



# **Public Utilities Commission**

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SHARON M. SUZUKI President

November 25, 2015

The Honorable Chair and Members of the Hawai'i Public Utilities Commission Kekuanaoa Building, First Floor 465 South King Street Honolulu, Hawai'i 96813

Dear Commissioners:

Subject: Maui Electric Energy Cost Adjustment Factor for December 2015

Maui Electric Company, Limited's ("Maui Electric" or "Company") December 2015 energy cost adjustment factor for our Maui Division is -8.557 cents per kilowatt-hour ("kWh"), an increase of 0.094 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$142.07, an increase of \$0.50 compared to rates effective November 1, 2015. The increase in the typical residential bill is due to the increase in the energy cost adjustment factor (+\$0.47) and the increase in the Purchased Power Adjustment Clause rate (+\$0.03).

The Company's Maui Division fuel composite cost of generation, central station and other decreased 43.57 cents per million BTU to 1,124.60 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy increased 0.299 cents per kWh to 17.726 cents per kWh.

The energy cost adjustment factor for our Lāna'i Division for December 2015 is -11.304 cents per kWh, an increase of 0.873 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$142.35, an increase of \$3.49 compared to rates effective November 1, 2015.

The Company's Lāna'i Division fuel composite cost of generation, central station and other increased 68.09 cents per million BTU to 1,661.65 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 27.000 cents per kWh.

The energy cost adjustment factor for our Moloka'i Division for December 2015 is -9.676 cents per kWh, an increase of 0.473 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$134.63, an increase of \$1.90 compared to rates effective November 1, 2015.

The Company's Moloka'i Division fuel composite cost of generation, central station and other increased 38.47 cents per million BTU to 1,360.80 cents per million BTU. The composite

The Honorable Chair and Members of the Hawai'i Public Utilities Commission November 25, 2015 Page 2

cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 21.80 cents per kWh.

The attached sheets set forth the fuel adjustment in cents per kWh for each rate schedule that is applicable for pro rata use beginning December 1, 2015.

Sincerely,

/s/ Sharon M. Suzuki

Sharon M. Suzuki President

Attachments

cc: Division of Consumer Advocacy

## ENERGY COST ADJUSTMENT FACTOR

	EFFECTIVE DATES		
	<u>11-01-15</u>	<u>12-01-15</u>	<u>Change</u>
<u>COMPOSITE COSTS</u> Generation, Central Station & Other, ¢/mbtu DG Energy, ¢/kWh Purchased Energy, ¢/kWh	1,593.56 0.00 27.00	1,661.65 0.00 27.00	68.09 0.00 0.00
Residential Schedule "R"			
Energy Cost Adjustment, ¢/kWh	(12.177)	(11.304)	0.873
Others - "G,P,F"			
Energy Cost Adjustment, ¢/kWh	(12.177)	(11.304)	0.873
Residential Customer with			
400 KWH Consumption, \$/Bill	138.86	142.35	3.49
500 KWH Consumption, \$/Bill	172.64	177.01	4.37

