

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of)
HAWAIIAN ELECTRIC COMPANY, INC.)
for Approval to Commit Funds in)
Excess of \$2,500,000 (Excluding)
Customer Contributions) for Item)
Y00044, Ko Olina Substation)
Transformer #1 and Circuit.)

DOCKET NO. 05-0056

DECISION AND ORDER NO. 22001

Filed August 31, 2005
At 9 o'clock A.M.

Karen Higdon
Chief Clerk of the Commission

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

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Transformer #1 and Circuit.)
_____)

Docket No. 05-0056
Decision and Order No. 22001

DECISION AND ORDER

By this Decision and Order, the commission approves HAWAIIAN ELECTRIC COMPANY, INC.'s ("HECO") request to commit finds in excess of \$2.5 million, excluding customer contributions, for Item Y00044, Ko Olina Substation Transformer #1 and Circuit, and determines that the proposed 46 kilovolt ("kV") subtransmission lines should be constructed above and below the surface of the ground, pursuant to Hawaii Revised Statutes ("HRS") § 269-27.6(a).¹

I.

Background

By its Application, HECO requests: (1) commission approval to commit funds in excess of \$2.5 million, (currently estimated at \$2,824,177, excluding customer contributions) for Item Y00044, the Ko Olina Substation Transformer #1 and Circuit, in accordance with the provisions of paragraph 2.3(g)(2) of the

¹HECO's Application, Exhibits I-XV and Certificate of Service, filed on March 4, 2005 ("Application").

commission's General Order No. 7, *Standards for Electric Utility Service in the State of Hawaii* ("G.O. No. 7")²; (2) that the commission conduct a public hearing as required by HRS § 269-27.5 for the proposed overhead construction of 46kV subtransmission lines through a residential area³; and (3) a commission determination that the proposed 46kV transmission lines be constructed above the surface of the ground, pursuant to HRS § 269-27.6(a) ("Ko Olina Substation Project" or "Proposed Project").

HECO 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 docket, pursuant to HRS § 269-51.

On April 27, 2005, a public hearing on this matter was held at the Kapolei Elementary School Cafeteria, pursuant to HRS § 269-27.5.

By letter dated and filed with the commission on May 17, 2005, HECO requested an extension of the G.O. No. 7 requirement that the commission render a decision and order within 90 days of filing by a utility ("90-Day Period"), from June 2, 2005, to July 29, 2005. The commission granted HECO's request for an extension of the 90-Day Period, to July 29, 2005, by commission letter dated May 19, 2005.

²As amended by Decision and Order No. 21002, filed May 27, 2004, in Docket No. 03-0257.

³HRS § 269-27.5 provides that whenever a new 46kV or greater high-voltage electric transmission system is built above the ground through any residential area, the commission shall conduct a public hearing prior to its issuance of approval thereof.

On May 19, 2005, the Consumer Advocate filed information requests ("IRs") for HECO, to which HECO provided responses on June 13, 2005.⁴ On July 12, 2005, the Consumer Advocate filed supplemental IRs for HECO. HECO provided responses to the supplemental IRs on July 22, 2005.

By letter dated July 19, 2005, HECO made a second request for an extension of the 90-Day Period, from July 29, 2005, to August 31, 2005.⁵

On August 18, 2005, the Consumer Advocate filed its Statement of Position in this matter, in which it stated that it does not object to the commission's approval of the Application.

II.

Description of the Ko Olina Substation Project and the Overhead and Underground Extensions

A.

Ko Olina Substation Project

The Ko Olina Substation Project involves construction of a new system distribution substation adjacent to the Oahu Railway

⁴On June 24, 2005, HECO provided confidential responses to the Consumer Advocate's IRs, pursuant to Protective Order No. 21887, filed on June 23, 2005, in this docket, which governs the treatment of confidential information in this proceeding.

⁵By this Order, we find good cause to approve HECO's second request to extend the 90-Day Period, from July 29, 2005, to August 31, 2005.

and Land ("OR&L") right-of-way in the Ko Olina development. This will involve the installation of one (1) 46-12kV, 10/12.5 megavoltampere, low sound transformer; one (1) 15kV metal-clad outdoor switchgear with associated microprocessor-based relay protection equipment; one (1) DC battery bank; two (2) 46kV, 1200 amp, circuit breakers; three (3) 46kV, 1200 amp, group operated, disconnect switches; 46kV bus conductors and connectors; Supervisory Control and Data Acquisition/Remote Terminal unit equipment; and associated electrical cables and wiring. Additionally, the Ko Olina Substation Project will be designed to accommodate up to four (4) substation transformers in order to serve additional loads in the Ko Olina area.

