



# Lighting Rebate Worksheet (Form 1 of 2)

Hawaiian Electric Company EnergySolutions<sup>SM</sup> for Business Program

(Effective December 31, 2007)

## APPLICANT INFORMATION

Applicant	Application No. <b>HECO</b>
Project	<input type="checkbox"/> Existing <input type="checkbox"/> New Construction

Document Checklist  Lighting Rebate Worksheet  Lighting Plans or Surveys  Rebate Application

### A. Electronic Ballast with Qualifying T8 Lamps (Do Not Include Fixtures To Be De-Lamped And Reflectorized)

Type of T8 Lamps Installed	Total Qty. of Fixtures	Total Qty. of Ballasts	Total Qty. of Lamps	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' T8 Lamps			x	\$4.80	\$2.60	=
3' T8 Lamps			x	\$5.20	\$2.90	=
4' T8 Lamps / U-Tubes			x	\$5.60	\$3.20	=
8' T8 Lamps			x	\$7.20	\$4.40	=

**A. Total** \_\_\_\_\_

### B. High Performance Electronic Ballast with Qualifying SUPER T8 Lamp

Type of T8 Lamps Installed	Total Qty. of Fixtures	Total Qty. of Ballasts	Total Qty. of Lamps	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
4' T12 to Super T8 Lamps & High Performance Electronic Ballast			x	\$8.40	None	=
4' T8 to Super T8 Lamps & High Performance Electronic Ballast			x	\$5.60	None	=
4' Super T8 & High Performance Electronic Ballast (New Construction)			x	None	\$4.80	=

Note: Lamps must be 93 Initial Lumens/Watt or better (includes 28W, 25W and High Lumen 32W T8s)

**Ballast must be qualified under CEE Specifications as High Performance Electronic Ballast (www.cee1.org)**

**B. Total** \_\_\_\_\_

### C. Reflectors With De-lamping Only (For Existing T8 or T12 Fixtures; Not For Fixtures With Lamp or Ballast Conversion.)

Type of Lamps Removed	Total Qty. of Fixtures	Qty. of Lamps Removed	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' Lamps		x	\$5.00	None	=
4' Lamps		x	\$10.00	None	=
8' Lamps		x	\$15.00	None	=

Note: Lamp holders must be removed for De-Lamping with or without reflectors

**C. Total** \_\_\_\_\_

### D. De-Lamping Without Reflectors (For Existing T8 or T12 Fixtures)

Type of Lamps Removed	Total Qty. of Fixtures	Qty. of Lamps Removed	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' Lamps		x	\$2.50	None	=
4' Lamps		x	\$5.00	None	=
8' Lamps		x	\$7.50	None	=

Note: Lamp holders must be removed for De-Lamping with or without reflectors

**D. Total** \_\_\_\_\_

### E. Reflectors With De-Lamped Fixtures, New Electronic Ballast, and Qualifying T8 Lamps

Type of T8 Lamps Installed	Total Qty. of Fixtures	Total Qty. of Ballasts	Total Qty. of Lamps	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' T8 Lamps			x	\$4.80	None	=
4' T8 Lamps			x	\$5.60	None	=
8' T8 Lamps			x	\$7.20	None	=

#### REFLECTORS

Type of Lamps Removed	Qty. of Lamps Removed	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' Lamps	x	\$5.00	None	=
4' Lamps	x	\$10.00	None	=
8' Lamps	x	\$15.00	None	=

**E. Total** \_\_\_\_\_

### F. Electronic Ballast with Qualifying T5 Lamps

Type of T5 Lamps Installed	Total Qty. of Fixtures	Total Qty. of Ballasts	Total Qty. of Lamps	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
2' T5 Lamps			x	\$7.20	\$3.90	=
3' T5 Lamps			x	\$7.80	\$4.35	=
4' T5 Lamps			x	\$8.40	\$4.80	=
2' T5HO (High Output) Lamps			x	\$12.00	\$6.50	=
3' T5HO (High Output) Lamps			x	\$13.00	\$7.25	=
4' T5HO (High Output) Lamps			x	\$14.00	\$8.00	=

**F. Total** \_\_\_\_\_

**FORM 1 TOTAL LIGHTING REBATE**

## Lighting Rebate Guidelines (Form 1)

Products must meet the following specifications to qualify under the terms of HECO's EnergySolutions for Business program. These specifications ensure the most potential to increase lighting efficiency.

