



FILED

November 28, 2018

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

PUBLIC UTILITIES  
COMMISSION

Dear Commissioners:

Subject: Maui Electric Energy Cost Adjustment Factor for December 2018

Maui Electric Company, Limited's ("Maui Electric" or "Company") December 2018 Energy Cost Adjustment factor for our Maui Division is -2.401 cents per kilowatt-hour ("kWh"), a decrease of 0.043 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$179.65, a decrease of \$0.22 compared to rates effective November 1, 2018. The decrease in the typical residential bill is due to the decrease in the Energy Cost Adjustment factor.

The Company's Maui Division fuel composite cost of generation, central station and other increased 11.10 cents per million BTU to 1,745.63 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy decreased 0.288 cents per kWh to 17.935 cents per kWh.

The Energy Cost Adjustment factor for our Lāna'i Division for December 2018 is -5.396 cents per kWh, an increase of 0.641 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$171.89, an increase of \$2.57 compared to rates effective November 1, 2018. The increase in the typical residential bill is due to the Energy Cost Adjustment factor.

The Company's Lāna'i Division fuel composite cost of generation, central station and other increased 56.16 cents per million BTU to 2,206.26 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 30.00 cents per kWh.

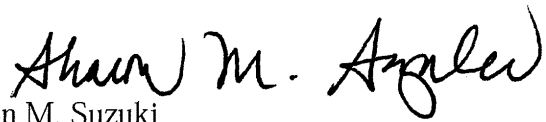
The Energy Cost Adjustment factor for our Moloka'i Division for December 2018 is -1.431 cents per kWh, an increase of 2.266 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$173.13, an increase of \$9.07 compared to rates effective November 1, 2018. The increase in the typical residential bill is due to the Energy Cost Adjustment factor.

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The Company's Moloka'i Division fuel composite cost of generation, central station and other increased 184.44 cents per million BTU to 2,039.71 cents per million BTU. The composite 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, 2018.

Sincerely,



Sharon M. Suzuki  
President

Attachments

cc: Division of Consumer Advocacy

**MAUI ELECTRIC COMPANY, LTD.  
LANAI DIVISION**

**ENERGY COST ADJUSTMENT FACTOR**

	EFFECTIVE DATES		<u>Change</u>
	<u>11-01-18</u>	<u>12-01-18</u>	
<u>COMPOSITE COSTS</u>			
Generation, Central Station & Other, ¢/mbtu	2,150.10	2,206.26	56.16
DG Energy, ¢/kWh	0.00	0.00	0.00
Purchased Energy, ¢/kWh	30.00	30.00	0.00
<u>Residential Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(6.037)	(5.396)	0.641
<u>Others - "G.P.F"</u>			
Energy Cost Adjustment, ¢/kWh	(6.037)	(5.396)	0.641
<u>Residential Customer with</u>			
400 KWH Consumption, \$/Bill	169.32	171.89	2.57
500 KWH Consumption, \$/Bill	210.74	213.95	3.21

Supersedes Sheet Effective:

November 1, 2018

MAUI ELECTRIC COMPANY, LTD.  
LANAI DIVISION

ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - December 1, 2018 (page 1 of 2)

Line

1 Effective Date December 1, 2018  
2 Supercedes Factors of November 1, 2018

**GENERATION COMPONENT**

<b><u>CENTRAL STATION</u></b>							<b><u>DG ENERGY COMPONENT</u></b>		
FUEL PRICES, ¢/mmbtu									
3	Industrial				0.00				
4	Diesel - Miki Basin				2,206.26				
5	Diesel - Manele Bay				2,112.93				
6	Other				0.00				
BTU MIX, %									
7	Industrial				0.00%	25	COMPOSITE COST OF DG ENERGY, ¢/kWh	0.000	
8	Diesel - Miki Basin				100.00%	26	% Input to System kWh Mix	0.00%	
9	Diesel - Manele Bay				0.00%	27	WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 25 x 26)	0.00000	
10	Other				0.00%	28	BASE DG ENERGY COMP COST	0.000	
					100.00%	29	Base % Input to System kWh Mix	0.00%	
11	COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))				2,206.26	30	WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 28 x 29)	0.00000	
12	% Input to System kWh Mix				94.36%	31	Cost Less Base (Line 27 - 30)	0.00000	
EFFICIENCY FACTOR, mmbtu/kWh							32	Loss Factor	1.0510
	(A)	(B)	(C)	(D)		33	Revenue Tax Req Multiplier	1.0975	
			Percent of			34	DG FACTOR, ¢/kWh (Line 31 x 32 x 33)	0.00000	
			Centrl Stn +	Weighted					
	Fuel Type	Eff Factor	Other	Eff Factor					
		mmbtu/kwh							
13	Industrial	0.000000	0.00	0.000000					
14	Diesel	0.011151	100.00	0.011151					
15	Other	0.011151	0.00	0.000000					
	(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 STATION + OTHER GEN COST, ¢/kWh (lines (11 x 12 x 16))				23.21445				
18	BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu				2,647.15				
19	Base % Input to Sys kWh Mix				89.65%				
20	Efficiency Factor, mmbtu/kwh				0.011151				
21	WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))				26.46322				
22	COST LESS BASE (line(17 - 21))				(3.24877)				
23	Revenue Tax Req Multiplier				1.0975				
24	CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))				-3.56553				
							SUMMARY OF		
							TOTAL GENERATION FACTOR, ¢/kWh		
							35	CNTRL STN + OTHER (line 24)	(3.56553)
							36	DG (line 34)	-
							37	TOTAL GENERATION FACTOR, ¢/kWh (lines 35 + 36)	(3.56553)

