if any, of placing the 46kV lines underground do not outweigh the costs. HECO represents that the visual impact due to the Proposed Project will be insignificant since there are existing 46kV overhead lines already in the affected area. Moreover, HECO states that, to the best of its knowledge, there is no

¹¹Application at 16.

governmental agency or other party willing to pay for the additional costs associated with undergrounding the proposed section of 46kV subtransmission overhead line.

B.

Consumer Advocate's Position

On December 7, 2005, the Consumer Advocate filed its Statement of Position informing the commission that it does not object to approval of the Application.¹² The Consumer Advocate states that HECO's determination that an overload situation is possible in 2006 appears to be reasonable. The Consumer Advocate further believes that HECO's proposal to construct the proposed overhead and underground 46kV lines satisfies the requirements of HRS § 269-27.6(a).

II.

Discussion

A.

Approval to Commit Funds

G. O. No. 7 states, in relevant part:

Proposed capital expenditures for any single project related to plant replacement, expansion or modernization, in excess of \$500,000 or 10 per cent of the total plant in service, whichever is less, shall be submitted to the Commission for review at least 60 days prior to the commencement of construction or commitment for expenditure, whichever is earlier. If the Commission determines, after hearing on the matter, that any portion of the proposed project provides facilities which are unnecessary or are

¹²Division of Consumer Advocacy's Statement of Position, filed on December 7, 2005 ("Statement of Position").

unreasonably in excess of probable future requirements for utility purposes, then the utility shall not include such portion of the project in its rate base. If the utility subsequently convinces the Commission that the property in question has become necessary or useful for public utility purposes, it may then be included in the rate base. Failure of the Commission to act upon the matter and render a decision and order within 90 days of filing by the utility shall allow the utility to include the project in its rate base without the determination by the Commission required by this rule

G. O. No. 7. In Docket No. 03-0257, the commission increased the monetary threshold governing the filing of capital expenditure applications by HECO, from \$500,000 to \$2.5 million, exclusive of customer contributions, effective July 1, 2004.

In this proceeding, HECO represents that load growth resulting from the Ocean Pointe development may cause overload situations in the area, as early as August 2006. Based upon a review of the record, including the support for the Ocean Pointe Substation load projections, the commission finds reasonable HECO's determination of a possible overload situation in 2006. Accordingly, the commission concludes that the Proposed Project is necessary to ensure that HECO can adequately meet the forecasted need in the subject area, and that the proposed commitment of funds for the Proposed Project should be approved.

B.

HRS § 269-27.6(a)

HRS § 269-27.6(a) titled "Construction of high-voltage electric transmission lines; overhead or underground construction" states:

Notwithstanding any law to the contrary, whenever a public utility applies to the public utilities commission for approval to place, construct, erect, or otherwise build a new forty-six kilovolt or greater high voltage electric transmission system, either above or below the surface of the ground, the public utilities commission shall determine whether the electric transmission system shall be placed, constructed, erected, or built above or below the surface of the ground; provided that in its determination, the public utilities commission shall consider:

- (1) Whether a benefit exists that outweighs the costs of placing the electric transmission system underground;
- (2) Whether there is a governmental public policy requiring the electric transmission system to be placed, constructed, erected, or built underground, and the governmental agency establishing the policy commits funds for the additional costs of undergrounding;
- (3) Whether any governmental agency or other parties are willing to pay for the additional costs of undergrounding;
- (4) The recommendation of the division of consumer advocacy of the department of commerce and consumer affairs, which shall be based on an evaluation of the factors set forth under this subsection; and
- (5) Any other relevant factors.

HRS § 269-27.6(a).