Within the Ko Olina Substation Project boundaries, HECO will construct concrete pads for the transformer and the switchgear; one (1) manhole; an asphalt concrete driveway; approximately two-hundred (200) feet of 2-inch underground ductline; approximately four-hundred (400) feet of 5-inch underground ductline; and foundations and steel structures to support bus conductors. The Ko Olina Substation Project will be enclosed with an eight (8)-foot cinder block wall with landscaping along the perimeter of the wall.

B.

Ko Olina Substation 46kV Underground Line Extensions

Two (2) new 46kV subtransmission line extensions, of existing 46kV subtransmission overhead lines, will be installed

partially underground and partially overhead. Pursuant to a request from Ko Olina Resort and Marina ("Developer"), the 46kV subtransmission line extensions adjacent to the Ko Olina Golf Course will be installed underground. The remaining sections of the 46kV line extensions will be installed overhead.

The two (2) new 46kV subtransmission underground line extensions will run from the Ko Olina Substation, which is adjacent to the OR&L right-of-way; under the Ko Olina Golf Course; run across and along the Farrington Highway right-of-way; and then riser overhead on two (2) new replacement subtransmission wood poles, tapping into the existing Kahe-Standard Oil #1 46kV overhead line running along the Farrington Highway right-of-way.

The pole replacement work will consist of the replacement of one (1) existing thirty-five (35)-foot State-owned street light pole, and one (1) existing sixty-five (65)-foot subtransmission wood pole, with two (2) new seventy (70)-foot subtransmission wood poles, to accommodate the new 46 kV underground risers.

The span of existing 46kV overhead conductors between two (2) wood poles will be cut and removed in order to create two (2) separate 46kV lines. The 46kV subtransmission line running in the Waianae direction will remain the Kahe-Standard Oil #1 line. The 46kV subtransmission line running in the Kapolei direction will be re-named the Kahe-Standard Oil #2 line.

As part of the Proposed Project, a new underground infrastructure to connect to existing underground infrastructure

will run along the length of Koio Drive in the Ko Olina development area, and across and along Farrington Highway.

C.

46kV Overhead Line Extensions

One 46kV subtransmission line extension will require the extension of the existing Kahe-Standard Oil #1 overhead line by installing 46kV overhead conductors on existing subtransmission wood poles along the OR&L right-of-way. The new 46kV subtransmission line extension will tap to the existing Kahe-Standard Oil #1 46kV line at P.13X/48 and drop into the new substation at P.26X/48.

The second 46kV subtransmission line extension will require the installation of a section of the 46kV overhead conductors to connect the existing Kahe-Standard Oil #2 46kV overhead line from an existing subtransmission wood pole along Farrington Highway to the re-named Kahe-Standard Oil #2 46kV overhead line onto an existing subtransmission wood pole. The new 46kV subtransmission line extension will consist of installing approximately forty-three hundred (4,300) feet of three (3)-phase, 46kV, 556.5 KCM AAC overhead conductors to tap to the existing Kahe-Standard Oil #2 46kV overhead line at existing subtransmission wood pole P.126; attach to seven (7) existing transmission steel poles; attach to three (3) new replacement subtransmission wood poles; and continue to an existing subtransmission wood pole to tap to the re-named Kahe-Standard Oil #2 46kV overhead line along Farrington Highway. The pole

replacement work will consist of the replacement of two (2) existing forty-five (45)-foot distribution wood poles, with two (2) new sixty (60)-foot subtransmission wood poles, and one (1) existing fifty (50)-foot distribution wood pole with one (1) new sixty-five (65)-foot subtransmission wood pole, to extend and accommodate the new 46kV overhead conductors from an existing transmission steel pole to an existing subtransmission wood pole. The new 46kV conductors will be installed below the existing Kahe-CEIP #1 and #2 138kV circuits on the transmission steel poles and above the existing Barbers Point 12kV circuit on the subtransmission wood poles.

