

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 \$500,000 for )  
Project P0000893, the Honolulu 8 )  
Generator Rotor Rewind Project; )  
and for Waiver of Paragraph )  
2.3.(g)(2) of General Order No. 7. )  

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DOCKET NO. 03-0206

DECISION AND ORDER NO. 21738

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

Filed April 14, 2005  
At 11 o'clock A .M.

Karen Higashi  
Chief Clerk of the Commission

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

K. Higashi

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Docket No. 03-0206

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DECISION AND ORDER

By this Decision and Order, the commission approves the application of HAWAIIAN ELECTRIC COMPANY, INC. ("HECO") to commit funds in excess of \$500,000 for Item P0000893, the Honolulu 8 Generator Rotor Rewind Project ("Application") and for waiver of General Order No. 7 ("G.O. No. 7"), section 2.3.g.2 of the Standards for Electric Utility Service in the State of Hawaii.<sup>1</sup>

I.

Application

HECO filed its Application on July 21, 2003, requesting commission approval to commit approximately \$570,995 for Item P0000893, the Honolulu 8 Generator Rotor Rewind project

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<sup>1</sup>Pursuant to Decision and Order No. 21002, filed on May 27, 2004, in Docket No. 03-0257, effective July 1, 2004, the G.O. No. 7 capital expenditures threshold was increased from \$500,000 to \$2.5 million, excluding customer contributions. Because the instant application was filed on July 21, 2003, \$500,000 is the applicable threshold.

("Proposed Project").<sup>2</sup> HECO's request is made pursuant to section 2.3.g.2 of G.O. No. 7. HECO served copies of the Application on the DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS ("Consumer Advocate") (together with HECO, the "Parties").<sup>3</sup>

## II.

### Procedural History

On September 16, 2003, the Consumer Advocate served HECO with information requests ("IRs"), to which HECO responded on October 17, 2003.

By Order No. 20581, filed on October 17, 2003, the commission granted HECO's October 15, 2003 request for an extension of the G.O. No. 7 requirement that the commission render a decision within 90 days from the date of the application ("90-Day Period"), from October 19, 2003, to December 5, 2003.

On October 31, 2003, the Consumer Advocate filed its statement of position ("Statement of Position"), stating that while it did not object to the commission's approval of the Proposed Project, it did object to certain cost estimates included in the

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<sup>2</sup>In its Application, HECO also requests a waiver of the section 2.3.g.2 requirement of G.O. No. 7 that its application "be submitted to the commission for review at least 60 days prior to the commencement of construction or commitment for expenditure, whichever is earlier" ("60-Day Period"). By Order No. 20367, filed on August 6, 2003, in this docket, the commission granted HECO's request for a waiver of the 60-Day Period.

<sup>3</sup>Protective Order No. 20609, filed on October 29, 2003 set forth procedures governing the treatment of documents deemed confidential by the Parties.

Application<sup>4</sup> and to HECO's proposed accounting treatment of expenditures associated with the Proposed Project.

On December 3, 2003, HECO filed a letter with the commission requesting an additional extension of the 90-Day Period, from December 5, 2003 to January 9, 2004. The commission granted HECO's request by Order No. 20711, filed on December 11, 2003.

On December 12, 2003, HECO filed a response to the Consumer Advocate's Statement of Position in which HECO addressed the Consumer Advocate's concerns, and additionally, requested that a hearing or oral argument be scheduled if the Parties did not resolve their differences ("Response to the Statement of Position").<sup>5</sup>

By Order No. 21485, filed on November 30, 2004, the commission ordered the Parties, jointly or independently, to submit a status report on the instant docket within fifteen (15) days from the date of Order No. 21485, including any request for a hearing or oral argument ("Status Report"). By letter dated December 15, 2004, HECO requested an extension of time, until February 15, 2005, in which to file its Status Report. The commission approved this request by letter dated December 17, 2004.