MAUI ELECTRIC COMPANY, LTD.  
LANAI DIVISION

ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - November 1, 2018 (page 2 of 2)

Line

1 Effective Date December 1, 2018  
2 Supercedes Factors of November 1, 2018

<u>Line</u>	<u>PURCHASED ENERGY COMPONENT</u>	
	PURCHASED ENERGY PRICE, ¢/kWh	
38	LANAI SOLAR RESEARCH - On Peak	30.000
39	- Off Peak	30.000
40	Sch Q	0.000
	PURCHASED ENERGY KWH MIX, %	
41	LANAI SOLAR RESEARCH - On Peak	100.00%
42	- Off Peak	0.00%
43	Sch Q	0.00%
44	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh (Lines (38 x 41) + (39 x 42) + (40 x 43))	30.000
45	% Input to System kWh Mix	5.64%
46	WEIGHTED COMP. PURCH. ENERGY COST, ¢/kWh (lines (44 x 45))	1.69200
47	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh	27.000
48	Base % Input to Sys kWh Mix	10.35
49	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (lines (47 x 48))	2.79450
50	COST LESS BASE(lines (46 - 49))	(1.10250)
51	Loss Factor	1.051
52	Revenue Tax Req Multiplier	1.0975
53	PURCHASED ENERGY FACTOR, ¢/kWh (lines (50 x 51 x 52))	(1.27170)

Line      SYSTEM COMPOSITE CALCULATIONS

54 GENERATION AND PURCHASED ENERGY FACTOR, ¢/kWh (4.83723)  
(lines (37 + 53))  
55 Adjustment, ¢/kWh 0.000  
56 ECA Reconciliation Adjustment (0.559)  
57 ECA FACTOR, ¢/kWh (5.396)  
(lines (54 + 55 + 56))

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

**MONTH END FUEL OIL ESTIMATE**

<b><u>Miki Basin - ULSD</u></b>	<u>Barrels</u>	<u>MBTU</u>	<u>\$</u>
11/19/2018	3,743.45	21,449.97	468,399.01
Estimated Use	1,499.86	8,594.20	185,658.74
Estimated Received	2,428.57	13,915.71	307,908.43
Estimated Additional	-	-	-
Estimated End	4,672.16	26,771.48	590,648.70

Next Month's Combined Miki Expense (\$/bbl) = \$ 126.4188 /bbl

<b><u>Manele CHP</u></b>	<u>Barrels</u>	<u>MBTU</u>	<u>\$</u>
11/19/2018	193.81	1,110.53	23,464.78
Estimated Use	-	-	-
Estimated Received	-	-	-
Estimated Additional	-	-	-
Estimated End	193.81	1,110.53	23,464.78

Next Month's Manele Expense (\$/bbl) = \$ 121.0710 /bbl

**FUEL OIL INVENTORY PRICE USED FOR FILING**

<u>Type of Oil Burned</u>	<u>Price</u>	<u>Conversion Factor</u>	<u>Prices ¢/MBTU</u>
Diesel - Miki Basin	\$ 126.4188	5.73 BTU/BBL	2,206.26
Diesel - Manele Bay	\$ 121.0710	5.73 BTU/BBL	2,112.93

**MAUI ELECTRIC COMPANY, LTD.  
LANAI DIVISION**

**Contract Prices effective November 1, 2018**

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
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**MIKI BASIN - ULTRA LOW SULFUR DIESEL (DYED)**

Tax *	1.6020	27.96
Ocean Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00

**MIKI BASIN - ULTRA LOW SULFUR DIESEL**

Tax *	11.8080	206.07
Ocean Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00

