

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
HAWAIIAN ELECTRIC COMPANY, INC.)
For Approval to Construct a 46kV)
Underground Subtransmission Line)
Pursuant to HRS § 269-27.6(a) for)
Item Y00126, Mamala Substation)
Phase 5 Second 46kV Circuit.)
_____)

DOCKET NO. 2008-0279

DECISION AND ORDER

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

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COMMISSION

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HAWAIIAN ELECTRIC COMPANY, INC.)

Docket No. 2008-0279

For Approval to Construct a 46kV)
Underground Subtransmission Line)
Pursuant to HRS § 269-27.6(a) for)
Item Y00126, Mamala Substation)
Phase 5 Second 46kV Circuit.)

DECISION AND ORDER

By this Decision and Order, the commission determines that it is appropriate for HAWAIIAN ELECTRIC COMPANY, INC. ("HECO") to construct a forty-six kilovolt ("46kV") subtransmission line below the surface of the ground, as proposed in its application filed on October 24, 2008, pursuant to Hawaii Revised Statutes ("HRS") § 269-27.6(a).

I.

Background

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

A.

HECO's Application

On October 24, 2008, HECO filed an application ("Application") seeking a commission determination that its proposal to install a back-up 46kV subtransmission line for the Mamala Substation located on Hickam Air Force Base ("Hickam AFB"), below the surface of the ground, is appropriate ("Proposed Project").¹

HECO is proposing to place the back-up facility underground in existing 46kV ducts that the United States Air Force ("Air Force") constructed and transferred to HECO as part of the Mamala Phase 1 project, Docket No. 04-0350 (the "Original Project"). According to HECO, the placement of the facility underground is consistent with the Air Force's desire for all new electrical construction to be placed underground and, thus, the Air Force has agreed to pay for the entire cost of the Proposed Project, estimated to be approximately \$2.3 million.

By Decision and Order No. 21993, filed on August 18, 2005, the commission approved the Original Project.² By letter dated September 19, 2006, HECO informed the commission and the Consumer Advocate of a revised project scope which

¹HECO served copies of the Application on the DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS ("Consumer Advocate"), an ex officio party to this proceeding pursuant to HRS § 269-51 and Hawaii Administrative Rules § 6-61-62. No persons moved to intervene or participate without intervention in this proceeding.

²See In re Hawaiian Electric Company, Inc., Docket No. 04-0350, Decision and Order No. 21993, filed on August 18, 2005 ("Docket No. 04-0350").

deferred the installation of the communications equipment (i.e., Supervisory Control and Data Acquisition ("SCADA")) and associated telecommunications facilities until later phases of the planned electrical upgrades at the Hickam AFB. HECO states that as part of the Original Project, as revised, the Air Force's contractor constructed approximately fifteen 6' x 14' manholes, and approximately 8,000 feet of eight 5" ducts. HECO states that: (1) during the Original Project, three of the 5" ducts were used to install one 46kV circuit, along with a spare duct; and (2) four ducts were reserved for a future (second) 46kV circuit between the Hickam and Mamala Substations. HECO represents that the Air Force transferred the ductline and manholes to HECO on September 20, 2007, and that the Original Project was completed on October 30, 2007.

At this time, HECO is proposing to utilize the four reserved ducts, which were built as part of the Original Project, for the installation of a back-up 46kV source for the Mamala Substation (i.e., the Proposed Project).

1.

Project Description

The Proposed Project includes: (a) the underground extension of the Makalapa 45 46kV circuit through the Mamala Substation to an open point at the Hickam Substation;

(b) the installation of Breaker 2, relays, bus and duct work at the Mamala Substation; (c) the installation of interrupters on switches 5165 and 5166 at the Hickam Substation; and (d) fiber installation and splicing, and the installation of media converters and additional cards at the Hickam and Puuloa Substations and the Ward Avenue Microwave Room.

According to HECO, the Proposed Project is made up of the following project components:

- a. P0001586 - Extension of the Makalapa 45 46kV Circuit: This portion of the Proposed Project (estimated to cost approximately \$804,000) involves the underground extension of the Makalapa 45 46kV circuit through the Mamala Substation to an open point at the Hickam Substation. For this portion, approximately 8,156 circuit feet (one 46kV circuit) of 1500KCM 46kV underground cable from the exiting manhole MH#993B to the Mamala Substation will be installed within three of the existing ducts. The Makalapa 45 circuit will be reconfigured to allow the Mamala Substation to be backed-up by the Makalapa 42 46kV circuit and the adjacent overhead lines to the left and the adjacent underground lines to the right of switch 5206 will be cut and deadened.³

³HECO states that this proposed work will maintain the Makalapa 45 46kV back-up circuit for the Hickam Substation while enabling the restoration of the Hickam auto transfer scheme.