By Stipulated Procedural Order No. 21655, filed on February 25, 2005, the commission approved the Parties' request for

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<sup>4</sup>Specifically, the Consumer Advocate objected to cost estimates for purchase of a new Westinghouse rotor and for the cost of an equivalent shop rewind.

<sup>5</sup>HECO's Response to the Statement of Position also included a waiver by HECO of the commission's G.O. No. 7 90-Day Period requirement.

an extension, from February 15, 2005 to April 15, 2005, to submit the Status Report in the instant matter.<sup>6</sup>

On March 29, 2005, the Parties filed a letter with the commission informing the commission that they resolved their differences and reached an agreement regarding (1) the Consumer Advocate's recommendations with respect to cost estimates for the Proposed Project and (2) the accounting treatment for betterment costs. In light of this agreement, the Consumer Advocate represents that it does not object to HECO's request to commit funds for the Proposed Project, as further discussed below. The Parties further state that because there are no remaining differences between them, the instant matter is ready for decision making by the commission.

### III.

#### Proposed Project

##### A.

#### Background

Honolulu 8 is a nominal 54 megawatt ("MW") non-reheat steam unit commissioned in 1954. The generator is a hydrogen-cooled unit manufactured by Westinghouse Electric Corporation. It is one of two (2) cycling units currently in operation at the Honolulu Generating Station. Honolulu 8 starts week day mornings prior to the morning peak and shuts down following the evening peak. Honolulu 8 also runs as system requirements dictate.

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<sup>6</sup>The Parties filed the request for an extension on February 15, 2005.

The main components of the Honolulu 8 generator are: (1) the rotor; (2) rotor coils; (3) the stator; (4) the stator coils; and (5) the hydrogen cooling system.

In June 2003, the Honolulu 8 generator was disassembled as part of the scheduled maintenance outage for this unit. HECO's inspection of the generator revealed that the two (2) #7 coils of the rotor, which originally had four (4) copper end-turn connections between the two (2) coils currently has no intact connections. All connections between the two (2) #7 coils contain complete breaks and are electrically separated from the coils. While only one (1) of the four (4) connections is required to maintain the necessary electrical continuity between the coils, at least two (2) are needed to reliably handle the full rated field current. The condition of these connectors can be attributed to stress and hardening over the years, resulting in cracks and breakage.

#### B.

##### Proposed Project

The Proposed Project consists of: (1) rewinding the generator rotor with new rotor coils; (2) installing new formed copper bars for the #7 coils; (3) inspecting coils #1 to #6 for damaged copper coils and possible reuse; and (4) creating new rotor coils with new and/or existing formed copper bars and new insulation.

C.

Justification for Proposed Project

The Honolulu 8 generator cannot be returned to service without at least two (2) of the original four (4) #7 coil end-turn connections in place. The region of the end-turn connection is susceptible to overheating and vibration due to uneven thermal expansion of the rotor and continued cyclic operation of the unit. The removal of the #7 rotor coil is required to replace the broken end-turn connections of the #7 coil. Moreover, the stress attributed to removal of the coils will further compromise the insulation of the formed copper bars and coils.

HECO considered the following two (2) alternatives to repair the generator rotor: (1) purchasing a new rotor; and (2) rewinding the rotor. A new rotor requires a one (1) year delivery time with costs estimated at \$2 million.

The following two (2) methods of rewinding were also considered: (1) field rewinding; and (2) rewinding at a shop on the Mainland. HECO represents that a field rewind will cost approximately \$80,000 less than a shop rewind due to the elimination of airfreight charges and the reduction in overhaul time from nine (9) weeks to seven (7) weeks. In addition, HECO states that General Electric is of the opinion that the benefits of a shop rewind are not justified by the additional costs required. HECO agreed with General Electric and ultimately selected the field rewind alternative, over the shop rewind, to ensure safe and reliable operation of the rotor.

IV.