Supersedes Sheet Effective: November 1, 2015

## ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - December 1, 2015 (page 1 of 2)

Line

1	Effective	Da	ate		Dece	embe	r 1, 2015
	-						

2 Supercedes Factors of November 1, 2015

### **GENERATION COMPONENT**

CENTRAL STATION			
FUEL PRICES, ¢/mmbtu			
3 Industrial	0.00		
4 Diesel - Miki Basin	1,661.65		
5 Diesel - Manele Bay	0.00		
6 Other	0.00		
			T
BTU MIX, % 7 Industrial	0.00%	DG ENERGY COMPONENT 25 COMPOSITE COST OF DG	
8 Diesel - Miki Basin	100.00%	ENERGY, ¢/kWh	0.000
		ENERGT, ¢/KWII	0.000
9 Diesel - Manele Bay <sup>1</sup>	0.00%		0.000/
10 Other	0.00%	26 % Input to System kWh Mix	0.00%
	100.00%	27 WEIGHTED COMPOSITE DG ENERGY	
11 COMPOSITE COST OF GENERATION.		COST, ¢/kWh (Lines 25 x 26)	0.00000
CENTRAL STATION + OTHER ¢/mmbtu	1,661.65	$COST$ , $\varphi/KVVII$ (Lines 25 x 20)	0.00000
(Lines $(3 \times 7) + (4 \times 8) + (5 \times 9) + (6 \times 10)$ )			
12 % Input to System kWh Mix	93.23%	28 BASE DG ENERGY COMP COST	0.000
	0012070	29 Base % Input to System kWh Mix	0.00%
EFFICIENCY FACTOR, mmbtu/kWh		30 WEIGHTED BASE DG ENERGY COST,	0.0070
(A) (B) (C)	(D)	¢/kWh (Line 28 x 29)	0.00000
Percent of	(-)	····· (_··· · · _ • )	
Eff Factor Centrl Stn +	Weighted	31 Cost Less Base (Line 27 - 30)	0.00000
Fuel Type mmbtu/kwh Other	Eff Factor	32 Loss Factor	1.0510
13 Industrial 0.000000 0.00	0.000000	33 Revenue Tax Req Multiplier	1.0975
14 Diesel 0.011151 100.00	0.011151	34 DG FACTOR,	
15 Other 0.011151 0.00	0.000000	¢/kWh (Line 31 x 32 x 33)	0.00000
(Lines 13, 14, 15): Col(B) x Col(C) = Col(	D)		
16 Weighted Efficiency Factor, mmbtu/kWh			
[lines 13(D) + 14(D) + 15(D)]	0.011151		
17 WEIGHTED COMPOSITE CENTRAL STAT	ION +		
OTHER GEN COST, ¢/kWh			
(lines (11 x 12 x 16))	17.27464		
18 BASE CENTRAL STATION + OTHER GEN			
COST, ¢/mmbtu	2,647.15		
19 Base % Input to Sys kWh Mix	2,047.15		
20 Efficiency Factor, mmbtu/kwh	0.011151		
21 WEIGHTED BASE CENTRAL STATION +	0.011101		
OTHER GENERATION COST ¢/kWh			
(lines (18 x 19 x 20))	26.46322		
· · · //		SUMMARY OF	
22 COST LESS BASE (line(17 - 21))	(9.18858)	TOTAL GENERATION FACTOR, ¢/kWh	
23 Revenue Tax Req Multiplier	1.0975	35 CNTRL STN + OTHER (line 24)	10.08447)
24 CENTRAL STATION + OTHER GENERATI	ON	36 DG (line 34)	-
FACTOR, ¢/kWh (line (22 x 23))	-10.08447	37 TOTAL GENERATION FACTOR,	
		¢/kWh (lines 35 + 36) (*	10.08447)

<sup>1</sup> The Manele CHP experienced a catastrophic fire on March 6, 2015. Its return to service is undetermined at this time.

### ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - December 1, 2015 (page 2 of 2)

Line

1	Effective Date	December 1, 2015
2	Supercedes Factors of	November 1, 2015

Line	PURCHASED ENERGY COMPON	NENT
38 39	PURCHASED ENERGY PRICE, ¢/kWh LANAI SOLAR RESEARCH - On Peak - Off Peak	27.000 27.000
40	Sch Q	0.000
41 42	PURCHASED ENERGY KWH MIX, % LANAI SOLAR RESEARCH - On Peak - Off Peak	100.00% 0.00%
43	Sch Q	0.00%
44	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh (Lines (38 x 41) + (39 x 42) + (40 x 43))	27.000
	% Input to System kWh Mix	6.77%
46	WEIGHTED COMP. PURCH. ENERGY COST, ¢/kWh (lines (44 x 45))	1.82790
48	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh Base % Input to Sys kWh Mix WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (lines (47 x 48))	27.000 10.35 2.79450
51 52	COST LESS BASE(lines (46 - 49)) Loss Factor Revenue Tax Req Multiplier PURCHASED ENERGY FACTOR, ¢/kWh (lines (50 x 51 x 52))	(0.96660) 1.051 1.0975 (1.11495)

### Line SYSTEM COMPOSITE CALCULATIONS

54	54 GENERATION AND PURCHASED ENERGY					
	FACTOR, ¢/kWh	(11.19942)				
	(lines (37 + 53))					
55	Adjustment, ¢/kWh	0.000				
56	ECA Reconciliation Adjustment	(0.105)				
57	ECA FACTOR, ¢/kWh	(11.304)				
	(lines (54 + 55 + 56))					

#### Maui Electric Company, Ltd. Lanai Division

## MONTH END FUEL OIL ESTIMATE

<u> Miki Basin - ULSD</u>	Barrels	MBTU	\$
11/19/2015	3,330.14	19,081.70	313,558.89
Estimated Use	1,373.62	7,870.84	125,426.60
Estimated Received	1,428.57	8,185.71	134,171.29
Estimated Additional			
Estimated End	3,385.09	19,396.57	322,303.58