- b. P0001589 - Mamala Substation Breaker 2, Relays, Bus and Duct Installation: This item of the Proposed Project (projected to cost approximately \$1 million) involves the installation of a second 46kV gas circuit breaker (Breaker 2) at the Mamala Substation for protection and reliability purposes. Additionally, the installation of potential transformers, bus, switches, a battery cabinet, yard interface cabinet, relays, and control wiring in the existing control cabinet, and approximately 450 linear feet of 1500KCM underground conductor will be required within the Mamala Substation to facilitate the 46kV auto transfer at both the Hickam and Mamala Substations.⁴
- c. P0001588 - Hickam Substation Installation of Interrupters on Switch 5165 and 5166: This item (estimated to cost approximately \$346,000) involves the installation of interrupters on switch 5165 and 5166 at the Hickam Substation for switching purposes. Additionally, eighty linear feet of two 2" ducts and 180 linear feet of

⁴Also required for this portion of the work are the installation of additional steel structures for switch and bus support; concrete pads for the gas circuit breaker and battery cabinet; approximately 140 linear feet of four 5" ducts and forty linear feet of two 4" ducts; and fifteen linear feet of trench for the relay cabinet cables.

one 2" ducts will be required to enable the 46kV auto transfer scheme between the Hickam and Mamala Substations.

- d. P0001587 - Telecomm Installation: This item (estimated to cost approximately \$131,000) involves the splicing of fiber optic cable at pole P27 along South Avenue, pole P70 along Plantation Drive and pole P53 along Radford Drive. The installation of 500 linear feet of fiber optic cable and innerduct into the Hickam Substation from MH 271-B will be required. Also required is the installation of: (1) a new fifty linear foot ductline to route the fiber through the Hickam Substation to a new stainless steel cabinet; (2) one 3' x 5' handhole and media converter; and (3) additional cards at the Ward Microwave Room and additional cards and installation of a media converter at the Puuloa Substation.⁵

2.

Project Justification

The Hickam and Mamala Substations, which are dedicated substations for the Hickam AFB load, as well as the Proposed Project, are located within the Hickam AFB. HECO states that the Hickam Substation was originally designed to be served off of the

⁵According to HECO, the fiber option work is required to support relays between the Hickam and Mamala Substations, and to provide route delivery to the Makalapa Substation.

Makalapa 42 46kV circuit (which also serves the Aliamanu Substation), with back-up from the Makalapa 45 46kV circuit, while the Makalapa 45 46kV circuit was originally designed to serve the Makalapa and Puuloa Substations, with the capability to back-up the Hickam Substation. According to HECO, while the Hickam Substation is not equipped with SCADA, under this scenario, when the Makalapa 42 46kV circuit failed, restoration for the Hickam Substation was fairly instantaneous due to the Hickam auto transfer switch.

However, with the October 2007 installation of the Mamala Substation, HECO states that the Makalapa 45 46kV circuit was redesigned to serve the Makalapa, Puuloa, and Mamala Substations. HECO represents that the current scheme on the Makalapa 45 46kV circuit ensures that faults are cleared quickly to minimize service interruptions to the Air Force and Navy. HECO states that to maintain the Makalapa 45 46kV circuit as a three-terminal line, the Hickam auto transfer function was disabled to prevent load from the Hickam AFB from being transferred automatically (under emergency conditions) to the Makalapa 45 46kV circuit. Thus, according to HECO, manual switching and disabling of relays by HECO's troublemen at the Makalapa, Puuloa, and Mamala Substations are required to restore service to the Hickam Substation via the Makalapa 45 46kV circuit, which makes the current restoration time for the Hickam Substation "significantly longer" than before the construction of the Mamala Substation.

HECO asserts that the Proposed Project was the only alternative considered since: (1) the existing 45kV ducts are available between the Hickam and Mamala Substations; (2) the Proposed Project will allow the Hickam and Mamala Substations to be switched between the two 46kV circuits (i.e., the Makalapa 42 and 45); and (3) upon completion of the Proposed Project, the Hickam auto transfer function will be re-established, resulting in fairly instantaneous restoration times for both the Hickam and Mamala Substations.

3.

HRS § 269-27.6(a)

HECO represents that the Proposed Project satisfies the requirements of HRS § 269-27.6(a). Specifically, HECO states that the Proposed Project satisfies criteria three of the subsection which considers "whether any governmental agency or other parties are willing to pay for the additional costs of undergrounding."⁶ According to HECO, the Air Force has requested that the proposed 46kV line be installed underground in existing ducts and will be paying for the entire estimated cost of the Proposed Project.