First, under HRS § 269-27.6(a)(1), the commission finds that no benefit exists that outweighs the costs associated with constructing the lines entirely underground. HECO estimated that it would cost more than \$753,300 to place the line underground as opposed to placing it partially overhead and partially underground, as proposed. Since there are other existing 46kV overhead lines in the affected area, placing the 46kV lines overhead as opposed to underground will not dramatically impact

the area visually. No public comments were given at the Public Hearing regarding the benefits of placing the lines entirely underground.¹³ Accordingly, there does not appear to be a benefit that outweighs the additional costs of placing the 46kV lines of the Proposed Project underground.

Second, under HRS § 269-27.6(a)(2), the commission is not aware of any governmental policies requiring the underground placement of the lines. As noted by the Consumer Advocate, there have been State legislative efforts to study the feasibility of requiring underground placement of utility facilities, but none of the recommendations have resulted in a legislative mandate to underground electric transmission lines.

Third, under HRS § 269-27.6(a)(3), the commission is not aware of any governmental agency or any other party willing to pay for the additional costs of placing the lines entirely underground. In separate letters to HECO, the State of Hawaii Department of Transportation and Gentry Homes expressly informed HECO that they do not have the funds to underground the electrical lines associated with the Proposed Project and will not contribute to the cost to underground the extension.¹⁴ As stated above, the Developer agreed to pay the cost differential between the underground and overhead 46kV lines along its property from the new Ocean Pointe Substation to the Fort Weaver Road right-of-way. In a letter to HECO dated March 18, 2005, the

¹³As stated above, the commission conducted a public hearing on the matter, pursuant to HRS § 269-27.5.

¹⁴See Exhibit XIV to the Application and HECO's response to CA-IR-11.

Developer states that it has no interest in participating in the additional cost to underground the sections of 46kV lines within the Fort Weaver Road right-of-way.¹⁵

Fourth, under HRS § 269-27.6(a)(4), the commission recognizes that the Consumer Advocate, after reviewing the Proposed Project under HRS § 269-27.6(a), stated that it "appears reasonable to place the proposed sections of the 46kV line extensions overhead and underground as proposed. The benefits of undergrounding the proposed 46kV overhead line sections do not appear to outweigh the additional costs that would be incurred to place the lines underground."¹⁶

Based on the foregoing, the commission concludes that the partial overhead and partial underground construction of the 46kV subtransmission lines in association with the Proposed Project, in the manner set forth in the Application, should be approved.

III.

Orders

THE COMMISSION ORDERS:

1. HECO's request to expend an estimated \$3,633,001 for Item Y00045, Ocean Pointe Substation Transformer #1 and Circuit, is approved; provided that no part of the Proposed Project may be included in HECO's rate base unless and until the

¹⁵See Exhibit XV to the Application.

¹⁶Statement of Position at 17.

Proposed Project is in fact installed, and is used and useful for public utility purposes.

2. HECO's request to construct and install 46 kV subtransmission lines above and below the surface of the ground, as part of the Proposed Project, is approved, pursuant to HRS § 269-27.6(a).

3. HECO shall submit a report within sixty (60) days of the Proposed Project's commercial operation, with an explanation of any deviation of ten (10) percent or more in the Proposed Project's cost from that estimated in the Application. HECO's failure to submit this report will constitute cause to limit the cost of the Proposed Project, for ratemaking purposes, to that estimated in the Application.

4. HECO shall conform to the commission's order set forth in paragraph 3, above. The failure to adhere to the commission's order shall constitute cause for the commission to void this Decision and Order, and may result in further regulatory action as authorized by law.

DONE at Honolulu, Hawaii December 29, 2005.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By Carlito P. Caliboso
Carlito P. Caliboso, Chairman

By (EXCUSED)
Wayne H. Kimura, Commissioner

By Janet E. Kawelo
Janet E. Kawelo, Commissioner

APPROVED AS TO FORM:

Catherine P. Awakuni
Catherine P. Awakuni
Commission Counsel

05-0217.sl

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 22201 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
DIVISION OF CONSUMER ADVOCACY
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Andrey Chigashin
for Karen Higashi

DATED: December 29, 2005