Next Month's Combined Miki Expense (\$/bbl) = \$ 95.2127 /bbl

Manele CHP	Barrels	MBTU	\$
11/19/2015	-	-	-
Estimated Use	-	-	-
Estimated Received	-	-	-
Estimated Additional	-	-	
Estimated End	-	-	-
Next Month's Manele Expense (\$/bl	bl) =	-	

### FUEL OIL INVENTORY PRICE USED FOR FILING

Type of Oil Burned	<u>Price</u>	Conversion Factor	Prices ¢/MBTU
Diesel - Miki Basin	\$ 95.2127	5.73 BTU/BBL	1,661.65
Diesel - Manele Bay	\$ -	5.73 BTU/BBL	-

## **Contract Prices effective November 1, 2015**

TYPE OF OIL BURNED	\$/BBL	¢/MBTU

<u> MIKI BASIN - ULTRA LOW SULFUR DIESEL (DYED)</u>					
Tax *	1.9320	33.72			
Ocean Transportation	0.0000	0.00			
Storage	0.0000	0.00			
Wharfage	0.0000	0.00			

## MIKI BASIN - ULTRA LOW SULFUR DIESEL

Tax *	1.9320	33.72
Ocean Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00

## MANELE BAY - ULTRA LOW SULFUR DIESEL

Tax *	5.8965	102.91
Ocean Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00

\* Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST tax and Environmental Response Tax.

Note: Since these components are not accounted for separately in inventory, contract prices for the current month are being provided. Contract prices are considered accurate pending actual delivery of the fuel.

Reference: Decision and Order No. 16134, Docket No. 96-0040.

## MAUI ELECTRIC COMPANY, LTD. Lanai Division ECA Reconciliation Adjustment

## December 2015

1. Amount to be refunded	(\$6,200)
2. Monthly amount (1/3 X Line 1)	(\$2,067)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$2,269)
5. Estimated Sales (December 2015)	2,150 mwh
6. Adjustment (Line 4 ÷ Line 5)	-0.105 ¢/kwh

## MAUI ELECTRIC COMPANY, LTD. LANAI DIVISION 2015 Cumulative Reconciliation Balance

	(1)		(2) FOA Rec	(3) FOA Rec	(4)	(5)	(6) Month-end
	YTD FOA		Adjust	Less	Try to	Actual	Cumulative
<u>Month</u>	Reconciliation	<u>Qtr</u>	<u>Variance</u>	<u>Variance</u>	<u>Collect</u>	<u>Collect</u>	<u>Balance</u>
December '14	ļ				(2,500)	(2,753)	1,349
January '15					(2,500)	(2,402)	(1,053)
February	(23,000)	(4)	(1,149)	(21,851)	7,667	7,298	(15,606)
March					7,667	7,286	(8,320)
April					7,667	7,591	(729)
May	13,400	(1)	(652)	14,052	(4,467)	(4,312)	9,011
June					(4,467)	(4,077)	4,934
July					(4,467)	(4,382)	552
August	9,800	(2)	469	9,331	(3,267)	(3,156)	6,727
September					(3,267)	(3,340)	3,387
October					(3,267)	(3,431)	(44)
November	6,200	(3)	123	6,077	(2,067)		
December					(2,067)		

## NOTES:

Col(1):	Quarterly FOA reconciliation amounts. (Refer to Attachment 13)
	A positive number is an over-collection. A negative number is an under-collection.
Col(2):	FOA reconciliation adjustment variance accumulated during the last three months, starting with the fourth prior month; the difference between the estimated recorded sales used to derive the \$/kwh adjustment and the actual recorded sales. (Col(5) - Col(4))
Col(3):	FOA reconciliation generated in the current quarter. The YTD FOA reconciliation difference minus the adjustment variance. Col(1) - Col(2)
Col(4):	Amount that the FOA reconciliation adjustment is trying to collect. (Col(1) * 1/3)
Col(5):	Actual collected amount. (recorded sales * \$/kwh adjustment/1.09751)
Col(6):	Cumulative balance of the FOA reconciliation (Previous balance + $Col(3) + Col(5)$ )