**MANELE BAY - ULTRA LOW SULFUR DIESEL**

Tax *	17.0187	297.01
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, Environmental Response Tax, Customs Duty Fee, Fed Oil Spill Recovery Fee, Federal Oil Spill Liability Tax, and Federal Excise 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 2018**

1. Amount to be refunded	(\$35,600)
2. Monthly amount (1 / 3 X Line 1)	(\$11,867)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$13,024)
5. Estimated Sales (December 2018)	2,329 mwh
6. Adjustment (Line 4 ÷ Line 5)	-0.559 ¢/kwh



**MAUI ELECTRIC COMPANY, LTD.  
LANAI DIVISION  
2018 Cumulative Reconciliation Balance**

<u>Month</u>	<u>(1)</u> YTD FOA Reconciliation	<u>Qtr</u>	<u>(2)</u> FOA Rec Adjust Variance	<u>(3)</u> FOA Rec Less Variance	<u>(4)</u> Try to Collect	<u>(5)</u> Actual Collect	<u>(6)</u> Month-end Cumulative Balance
December '17					(14,700)	(15,711)	12,481
January '18					(14,700)	(16,163)	(3,682)
February	46,500	(4)	(2,214)	48,714	(15,500)	(16,173)	28,859
March					(15,500)	(17,469)	11,390
April					(15,500)	(15,859)	(4,469)
May	46,000	(1)	(4,105)	50,105	(15,333)	(17,181)	28,455
June					(15,333)	(17,213)	11,242
July					(15,333)	(15,832)	(4,590)
August	28,700	(2)	(4,087)	32,787	(9,567)	(10,519)	17,678
September					(9,567)	(9,882)	7,796
October					(9,567)	(9,471)	(1,675)
November	35,600	(3)	(1,766)	37,366	(11,867)		
December					(11,867)		

## 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			
	11-01-18	12-01-18	11-01-18	12-01-18	Difference	
<b>Base Rates</b>	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
<b>Total Base Charges</b>				177.82	177.82	0.00
<b>IRP Refund</b>	% on base	0.0000	0.0000	0.00	0.00	0.00
<b>Revenue Balancing Rate Adjustment</b>	¢/kWh	0.3183	0.3183	1.27	1.27	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4658	0.4658	1.86	1.86	0.00
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Interim Rate Increase (Test Year 2018)</b>	% on Base	6.36	6.36	11.31	11.31	0.00
<b>Energy Cost Adjustment</b>	¢/kWh	-6.037	-5.396	-24.15	-21.58	2.57
<b>Green Infrastructure Fee</b>	\$	1.21	1.21	1.21	1.21	0.00
<b>Avg Residential Bill at 400 kwh</b>				169.32	171.89	

Increase (Decrease -)	2.57
% Change	1.52%

	Rate		Charge (\$) at 500 Kwh			
	11-01-18	12-01-18	11-01-18	12-01-18	Difference	
<b>Base Rates</b>	effective date:	08/01/13	08/01/13			
Base Fuel/Energy Charge	¢/kWh	32.2668	32.2668	161.33	161.33	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	29.06	29.06	0.00
Customer Charge	\$	8.50	8.50	8.50	8.50	0.00
<b>Total Base Charges</b>				221.70	221.70	0.00
<b>IRP Refund</b>	% on base	0.0000	0.0000	0.00	0.00	0.00
<b>Revenue Balancing Rate Adjustment</b>	¢/kWh	0.3183	0.3183	1.59	1.59	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4658	0.4658	2.33	2.33	0.00
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Interim Rate Increase (Test Year 2018)</b>	% on Base	6.36	6.36	14.10	14.10	0.00
<b>Energy Cost Adjustment</b>	¢/kWh	-6.037	-5.396	-30.19	-26.98	3.21
<b>Green Infrastructure Fee</b>	\$	1.21	1.21	1.21	1.21	0.00
<b>Avg Residential Bill at 500 kwh</b>				210.74	213.95	