B.

Consumer Advocate's Position

On March 13, 2009, the Consumer Advocate submitted its Statement of Position ("CA's SOP") stating that it does not

⁶See HRS § 269-27.6(a)(3).

object to the commission's approval of the instant Application. In its review of the Application, the Consumer Advocate considered the criteria set forth in HRS § 269-27.6(a). The Consumer Advocate states that the evaluation of whether there are any benefits that may outweigh the costs of the proposed placement is "obviated" since the Air Force, as the cost-causer, will bear the entire project cost, and HECO's ratepayers are not expected to bear the initial capital cost of the proposed underground placement of the lines. Thus, according to the Consumer Advocate, "there are no initial costs to HECO's ratepayers against which to compare any assessed benefits."⁷

In addition, with regard to whether there is a governmental public policy requiring the electric transmission system to be placed, constructed, erected or built underground, the Consumer Advocate refers to HECO's response to CA-IR-6a filed in Docket No. 04-0350. According to the Consumer Advocate, in that response, HECO stated that, while not formally documented, the Air Force has indicated that there is a base "policy" that requires that all new utility lines at Hickam AFB be installed underground. Moreover, the Consumer Advocate notes that HECO has indicated that the alignment of the new 46kV circuit will be placed through the Hickam Field National Historic Landmark area and the Hickam Airfield flight-line. As such, the Consumer Advocate states that "it is the understanding of HECO and the Air Force that the National Register of Historic Places requires

⁷See CA's SOP at 6.

that there be no overhead lines in the historic district."⁸ Accordingly, the Air Force has agreed to pay for the entire cost of the Proposed Project. Furthermore, the Consumer Advocate states that there does not appear to be any other relevant factor as it relates to this Proposed Project.

Based on its review of the Application under HRS § 269-27.6(a), the Consumer Advocate states that it does not object to approval of the placement of the 46kV lines within the proposed underground facilities.

II.

Discussion

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;

⁸Id. at 6-7 (citing to Application at 11 n.4 and CA-IR-6a filed in Docket No. 04-0350).

- (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 agrees with the Consumer Advocate's assessment that an analysis of whether any benefits exist that may outweigh the costs of placing the 46kV circuit underground, in this case, is unnecessary since the Air Force will be paying for entire cost of the Proposed Project and, thus, HECO's ratepayers are not expected to bear the initial cost of the proposed underground placement of the facility.

Second, under HRS § 269-27.6(a)(2), the commission recognizes that portions of this Proposed Project are expected to run through a historical district and through the Hickam Airfield, and there appears to be an understanding that the National Register of Historic Places requires that there be no overhead lines in the historic district.⁹ Moreover, while not

⁹See Application at 11 n.4; CA's SOP at 6-7.

official, there also appears to be an unwritten Hickam AFB "policy" that requires that all new electrical construction be placed underground.¹⁰ Accordingly, the Air Force will be paying for the entire estimated cost of the Proposed Project.

Third, under HRS § 269-27.6(a)(3), as noted above, the Air Force has requested that the proposed 46kV line be installed underground in existing ducts, and will be paying for the entire estimated cost of the Proposed Project.

Fourth, under HRS § 269-27.6(a)(4), the commission recognizes that the Consumer Advocate, after considering the Proposed Project under HRS § 269-27.6(a), states that it "does not object to the approval of the placement of [the] 46kV lines within the proposed underground facilities."¹¹

Lastly, under HRS § 269-27.6(a)(5), there appears to be no other "relevant factors" to consider at this time.

Based on the foregoing, the commission concludes that HECO's proposal to construct a back-up 46kV subtransmission line below the surface of the ground for the Mamala Substation, as described in the Application, is appropriate and should be approved.

¹⁰See Application at 11 n.4.

¹¹See CA's SOP at 7.

III.

Orders

THE COMMISSION ORDERS:

1. HECO's proposal to construct a 46kV subtransmission line below the surface of the ground, as described in its Application, is approved, pursuant to HRS § 269-27.6(a).

2. This docket is closed unless ordered otherwise by the commission.

DONE at Honolulu, Hawaii APR - 9 2009.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By Carlito P. Caliboso
Carlito P. Caliboso, Chairman

By John E. Cole
John E. Cole, Commissioner

By Leslie H. Kondo
Leslie H. Kondo, Commissioner

APPROVED AS TO FORM:

J. Sook Kim
J. Sook Kim
Commission Counsel

2008-0279.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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