#### Maui Electric Company, Ltd. Lanai Division Calculations of the Average Residential Customer Bill

	Rate			Charge (\$) at 400 Kwh		
		11-01-15	12-01-15	11-01-15	12-01-15	Difference
Base Rates	effective date:	08/01/13	08/01/13			
Base Fuel/Energy Charge	¢/kWh	32.2668	32.2668	129.07	129.07	0.00
Non-fuel Fuel Energy Charge						
First 250 kWhr per month	¢/kWh	9.1240	9.1240	22.81	22.81	0.00
Next 500 kWhr per month	¢/kWh	11.6240	11.6240	17.44	17.44	0.00
Customer Charge	\$	8.50	8.50	8.50	8.50	0.00
Total Base Charges				177.82	177.82	0.00
-						
IRP Refund	% on base	0.0000	0.0000	0.00	0.00	0.00
Revenue Balancing Rate Adjustment	¢/kWh	1.5987	1.5987	6.39	6.39	0.00
PBF Surcharge	¢/kWh	0.4749	0.4749	1.90	1.90	0.00
Renewable Energy Infrastructure Cost	,					
Recovery Provision	¢/kWh	0.0103	0.0103	0.04	0.04	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
•	,					
Energy Cost Adjustment	¢/kWh	-12.177	-11.304	-48.71	-45.22	3.49
Green Infrastructure Fee	\$	1.42	1.42	1.42	1.42	0.00
			•			

Avg Residential Bill at 400 kwh

Increase (Decrease -)	3.49
% Change	2.51%

142.35

138.86

Γ

	[			
	Rate			
		11-01-15	12-01-15	
Base Rates	effective date:	08/01/13	08/01/13	
Base Fuel/Energy Charge	¢/kWh	32.2668	32.2668	
Non-fuel Fuel Energy Charge				
First 250 kWhr per month	¢/kWh	9.1240	9.1240	
Next 500 kWhr per month	¢/kWh	11.6240	11.6240	
Customer Charge	\$	8.50	8.50	
Total Base Charges				
IRP Refund	% on base	0.0000	0.0000	
Revenue Balancing Rate Adjustment	¢/kWh	1.5987	1.5987	
PBF Surcharge	¢/kWh	0.4749	0.4749	
Renewable Energy Infrastructure Cost				
Recovery Provision	¢/kWh	0.0103	0.0103	
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	
-				
Energy Cost Adjustment	¢/kWh	-12.177	-11.304	
Green Infrastructure Fee	, \$	1.420	1.420	
	ļ			

Charge (\$) at 500 Kwh					
11-01-15	12-01-15	Difference			
161.33	161.33	0.00			
22.81	22.81	0.00			
29.06	29.06	0.00			
8.50	8.50	0.00			
221.70	221.70	0.00			
0.00	0.00	0.00			
7.99	7.99	0.00			
2.37	2.37	0.00			
0.05	0.05	0.00			
0.00	0.00	0.00			
-60.89	-56.52	4.37			
1.42	1.42	0.00			
172.64	177.01				

Increase (Decrease -) % Change

Avg Residential Bill at 500 kwh

### MAUI ELECTRIC COMPANY, LTD. -- Lanai Division FUEL OIL ADJUSTMENT FACTOR DATA

EFFECTIVE DATE	FUEL FACTOR CENTS / KWH RESIDENTIAL & <u>COMMERCIAL</u>		IAL BILL (\$) <u>@ 500 KWH</u>
January 1, 2012 February 1, 2012 March 1, 2012 April 1, 2012 May 1, 2012 May 4, 2012 June 1, 2012 June 1, 2012 July 1, 2012 August 1, 2012 September 1, 2012 October 1, 2012 December 1, 2012	9.260 9.134 9.355 10.438 11.637 12.284 11.897 11.230 8.352 9.038 10.621 12.828 12.174	182.11 181.61 182.49 185.86 191.62 190.23 194.24 191.57 180.06 182.80 189.13 197.96 195.35	226.46 225.83 226.94 231.15 238.35 237.21 242.21 238.87 224.48 227.91 235.83 246.86 243.59
January 1, 2013 February 1, 2013 March 1, 2013 April 1, 2013 May 1, 2013 June 1, 2013 July 1, 2013 August 1, 2013 September 1, 2013 October 1, 2013 November 1, 2013 December 1, 2013	10.379 8.902 12.189 12.132 10.815 10.222 9.996 0.662 1.722 1.784 2.188 1.934	188.60 182.69 195.84 194.79 190.34 191.20 190.47 187.02 191.26 191.51 193.12 192.11	235.17 227.78 244.22 242.90 237.35 238.42 237.52 233.21 238.51 238.51 238.82 240.84 239.57
January 1, 2014 February 1, 2014 March 1, 2014 April 1, 2014 May 1, 2014 June 1, 2014 July 1, 2014 August 1, 2014 September 1, 2014 October 1, 2014 November 1, 2014	0.693 1.420 1.370 1.854 -1.036 0.013 0.208 -0.179 -0.244 -3.591 -1.766 -3.365	187.14 190.05 189.85 190.81 180.23 187.69 189.21 187.66 187.40 174.02 181.32 175.18	233.37 237.00 236.75 237.94 224.72 234.05 235.94 234.00 233.68 216.94 226.07 218.07
January 1, 2015 February 1, 2015 March 1, 2015 April 1, 2015 May 1, 2015 June 8, 2015 July 1, 2015 August 1, 2015 September 1, 2015 October 1, 2015 December 1, 2015	-4.698 -7.361 -8.793 -6.831 -9.750 -8.842 -7.314 -8.457 -10.465 -12.259 -12.177 -11.304	169.85 159.20 153.47 160.22 149.64 153.16 158.27 153.70 145.71 138.53 138.86 142.35	211.41 198.09 190.93 199.37 186.15 190.56 196.91 191.19 181.20 172.23 172.64 177.01

