

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Application of )  
HAWAIIAN ELECTRIC COMPANY, INC. )  
For Approval of to Commit Funds in Excess )  
of \$500,000 for Item Y48500, East Oahu )  
Transmission Project )  
\_\_\_\_\_ )

DOCKET NO. 03-0417

**DIVISION OF CONSUMER ADVOCACY'S**  
**REPLY BRIEF**

**AND**

**CERTIFICATE OF SERVICE**

JON S. ITOMURA  
Attorney for the  
Division of Consumer Advocacy  
Department of Commerce and  
Consumer Affairs  
335 Merchant Street, Room 326  
Honolulu, Hawaii 96813  
Telephone: (808) 586-2800

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

In the Matter of the Application of )  
HAWAIIAN ELECTRIC COMPANY, INC. )  
For Approval of to Commit Funds in Excess )  
of \$500,000 for Item Y48500, East Oahu )  
Transmission Project )  
\_\_\_\_\_ )

DOCKET NO. 03-0417

**DIVISION OF CONSUMER ADVOCACY'S  
REPLY BRIEF**

**I. Procedural Background**

On or before February 13, 2006, HECO, the Division of Consumer Advocacy ("Consumer Advocate"), and, filed their respective Opening Briefs discussing each party's position previously presented to the Public Utilities Commission of the State of Hawaii ("Commission" or "PUC") through written direct testimony and upon direct and cross examination at the evidentiary hearing held on November 7 and 8, 2005. The purpose of the Consumer Advocate's Reply Brief will be to rebut counter-positions presented by Hawaiian Electric Company, Inc. ("HECO") and Life of the Land ("LOL") in their respective Opening Briefs filed with the Commission. In the interest of brevity, issues discussed in the Consumer Advocate's Opening Brief that are not being contested for purposes of the instant docket will not be repeated this Reply Brief.

## II. Discussion

### A. Overview

HECO's application in the instant docket seeks Commission approval to commit funds in excess of \$500,000 for Item Y48500, East Oahu Transmission Project ("EOTP"), a specific 46 kV "sub-transmission" system. The Consumer Advocate does not dispute the need for the EOTP 46 kV sub-transmission project, however, the Consumer Advocate notes that issues concerning planning and costs that HECO proposed to include as costs for the instant project have been deferred pursuant to an agreement between HECO and the Consumer Advocate. As a result, these two issues will be addressed in a subsequent Commission proceeding.<sup>1</sup>

HECO suggests in their Opening Brief that the Consumer Advocate offered an analysis based upon a simplistic system utilization study.<sup>2</sup> The Consumer Advocate did much more than a system utilization study. In fact, the Consumer Advocate's system utilization analysis was a thorough independent analysis that included consideration of voluminous data including but not limited to the following:<sup>3</sup>

- a. numerous load flow studies of the HECO system.
- b. numerous contingency studies of the HECO system.
- c. Review of switching diagrams of the 46 kV system in lieu of load flow studies since HECO does not have such models available.

---

<sup>1</sup> On October 28, 2005, HECO and the Consumer Advocate filed their Joint Motion for Approval of Stipulation setting forth a proposal to expedite the instant proceeding and facilitate the efficient consideration of cost recovery issues in a subsequent general rate case proceeding. The Commission issued Order No. 22104 on November 7, 2005 adopting the parties' agreement to withdraw issues related to Pre-2003 Permitting and Planning Costs.

<sup>2</sup> HECO's Opening Brief, Exhibit "C", page 1

<sup>3</sup> HECO acknowledges this fact in response to CA-RIR-3

The primary issue of contention in the instant proceeding between HECO and the Consumer Advocate is the installation and inclusion of the costs in rate base for unreasonable or unnecessary improvements to the instant 46 kV project, specifically, the installation of an additional 138/46 kV, 80 MVA transformer at the Archer Substation. Therefore, while the crux of this issue will be addressed in a subsequent general rate case proceeding, the Consumer Advocate offers its discussion below to address arguments provided by HECO in their Opening Brief.

**B. Additional Archer Transformer Unreasonable And Unnecessary**

HECO's proposes to install an additional 138/46kV, 80 MVA transformer to supplement three existing 138/46kV, 83 MVA transformers at the Archer Substation in Phase 2 of the instant EOTP. The Consumer Advocate opposes this improvement because this additional transformer is an unnecessary improvement and is not critical to address the needs identified in the instant docket. As set forth in the Consumer Advocate's Direct Testimony and Opening Brief, an additional transformer is unnecessary because based upon review of the load cases and transformer utilizations, the existing three transformers have a combined normal rating of 249 MVA, and an emergency rating of 330 MVA. These ratings exceed the 2007 combined load for Pukele and Archer Substations of 264 MVA (246 MW) and 277 MVA (268 MW) in 2022.<sup>4</sup>

HECO has not provided evidence supporting the installation of an additional Archer transformer is necessary. A brief summary of HECO's counter-arguments is that the Consumer Advocate is not considering the current physical constraints of the