D.

Ko Olina #1 Circuit Installation

This installation involves the installation of approximately five-hundred (500) feet of underground cables from the Ko Olina Substation Project site along the OR&L right-of-way to existing manholes, and to an existing handhole, to tap to the existing CEIP #4 12kV circuit. The new 12kV circuit will become the Ko Olina #1 12kV circuit.

III.

Proposed Commitment of Funds

HECO proposes to commit funds for the Ko Olina Substation Project with the issuance of purchase orders for long-lead material items. The cost for the Proposed Project is estimated to be \$2,824,177, excluding customer contributions. As noted above, the

Developer has requested that a portion of the two (2) new 46kV subtransmission line extensions be placed underground in order to minimize the visual impact within the Ko Olina area. The Developer has agreed to pay the cost differential between the underground and overhead 46kV lines.⁶ Accordingly, HECO states that the Proposed Project will be cost shared with the Developer, with contributions-in-aid of construction of approximately \$806,000.

IV.

Justification for the Proposed Project

HECO represents that there are currently only two (2) circuits serving the Ko Olina area. HECO states that constructing a new substation and installing a new substation transformer in the Ko Olina area will allow HECO to successfully feed existing loads, as well as future developments, reduce loss to the system in the Ko Olina area, and increase the reliability of the distribution circuits by minimizing the exposure of the circuits to faults due to shorter circuit lengths.

Area reviews updated by HECO in February 2005 project circuit and transformer overloads under emergency conditions in June 2006. HECO's review showed that existing transformer and circuit emergency ratings are exceeded upon the failure of certain transformers. HECO states that the overloads are the result of new residential development in the Ko Olina area; future development in

⁶The Developer is unwilling to pay the cost to underground the proposed sections of the 46kV overhead lines which will have a minimal visual impact on the Ko Olina and Honokai Hale areas. Additionally, these areas have existing overhead lines. See Application at 11.

the Ko Olina area was not considered in HECO's review. HECO notes that future development plans include the addition of two-hundred and twenty six (226) residential units, an aquarium with a commercial village consisting of retail shops, a two-hundred and fifty (250) room hotel and one-hundred and fifty (150) room condominium building.⁷

V.

Consumer Advocate's Statement of Position

The Consumer Advocate does not object to the commission's approval of the Application. In reaching this determination with regard to the Proposed Project, the Consumer Advocate considered (1) whether the 46 kV transmission line should be constructed above or below the ground, pursuant to the criteria set forth in HRS § 269-27.6(a)⁸ and (2) whether all parties involved in the

⁷Application at 10.

⁸In this regard, whenever a public utility applies to the commission for approval to place, construct, erect or otherwise build a new 46 kV or greater high-voltage electric transmission system, HRS § 269-27.6(a) requires the commission to determine whether the proposed system shall be placed overhead or underground. In making this determination, HRS § 269-27.6(a) requires the commission to consider certain factors:

1. Whether a benefit exists that outweighs the costs of placing the electric 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

Proposed Project will appropriately share in the costs of construction.

A.

Whether the 69kV Transmission Line Should be Constructed
Above or Below the Ground

i.

Whether a Benefit Exists that Outweighs the
Costs of Placing the Electric Transmission
System Underground

The Consumer Advocate notes HECO's representation that it would cost eight (8) times more, or \$2.3 million versus \$0.3 million, to extend the two (2) sections of the 46kV lines underground, as opposed to the proposed overhead extensions. The Consumer Advocate also points out that, based upon HECO's response to CA-IR-10, the difference in total revenue requirements is approximately three-and-a-half (3.5) times more for the underground, versus the overhead alternative extension of the lines. The Consumer Advocate concludes, thus, that there is a cost benefit to placing the 46kV line extensions overhead, based on

undergrounding;

4. The recommendation of the Consumer Advocate; and
5. Any other relevant factors.

HECO's projected utility costs, and that the benefits of placing the line extensions underground do not outweigh the costs of such placement. In particular, it also notes that there is no visual benefit to placing the 46 kV line extensions below the ground since the proposed overhead line extensions will be routed on existing pole lines.

ii.

Whether a Governmental Policy Exists Requiring the Electric Transmission Lines be Placed, Constructed, Erected or Built Underground, and the Governmental Agency Establishing the Policy Commits Funds for the Additional Costs of Undergrounding.