## MAUI ELECTRIC COMPANY, LTD. -- Lanai Division RESIDENTIAL SURCHARGE DATA

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE		RATE
01/01/11 - 12/31/11	RESID. PBF SURCHARGE ADJUSTMENT	0.5944	CENTS/KWH
01/12/11 - 05/03/12	FINAL RATE INCREASE (3.65%), DOCKET NO. 2006-0387 (2	007 TEST YE	EAR)
01/12/11 - 05/03/12	INTERIM RATE INCREASE 2010 TEST YEAR	2.68	PERCENT ON BASE
02/01/11 - 02/28/11	IRP RECOVERY REFUND	-4.332	PERCENT ON BASE
03/01/11 - 04/30/11	IRP RECOVERY REFUND	0.000	PERCENT ON BASE
04/01/11 - 04/30/11	SOLARSAVER ADJUSTMENT		CENTS/KWH
05/01/11 - 03/31/12	SOLARSAVER ADJUSTMENT		CENTS/KWH
05/01/11 - 05/31/11	IRP RECOVERY REFUND	-0.356	PERCENT ON BASE
06/01/11	IRP RECOVERY REFUND		PERCENT ON BASE
01/01/12 - 12/31/12	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
04/01/12 - 04/30/12	SOLARSAVER ADJUSTMENT		CENTS/KWH
05/01/12 - 03/31/13	SOLARSAVER ADJUSTMENT		CENTS/KWH
5/4/2012 - 07/31/13	FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2		
6/1/2012 - 07/31/13	INTERIM RATE INCREASE 2012 TEST YEAR		PERCENT ON BASE
01/01/13 - 06/30/13	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
04/01/13 - 04/30/13	SOLARSAVER ADJUSTMENT		CENTS/KWH
05/01/13 - 03/31/14	SOLARSAVER ADJUSTMENT		CENTS/KWH
06/01/13 - 05/31/14	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT		CENTS/KWH
07/01/13 - 06/30/14	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
08/01/13	FINAL RATE INCREASE (1.25%), DOCKET NO. 2011-0092 (2		
04/01/14 - 04/30/14	SOLARSAVER ADJUSTMENT		CENTS/KWH
05/01/14 - 03/31/15	SOLARSAVER ADJUSTMENT		CENTS/KWH
06/01/14 - 05/31/15	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT		CENTS/KWH
07/01/14 -11/30/14	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
12/01/14 - 06/30/15	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
12/01/14 - 06/30/15	GREEN INFRASTRUCTURE FEE		DOLLARS/MONTH
04/01/15 - 04/30/15	SOLARSAVER ADJUSTMENT	-	CENTS/KWH
05/01/15	SOLARSAVER ADJUSTMENT		CENTS/KWH
06/01/15 - 06/07/15	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT		CENTS/KWH
06/08/15	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT		CENTS/KWH
07/01/15	RESID. PBF SURCHARGE ADJUSTMENT		CENTS/KWH
07/01/15	GREEN INFRASTRUCTURE FEE		DOLLARS/MONTH
08/17/15	RENEWABLE ENERGY INFRASTRUCTURE COST	0.0103	CENTS/KWH
	RECOVERY PROVISION		

~ Surcharges currently in effect are in bold.

 Base charges include customer charge, demand charge, energy charge, power factor adjustment, voltage discount and minimum charge.