---

<sup>4</sup> CA-T-1, Testimony of Michael E. Kiser, page 91

transmission system and the potential for additional outage situations on the 46kV sub-transmission system,thus creating a need for additional transformers.<sup>5</sup>

This analysis is somewhat surprising. It should be noted that the Consumer Advocate is considering a situation where the Pukele Substation is completely out of service, presumably from the outage of both Koolau to Pukele 138 kV lines, an N-2 outage. Thus, the Consumer Advocate acknowledges that the fourth transformer is desired by HECO to cover this N-2 contingency. The Consumer Advocate's system utilization analysis shows that other transformers at Koolau and Kamoku are available to serve load in this service area during the outage of Pukele. HECO may not agree or want to accept this approach since simply adding another transformer is easier.

HECO argues that the Consumer Advocate's position regarding load shifting is not preferred with current facilities and the requisite "manual switching" alternative. It is questionable, however, whether this argument is consistent with HECO's representation that the Company seeks to adhere to their own distribution criteria by attempting to ensure reliability of the 46 kV sub-transmission system through a system utilizing automatic transfers between 46 kV circuits to serve as backups.<sup>6</sup> In fact, HECO is installing a new energy management system and could incorporate a system of automated transfers.

Also, HECO's analysis and the table shown on CA-RIR-35 is flawed.<sup>7</sup> HECO does not take into account any load that could be shifted from Archer to Koolau and/or

---

<sup>5</sup> HECO Opening Brief, pg. 73-75

<sup>6</sup> HECO response to CA-IR-34(c)

<sup>7</sup> HECO's Opening Brief, Exhibit "C", page 4

Kamoku during an outage of the Pukele Substation. HECO assumes that its current transmission system is unable to perform load shifting to prevent a potential Archer Substation transformer overload. The Consumer Advocate, however, stated in its Opening Brief that HECO has shifted at least 26 MW to the Archer Substation utilizing existing 46kV switches.<sup>8</sup> HECO's actual June 20, 2005, 26 MW shift from the Pukele Substation to the Archer Substation in response to the Waiiau-Koolau No. 1 line outage is evidence that the Consumer Advocate's assertions are accurate and suggests that HECO may not have considered all possible transfer load scenarios. When the Consumer Advocate reiterated HECO indication that 54 MW could be shifted from Archer to Koolau through 46 kV switching HECO did not disprove this.<sup>9</sup>

HECO further argues that even if a switch of 54 MWs of load from Pukele to Koolau is possible, the Koolau loads will not have backup.<sup>10</sup> This argument, however, is suggesting that the transmission system should not have any loss of load even in an N-3 outage scenario. This is a commendable goal but whether it is a reasonable constraint to warrant the addition of a fourth transformer at the Archer Substation is arguable and the Consumer Advocate offers that it does not support the proposed improvement at the Archer Substation.

The Consumer Advocate offers that the Commission should have HECO demonstrate effective planning by implementing measures that include but are not limited to the following:

---

<sup>8</sup> Consumer Advocate Opening Brief, page 12

<sup>9</sup> CA-T-1, Direct Testimony of Michael E. Kiser, pages 90-91

<sup>10</sup> HECO's Opening Brief, page 74

- a. Properly and adequately analyze the 46 kV system to determine an automatic switching scheme that could be implemented during this EMERGENCY situation of Pukele Substation being out of service.
- b. Prepare cost estimates for implementation of this scenario and compare it to installing the Archer D transformer.
- c. Implement a plan to properly model and analyze the 46 kV system utilizing load flow studies. This would require that the Company develop a model that encompasses the entire 46 kV systems, or at least a major portion of the systems.

In summary, the Consumer Advocate is convinced that if there is an outage of the Pukele Substation, there are measures HECO can take to avoid overloading the Archer transformers, short of installing a fourth Archer transformer. The additional transformer is unnecessary to address any fundamental need and the EOTP project cost should be reduced by \$1.6 million to remove the costs for equipment proposed to be installed for the proposed 138/46 kV transformer.

**C. LOL Arguments Regarding The Consumer Advocate's Credibility and Responsibilities Are Unsupported And Without Merit**

LOL argues that the Consumer Advocate failed to represent the consumer's interest and failed to consider the benefits of renewable energy.

The Consumer Advocate's Opening Brief and testimony, presented upon direct examination at the evidentiary hearing on November 8, 2005, both demonstrated that the Consumer Advocate does consider consumer input and renewable energy issues. As confirmed by LOL's Opening Brief, the Consumer Advocate reviewed the 3Point Consulting Report, East Oahu Transmission Project, A Report On Public Input Collected in June and July 2003 (September 2003), reflecting public opinion related to the transmission project in 2003. The Consumer Advocate, however, clarified at the evidentiary hearing, that the Consumer Advocate assesses and analyzes all issues, present and future, to make its determinations relating to any particular Commission

docketed matter.<sup>11</sup> The Consumer Advocate based its determination in the instant case upon general industry accepted standards and the analysis of 263 cases reflecting conditions on HECO's transmission system relative to the assessed needs of the electric consumers on Oahu.