### T-8 Fluorescent Lamps

- To qualify for rebates, both T8 lamps and electronic ballast must be installed
- 265 mA lamps in lengths of 2, 3, 4, 5, and 8 feet (straight or U- bend) HO (high output) 400 mA lamps will also be accepted.
- Lamp efficacy must be greater than or equal to 82 lumens per watt.
- 20,000-hour lamp life (3 hours per start), 15,000-hour lamp life for 8' lamps.
- Color Rendering Index: 75 CRI minimum.

### T-8 Electronic Ballasts

- Operate at 20 kHz or greater.
- Rated a Class P thermal protection.
- Rated a Class A sound level.
- Have a minimum power factor of 90%.
- Have a three (3) year warranty against mechanical or electrical defects (including allowance for labor cost).

- Have a maximum of 1.7 crest factor.
- Have a total harmonic distortion (THD) not to exceed 20% (equal to magnetic ballasts).
- Comply with FCC Rules and Regulations, Part 18 for both EMI and RFI.
- Have a reduced lamp flicker maximum of 10%.

### Super T-8 Fluorescent Lamps

- Initial lamp efficacy must be equal to or greater than 93 lumens per watt.

### T-8 High Performance Electronic Ballasts

- Ballast must be qualified under CEE Specifications. Go to [www.cee1.org](http://www.cee1.org) – Commercial Lighting – Qualifying Lamps, Ballasts

### Lighting Reflector Inserts and De-Lamping

- Minimum reflective efficiency of 85% for reflectors.
- Process must include removal of all disconnected ballasts, lamps, and lamp holders from luminaire.

All equipment must be tested by nationally recognized laboratories (e.g. Underwriters Laboratory "UL").

## Lighting Rebate Worksheet Instructions (Form 1)

Various configurations of lighting fixtures, ballasts, and lamps exist. Please indicate the total number of fixtures, ballasts, and lamps in the appropriate spaces provided. Only the total number of lamps and/or fixtures will be used in computing the rebate amount. All fluorescent lamps must be powered by electronic ballasts to qualify.

### Applicant Information

- Enter Applicant Name
- Enter Project Description (e.g. Facility ID, Building ID, Location, Address, etc.).
- Specify Type of Construction ("E" for Existing Facilities and "N" for New Construction)

### Required Documentation Checklist

- Rebate Application
- Lighting Rebate Worksheet
- Lighting Plans or Surveys with existing and new fixture

### A. Electronic Ballast with Qualifying T8 Lamps

- 1) Select the appropriate lamp size.  
Enter total number of fixtures retrofitted  
Enter total number of ballasts retrofitted  
Enter number of lamps (tubes) retrofitted.  
Multiply total number of lamps by rebate amount for New or Existing Facilities.
- 2) Repeat if needed for a different lamp size.
- 3) Total the Rebates for this category.

### B. High Performance Electronic Ballast with Qualifying Super T8 Lamps

- 1) Select the appropriate lamp size.  
Enter total number of fixtures retrofitted  
Enter total number of ballasts retrofitted  
Enter number of lamps (tubes) retrofitted.  
Multiply total number of lamps by rebate amount for New or Existing Facilities.
- 2) Total the Rebates for this category.

### C. Newly added Reflectors with De-Lamping to T8 or T12 Fixtures

- 1) Select the appropriate lamp size.  
Enter the total number of fixtures retrofitted.  
Enter the number of lamps (tubes) removed.  
Multiply total number of lamps removed by rebate amount for Existing Facilities.
- 2) Repeat if needed for a different lamp size.
- 3) Total the rebates for this category.