Consumer Advocate's Statement of Position

Upon the filing of its Statement of Position on October 31, 2003, the Consumer Advocate articulated its concerns regarding HECO's proposed accounting treatment of expenditures associated with the Proposed Project<sup>7</sup> and of HECO's selection of the field rewind alternative based upon what the Consumer Advocate perceived as a lack of reliable and probative evidence.

Subsequent to the filing of the Statement of Position, the Parties met on several occasions for discussion of their differences, and eventually, were able to resolve their differences and reach an agreement. In particular, in their March 29, 2005 letter, the Parties declared that, in light of the agreement, the Consumer Advocate no longer had any objections to the commission's approval of the Application, and that HECO had agreed to modify its betterment accounting practice to be fully consistent with NARUC Instructions, i.e., only the difference between the cost of replacement with betterment and the cost of replacement without betterment is capitalized, beginning with projects starting in 2004.

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<sup>7</sup>In its Statement of Position, the Consumer Advocate expressed the opinion that HECO's proposed accounting treatment in the instant matter was inconsistent with instructions set forth in the National Association of Regulatory Utility Commissioners' Uniform System of Accounts, Utility Plant Instructions ("NARUC Instructions").

V.

Findings and Conclusions

Upon a careful review of HECO's Application, we find the Proposed Project to be reasonable and in the public interest. The Honolulu 8 is one of two cycling units currently in operation at the Honolulu Generating Station. The generator cannot be returned to service without at least two (2) of the original four (4) #7 coil end-turn connections in place. At least two (2) connections are needed to reliably handle the full rated field current. The Proposed Project will involve installing new formed copper bars for the #7 coils. Moreover, to bring the Honolulu 8 Generator back on-line, HECO's proposal to rewind the generator rotor is reasonable, both in terms of the cost for a field rewind and the lead-time to accomplish the rewind. We, thus, conclude that HECO's Application to commit funds for Item P0000893, installation of the Honolulu 8 Generator Rotor Rewind project, should be approved.

We also find HECO's agreement with the Consumer Advocate to modify its betterment accounting practice to be fully consistent with NARUC Instructions, beginning with betterment projects commencing in 2004, to be reasonable and in the public interest. Accordingly, we conclude that HECO's agreement with the Consumer Advocate to change its accounting practice, as described above, beginning with betterment projects commencing in 2004, should be approved, and shall be adopted as a condition to this Decision and Order, as noted below.

VI.

Orders

THE COMMISSION ORDERS:

1. HECO's Application, filed on July 21, 2003, to commit \$570,995 for Item P0000893, installation of the Honolulu 8 Generator Rotor Rewind project, in accordance with paragraph 2.3.g.2 of G.O. No. 7, is approved; provided that no part of the Proposed Project may be included in HECO's rate base unless and until the Proposed Project has been completed, and is used and useful for utility purposes.

2. Beginning with betterment projects commencing in 2004, HECO shall modify its accounting practice to be fully consistent with the NARUC Instructions.

3. HECO shall submit a report within sixty (60) days of the completion of the Proposed Project, with an explanation of any deviation of ten per cent (10%) or more in the Proposed 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 project, for ratemaking purposes, to that estimated in the application.

4. 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 APR 14 2005.

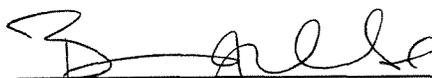
PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

By   
Carlito P. Caliboso, Chairman

By   
Wayne H. Kimura, Commissioner

By   
Janet E. Kawelo, Commissioner

APPROVED AS TO FORM:

  
Benedyne S. Stone  
Commission Counsel

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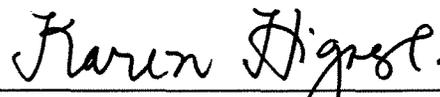
CERTIFICATE OF SERVICE

I hereby certify that I have this date served a copy of the foregoing Decision and Order No. 21738 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  
P. O. Box 541  
Honolulu, HI 96809

WILLIAM A. BONNET, VICE PRESIDENT  
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Karen Higashi

DATED: APR 14 2005