

Honolulu International Airport May 1999



Honolulu International Airport
 Honolulu, HI
 May 1999

15hp Escalators
 28% average power savings
 \$1,021.07 annual savings
 (.08/kWh)

TEST SUMMARY

Power Efficiency three-phase motor efficiency controllers (15HP) were installed on two escalators (one up and one down), at the Honolulu International Airport.

The objective of the test was to measure the kWh consumption of the escalators over a two week period and establish the difference in power consumption between the motor run off of a standard AC motor starter (bypass) and when controlled by the motor efficiency controller. The escalators chosen had approximately a twenty foot rise/ descent. The escalators chosen were subject to various loading conditions based upon the number of passengers traveling at a given time.

The controllers were installed and ran for six days (140 hours) being controlled and six days in bypass. The results were collected in 15 minute intervals.

It was found that the Power Efficiency motor efficiency controller was able to lower the average kW used on the "Up" escalator from 2.57kW to 1.82kW for a 29% power savings and annual cost savings of \$524.90. The average kW on the "Down" escalator went from 2.62 kW to 1.91 kW for a 27% power savings and annual cost savings of \$496.17.

Up Escalator Annual Savings

WITHOUT ENERGY SAVINGS

Avg. kW x 8760 hrs / yr	2.574 x 8760
Annual kWh Use	22,548.24
Annual kWh x Cost / kWh	22,548.24 x 0.08
Annual kWh Cost	\$1,803.86

WITH ENERGY SAVINGS

Avg. kW x 8760 hrs / yr	1.825 x 8760
Annual kWh Use	15,987.00
Annual kWh x Cost / kWh	15,987.00 x 0.08
Annual kWh Cost	\$1,278.96

ANNUAL SAVINGS

% kW Savings	29%
kWh Savings	6,561.24
Cost Savings	\$524.90

Down Escalator Annual Savings

WITHOUT ENERGY SAVINGS

Avg. kW x 8760 hrs / yr	2.623 x 8760
Annual kWh Use	22,977.48
Annual kWh x Cost / kWh	22,977.48 x 0.08
Annual kWh Cost	\$1,838.20

WITH ENERGY SAVINGS

Avg. kW x 8760 hrs / yr	1.915 x 8760
Annual kWh Use	16,775.40
Annual kWh x Cost / kWh	16,775.40 x 0.08
Annual kWh Cost	\$1,342.03

ANNUAL SAVINGS

% kW Savings	27%
kWh Savings	6,202.08
Cost Savings	\$496.17