### D. De-Lamping without Reflectors

- 1) Select the appropriate lamp size.  
Enter the total number of fixtures retrofitted.  
Enter the number of lamps (tubes) removed.  
Multiply total number of lamps removed by rebate amount for Existing Facilities.
- 2) Repeat if needed for a different lamp size.
- 3) Total the rebates for this category.

### E. Newly added Reflectors, Electronic Ballast, and Qualifying T8 Lamps with De-Lamping.

- 1) Select the appropriate lamp size.  
Enter total number of fixtures retrofitted.  
Enter total number of ballasts retrofitted.  
Enter number of lamps (tubes) retrofitted.  
Multiply total number of lamps by rebate amount for Existing Facilities.  
Enter number of lamps (tubes) removed.  
Multiply total number of lamps removed by rebate amount for Existing Facilities.
- 2) Repeat if needed for a different lamp size.
- 3) Total the rebates for this category.

### F. Electronic Ballast with Qualifying T5 Lamps

- 1) Select the appropriate lamp size.  
Enter total number of fixtures retrofitted  
Enter total number of ballasts retrofitted  
Enter number of lamps (tubes) retrofitted.  
Multiply total number of lamps by rebate amount for New or Existing Facilities.
- 2) Repeat if needed for a different lamp size.
- 3) Total the Rebates for this category.

### Form 1 Total Lighting Rebate

- Sum the total from Section A to F.



# Lighting Rebate Worksheet (Form 2 of 2)

Hawaiian Electric Company Energy Solutions<sup>SM</sup> for Business Program (Effective January 1, 2009)

## APPLICANT INFORMATION

Applicant	Application No. <b>HECO</b>
Project	<input type="checkbox"/> Existing <input type="checkbox"/> New Construction

Document Checklist  Lighting Rebate Worksheet  Lighting Plans or Surveys  Rebate Application

### G. Occupancy Sensors (Automatic Lighting Controls)

(Infrared and Ultrasonic Sensors Only)

Sensor Type	Qty. of Controlled Fixtures	Total Connected Watts (Optional)	Total Qty. of Sensors	Existing Facilities Rebate/Sensor	New Construction Rebate/Sensor	Total Rebate
Infrared or Ultrasonic			x	\$20	\$20	=

**G. Total** \_\_\_\_\_

### H. Exit Signs - LED

Exit sign Type	Qty. of Fixtures	Existing Facilities Rebate/Fixture	New Construction Rebate/Fixture	Total Rebate
LED Exit Sign	x	\$25	None	=

**H. Total** \_\_\_\_\_

### I. Compact Fluorescent Lamps (CFL)

CFL Type	Qty. of Lamps	Existing Facilities Rebate/Lamp	New Construction Rebate/Lamp	Total Rebate
CFL - Reflector	x	\$5.00	\$2.50	=
CFL - Dimmable	x	\$5.00	\$2.50	=
CFL - Cold Cathode	x	\$5.00	\$2.50	=
CFL - Pin Mount (& New Fixture)	x	\$5.00	\$2.50	=

Notes: – For condominium tenant units, and military residential units, please contact the Company to determine whether CFL installations fall under the Commercial & Industrial Rebate Program or the Residential Rebate Program.  
 – Customers must complete installations within six months of purchase of the CFLs.

**I. Total** \_\_\_\_\_

### J. Induction Lighting Systems

Lamp Wattage	Qty. of Fixtures	Existing Facilities Rebate/Fixture	New Construction Rebate/Fixture	Total Rebate
Less Than 100 Watt	x	\$45	\$25	=
100 or Greater	x	\$60	\$35	=

**J. Total** \_\_\_\_\_

### K. High Pressure Sodium Lamps used for indoor lighting

Lamp Wattage	Qty. of Fixtures	Existing Facilities Rebate/Fixture	New Construction Rebate/Fixture	Total Rebate
Less Than 100 Watt	x	\$35	None	=
100 to 200 Watt	x	\$50	None	=
More Than 200 Watt	x	\$75	None	=