The Consumer Advocate asserts that it is unaware of any governmental policy that would require the underground placement of transmission lines for the Proposed Project. It is also unaware of any governmental agency willing to pay for the underground laying of lines. Moreover, no other party has shown itself willing to pay for the additional costs of undergrounding the transmission lines. Based upon the foregoing, the Consumer Advocate concludes that there is no governmental policy requiring that the transmission lines be placed underground, nor is there any governmental entity or other party willing to pay for the costs of undergrounding the lines.

VI.

Discussion

Upon a careful review of the record, the commission finds that the Proposed Project, which includes the construction of 46Kv transmission line extensions above ground is consistent with the provisions of HRS § 269-27.6. The commission is not convinced that the benefits of laying HECO's proposed 46kV subtransmission line extensions underground would outweigh the inherent cost factor involved. Moreover, as there are existing overhead lines in place currently, the visual impact would not be greatly improved by placing the line extensions underground.

As stated by the Consumer Advocate, the commission is also unaware of any government mandate requiring HECO to place its line extensions underground. Moreover, there are no governmental agencies or other parties willing to pay for the additional cost of undergrounding all of the 46kV overhead lines.⁹ Finally, the commission acknowledges the Consumer Advocate statement of non-opposition to the placement of the 46kV lines overhead by HECO.

Accordingly, in light of the above, the commission concludes that the HECO's request for the overhead construction of 46kV subtransmission lines through a residential area, as described in detail in the instant Application, should be approved, pursuant to HRS § 269 27.6(a).

⁹By letter dated March 1, 2005, the State of Hawaii Department of Transportation informed HECO that it would not be participating in any cost-sharing for the underground installation of the proposed 46kV overhead lines. Application, Exhibit XII.

The commission also finds the Ko Olina Substation Project to be reasonable and in the public interest. With the expected growth from future residential and commercial development in the Ko Olina area, the commission recognizes that the area will likely experience greater energy requirements. In addition to meeting forecasted loads, the Ko Olina Substation Project will also allow HECO to ease overload conditions which may occur, for example, upon the failure of an existing transformer. Allowing HECO to establish the capacity to feed existing, as well as future load developments in the Ko Olina area, appears reasonable in light of the expected population growth.

VII.

Orders

THE COMMISSION ORDERS:

1. HECO's request to extend the 90-Day Period, from July 29, 2005, until August 31, 2005, is approved.

2. HECO's Application, filed on March 4, 2005, to commit \$2,824,177, excluding customer contributions, for Item Y00044, Ko Olina Substation Transformer #1 and Circuit, in accordance with paragraph 2.3(g)(2) of G.O. No. 7, is approved; provided that no part of the Ko Olina Substation Project may be included in HECO's rate base unless and until the Ko Olina Substation Project has been completed, and is used and useful for utility purposes.

3. HECO shall submit a report within sixty (60) days of the completion of the Ko Olina Substation Project, with an explanation of any deviation of ten per cent (10%) or more in the

Ko Olina Substation Project's cost from that estimated in the Application. Failure to submit the report, as requested by this Decision and Order, will constitute cause to limit the cost of the Ko Olina Substation Project, for ratemaking purposes, to that estimated in the Application.

4. HECO's request to construct the 46kV subtransmission lines above and below the ground, as described in detail in HECO's March 4, 2005 Application, is approved, pursuant to HRS § 269-27.6(a).

5. HECO shall conform to all of the commission's orders, set forth above. Failure to adhere to such orders constitutes cause for the commission to void this Decision and Order, and may result in further regulatory actions as authorized by law.

DONE at Honolulu, Hawaii AUG 31 2005.

PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By Carlito P. Caliboso
Carlito P. Caliboso, Chairman

By Wayne H. Kimura
Wayne H. Kimura, Commissioner

APPROVED AS TO FORM:

Benedyne S. Stone
Benedyne S. Stone
Commission Counsel

By Janet E. Kawelo
Janet E. Kawelo, Commissioner

05-0056.rpr

CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 22001 upon the following parties, by causing a copy hereof to be mailed, postage prepaid, and properly addressed to each such party.

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Karen Higashi

DATED: AUG 31 2005