Increase (Decrease -)	3.21
% Change	1.52%

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

<u>EFFECTIVE DATE</u>	<u>FUEL FACTOR CENTS / KWH</u>		<u>RESIDENTIAL BILL (\$)</u>	
	<u>RESIDENTIAL &amp; COMMERCIAL</u>	<u>@ 400 KWH</u>	<u>@ 500 KWH</u>	
January 1, 2016	-12.957	135.62	168.62	
February 1, 2016	-14.236	130.51	162.23	
March 1, 2016	-15.833	124.12	154.24	
April 1, 2016	-15.204	125.90	156.47	
May 1, 2016	-13.856	132.03	164.13	
June 1, 2016	-12.617	136.22	169.37	
July 1, 2016	-11.833	139.64	173.68	
August 1, 2016	-12.201	138.17	171.84	
September 1, 2016	-12.634	136.43	169.68	
October 1, 2016	-12.723	136.08	169.23	
November 1, 2016	-12.595	136.59	169.87	
December 1, 2016	-11.160	142.33	177.05	
January 1, 2017	-11.861	139.67	173.68	
February 1, 2017	-11.218	142.24	176.90	
March 1, 2017	-10.975	143.21	178.11	
April 1, 2017	-10.875	143.06	177.92	
May 1, 2017	-11.993	139.14	173.02	
June 1, 2017	-11.149	143.14	178.03	
July 1, 2017	-11.181	142.28	176.97	
August 1, 2017	-11.659	140.36	174.58	
September 1, 2017	-10.389	145.40	180.88	
October 1, 2017	-10.059	169.32	210.74	
November 1, 2017	-8.264	153.90	191.51	
December 1, 2017	-9.353	149.55	186.06	
January 1, 2018	-8.358	153.69	191.20	
February 1, 2018	-8.395	153.54	191.01	
March 1, 2018	-7.868	155.65	193.65	
April 1, 2018	-9.141	150.05	186.64	
May 1, 2018	-7.716	156.26	194.41	
June 1, 2018	-6.144	163.86	203.92	
July 1, 2018	-5.753	165.46	205.95	
August 1, 2018	-7.005	160.45	199.69	
September 1, 2018	-6.735	166.53	207.25	
October 1, 2018	-6.372	167.98	209.07	
November 1, 2018	-6.037	169.32	210.74	
December 1, 2018	-5.396	171.89	213.95	

**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
<b>06/01/11</b>	<b>IRP RECOVERY REFUND</b>	<b>0.000 PERCENT ON BASE</b>
<b>08/01/13</b>	<b>FINAL RATE INCREASE (1.25%), DOCKET NO. 2011-0092 (2012 TEST YEAR)</b>	
01/01/16 - 06/30/16	GREEN INFRASTRUCTURE FEE	1.3000 DOLLARS/MONTH
03/01/16 - 02/28/17	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0099 CENTS/KWH
04/01/16 - 04/30/16	SOLARSAVER ADJUSTMENT	-0.1835 CENTS/KWH
05/01/16 - 03/31/17	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
06/01/16 - 05/31/17	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.4082 CENTS/KWH
07/01/16 - 06/30/17	RESID. PBF SURCHARGE ADJUSTMENT	0.5865 CENTS/KWH
07/01/16 - 12/31/16	GREEN INFRASTRUCTURE FEE	1.13 DOLLARS/MONTH
01/01/17 - 06/30/17	GREEN INFRASTRUCTURE FEE	1.27 DOLLARS/MONTH
03/01/17 - 08/16/17	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0098 CENTS/KWH
04/01/17 - 04/30/17	SOLARSAVER ADJUSTMENT	-0.1378 CENTS/KWH
05/01/17 - 03/31/18	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
06/01/17 - 05/31/18	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.5654 CENTS/KWH
07/01/17 - 12/31/17	GREEN INFRASTRUCTURE FEE	1.18 DOLLARS/MONTH
07/01/17 - 06/30/18	RESID. PBF SURCHARGE ADJUSTMENT	0.4244 CENTS/KWH
<b>08/17/17</b>	<b>RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION</b>	<b>0.0000 CENTS/KWH</b>
01/01/18 - 06/30/18	GREEN INFRASTRUCTURE FEE	1.34 DOLLARS/MONTH
04/01/18 - 04/30/18	SOLARSAVER ADJUSTMENT	1.3400 CENTS/KWH
<b>05/01/18</b>	<b>SOLARSAVER ADJUSTMENT</b>	<b>0.0000 CENTS/KWH</b>
06/01/18 - 08/22/18	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.8954 CENTS/KWH
<b>07/01/18</b>	<b>RESID. PBF SURCHARGE ADJUSTMENT</b>	<b>0.4658 CENTS/KWH</b>
<b>07/01/18</b>	<b>GREEN INFRASTRUCTURE FEE</b>	<b>1.21 DOLLARS/MONTH</b>
<b>08/23/18</b>	<b>INTERIM RATE INCREASE 2018 TEST YEAR</b>	<b>6.36 PERCENT ON BASE</b>
<b>08/23/18</b>	<b>REVENUE BALANCING ACCOUNT RATE ADJUSTMENT</b>	<b>0.3183 CENTS/KWH</b>

~ Surcharges currently in effect are in bold.

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