**K. Total** \_\_\_\_\_

### L. Metal Halide Lamps used for indoor lighting

Lamp Wattage	Qty. of Fixtures	Existing Facilities Rebate/Fixture	New Construction Rebate/Fixture	Total Rebate
Less Than 100 Watt	x	\$35	None	=
100 to 200 Watt	x	\$50	None	=
More Than 200 Watt	x	\$75	None	=

**L. Total** \_\_\_\_\_

### M. Pulse Start - Metal Halide Lamps

Lamp Wattage	Qty. of Fixtures	Existing Facilities Rebate/Fixture	New Construction Rebate/Fixture	Total Rebate
Less Than 100 Watt	x	\$45	\$25	=
100 to 200 Watt	x	\$60	\$35	=
More Than 200 Watt	x	\$85	\$50	=

**M. Total** \_\_\_\_\_

**FORM 2 TOTAL LIGHTING REBATE**

## Lighting Rebate Guidelines (Form 2)

Products must meet the following specifications to qualify under the terms of HECO's *EnergySolutions for Business* program.

These specifications ensure the most potential to increase lighting efficiency.

### Occupancy Sensors for Lighting

- Includes both ultrasonic and infrared-based devices.

### LED Exit Signs

- Must replace entire fixture to qualify for a rebate.

### Compact Fluorescent Lamps (CFLs)

- Must be hard-wired to qualify for pin mount CFL rebate.

All equipment must be tested by nationally recognized laboratories (e.g. Underwriters Laboratory "UL").

## Lighting Rebate Worksheet Instructions (Form 2)

Various configurations of lighting fixtures, ballasts, and lamps exist. Please indicate the total number of fixtures, ballasts, and lamps in the appropriate spaces provided. Only the total number of lamps and/or fixtures will be used in computing the rebate amount.

### Applicant Information

- Enter Applicant Name
- Enter Project Description (e.g. Facility ID, Building ID, Location, Address, etc.).
- Specify Type of Construction ("E" for Existing Facilities and "N" for New Construction)

### Required Documentation Checklist

- Rebate Application
- Lighting Rebate Worksheet
- Lighting Plans or Surveys with existing and new fixture

### G. Occupancy Sensors

Applies to Infrared and Ultrasonic Occupancy Sensors Only

- 1) Enter number of fixtures controlled by all sensors.
- 2) Enter total connected watts for all sensors (optional).
- 3) Enter total number of Occupancy Sensors.
- 4) Multiply total number of sensors by rebate amount.
- 5) Total the rebates for this category.

### H. LED Exit Signs

- 1) Enter quantity of fixtures.
- 2) Multiply fixtures by rebate amount.
- 3) Total rebate for this category.

### I. Compact Fluorescent Lamps (CFL)

- Enter the number of Lamps.
- Multiply number of Lamps by the rebate amount.
- Repeat if needed for a different CFL measure.
- Total the rebate for this category.

### J. Induction Lighting System

- 1) Select the appropriate lamp wattage.  
Enter the number of fixtures.  
Multiply number of fixtures by the rebate amount.
- 2) Repeat if needed for a different lamp wattage.
- 3) Total the rebates for this category.

### K. and L. High Pressure Sodium Lamps and Metal Halide Lamps for Indoor Lighting

- 1) Select the appropriate lamp wattage.  
Enter the number of fixtures.  
Multiply number of fixtures by the rebate amount.
- 2) Repeat if needed for a different lamp wattage.
- 3) Total the rebates for this category.

### M. Pulse Start Metal Halide Lamps

- 1) Select the appropriate lamp wattage.  
Enter the number of fixtures.  
Multiply number of fixtures by the rebate amount.
- 2) Repeat if needed for a different lamp wattage.
- 3) Total the rebates for this category.

### Form 2 Total Lighting Rebate

Sum the total from Section G to M.