The Consumer Advocate also provided comments on whether the application of current technology and renewable energy resources were appropriate for this project, concluding that while demand-side and supply-side programs may potentially resolve system overload concerns, their applications and benefits would not be timely effective.<sup>12</sup>

**D. EOTP Provides Specific Benefits**

The Consumer Advocate seeks to clarify its statement regarding the effectiveness of the EOTP.<sup>13</sup> While the Consumer Advocate contends that the EOTP as proposed provides benefits not available through the 138 kV alternative because the construction of 46 kV sub-transmission improvements provides complete backup of the Pukele Substation that could not be accomplished through additional 138 kV transmission lines feeding that substation,<sup>14</sup> this statement should not be interpreted as support for the 46 kV sub-transmission system being the most reliable transmission system. The ideal is for HECO to implement system planning that incorporates 138 kV

---

<sup>11</sup> Hearing Transcript, Volume II, Direct Examination of Michael E. Kiser, pages 289-290

<sup>12</sup> CA-T-1, Testimony of Michael E. Kiser, pages 37-38

<sup>13</sup> Consumer Advocate's Opening Brief, page 19

<sup>14</sup> CA-T-1, Testimony of Michael E. Kiser, pages 102-103,

transmission, various sub-transmission and distribution projects to effectively utilize the electric system.<sup>15</sup>

**III. Conclusion**

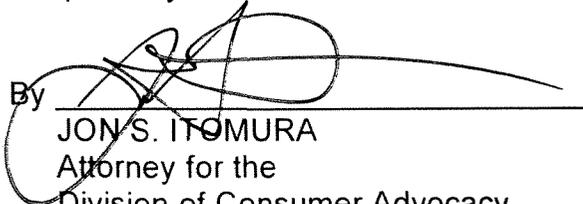
The Consumer Advocate concludes that, with the exception of the additional Archer Substation 138/46 kV transformer, the EOTP project is needed as proposed and will provide facilities reasonably required to meet HECO's future requirements for utility purposes. The Consumer Advocate's recommendation is based upon an independent analysis that went well beyond the "simple" system study in contrast to the repeated insinuations by HECO.

The Consumer Advocate offers that the Commission consider, pursuant to General Order No. 7, disallowing and all costs for the additional Archer Substation transformer from rate base until such time that HECO convinces the Commission that additional transformer has become necessary or useful for public utility purposes.<sup>16</sup>

DATED: Honolulu, Hawaii, March 6, 2006.

Respectfully submitted,

By



JON S. ITOMURA  
Attorney for the  
Division of Consumer Advocacy  
Department of Commerce and  
Consumer Affairs

---

<sup>15</sup> CA-T-1, Testimony of Michael E. Kiser, page 71-72

<sup>16</sup> Public Utilities Commission, General Order No. 7, Part II, 2.3 (g)(2)

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S REPLY BRIEF AND CERTIFICATE OF SERVICE** was duly served upon the following parties, by personal service, hand delivery, and/or U.S. mail, postage prepaid, and properly addressed pursuant to HAR § 6-61-21(d).

WILLIAM A. BONNET 1 copy  
VICE PRESIDENT-GOVERNMENT AND COMMUNITY AFFAIRS  
HAWAIIAN ELECTRIC COMPANY, INC.  
P. O. Box 2750  
Honolulu, HI 96840-0001

DEAN MATSUURA 1 copy  
DIRECTOR-REGULATORY AFFAIRS  
HAWAIIAN ELECTRIC COMPANY, INC.  
P. O. Box 2750  
Honolulu, HI 96840-0001

THOMAS W. WILLIAMS, JR., ESQ. 1 copy  
PETER Y. KIKUTA, ESQ.  
GOODSILL ANDERSON QUINN & STIFEL  
Alii Place, Suite 1800  
1099 Alakea Street  
Honolulu, HI 96813

HENRY Q CURTIS 3 copies  
VICE PRESIDENT FOR CONSUMER ISSUES  
LIFE OF THE LAND  
76 North King Street, Suite 203  
Honolulu, HI 96817

SCOTT K. SAIKI 3 copies  
c/o State Capitol, Room 438  
Honolulu, HI 96813

KAREN H. IWAMOTO, PRESIDENT  
PALOLO COMMUNITY COUNCIL  
3443 Hardesty Street  
Honolulu, HI 96816

1 copy

DARLENE NAKAYAMA, PRESIDENT  
HOOLAULIMA O PALOLO  
2396 Palolo Avenue  
Honolulu, HI 96816

1 copy

COREY Y.S. PARK, ESQ.  
PAMELA W. BUNN, ESQ.  
PAUL JOHNSON PARK & NILES  
1001 Bishop Street  
Suite 1300, ASB Tower  
Honolulu, HI 96813

1 copy

DATED: Honolulu, Hawaii, March 6, 2006.

*Ann Iwamoto*

---