



FILED

April 26, 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 May 2018

Maui Electric Company, Limited's ("Maui Electric" or "Company") May 2018 Energy Cost Adjustment factor for our Maui Division is -4.510 cents per kilowatt-hour ("kWh"), an increase of 0.404 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$162.34, an increase of \$2.66 compared to rates effective April 1, 2018. The increase in the typical residential bill is due to the increase in the Energy Cost Adjustment factor (+\$2.02) and termination of the April 2018 credit for the SolarSaver adjustment (+\$0.64).

The Company's Maui Division fuel composite cost of generation, central station and other increased 125.61 cents per million BTU to 1,423.66 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy decreased 0.566 cents per kWh to 18.549 cents per kWh.

The Energy Cost Adjustment factor for our Lāna'i Division for May 2018 is -7.716 cents per kWh, an increase of 1.425 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$156.26, an increase of \$6.21 compared to rates effective April 1, 2018. The increase in the typical residential bill is due to the increase in the Energy Cost Adjustment factor (+\$5.70) and termination of the April 2018 credit for the SolarSaver adjustment (+\$0.51).

The Company's Lāna'i Division fuel composite cost of generation, central station and other increased 137.58 cents per million BTU to 2,012.66 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 May 2018 is -5.031 cents per kWh, an increase of 0.944 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$152.76, an increase of \$4.29 compared to rates effective April 1, 2018. The increase in the typical residential bill is due to the

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

ENERGY COST ADJUSTMENT FACTOR

	EFFECTIVE DATES		<u>Change</u>
	<u>04-01-18</u>	<u>05-01-18</u>	
<u>COMPOSITE COSTS</u>			
Generation, Central Station & Other, ¢/mbtu	1,672.20	1,740.15	67.95
DG Energy, ¢/kWh	0.00	0.00	0.00
Purchased Energy, ¢/kWh	21.80	21.80	0.00
<u>Residential Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(5.975)	(5.031)	0.944
<u>Others - "G,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(5.975)	(5.031)	0.944
<u>Residential Customer with</u>			
400 KWH Consumption, \$/Bill	148.47	152.76	4.29
500 KWH Consumption, \$/Bill	184.76	190.12	5.36

Supersedes Sheet Effective:

April 1, 2018

**MAUI ELECTRIC COMPANY, LTD.
MOLOKAI DIVISION
ENERGY COST ADJUSTMENT (ECA) FILING**

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

<u>Line</u>	
1	Effective Date May 1, 2018
2	Supersedes Factors April 1, 2018

GENERATION COMPONENT

<u>CENTRAL STATION</u>						
FUEL PRICES, ¢/mmbtu						
3	Industrial				0.00	
4	Diesel				1,740.15	
5	Other				0.00	
BTU MIX, %						
6	Industrial				0.00	
7	Diesel				100.00	
8	Other				<u>0.00</u>	
					<u>100.00</u>	
9	COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu (Lines 3 x 6) + (4 x 7) + (5 x 8)				1,740.15	
10	% Input to System kWh Mix				99.98	
EFFICIENCY FACTOR, mmbtu/kWh						
	(A)	(B)	(C)	(D)		
		Eff Factor	Centrl Stn +	Weighted		
	<u>Fuel Type</u>	<u>mmbtu/kwh</u>	<u>Other</u>	<u>Eff Factor</u>		
11	Industrial	0.000000	0.00	0.000000		
12	Diesel	0.011194	100.00	0.011194		
13	Other	0.011194	0.00	0.000000		
	(Lines 11, 12, 13): Col(B) x Col(C) = Col(D)					
14	Weighted Efficiency Factor, mmbtu/kWh [lines 11(D) + 12(D) + 13(D)]				0.011194	
15	WEIGHTED COMPOSITE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh (lines 9 x 10 x 14)				19.47552	
16	BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu				2,144.57	
17	Base % Input to Sys kWh Mix				99.91	
18	Efficiency Factor, mmbtu/kwh				0.011194	
19	WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines 16 x 17 x 18)				23.98471	
20	COST LESS BASE (line(15 - 19))				(4.50919)	
21	Revenue Tax Req Multiplier				1.0975	
22	CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (20 x 21))				(4.94884)	
<u>DG ENERGY COMPONENT</u>						
23	COMPOSITE COST OF DG ENERGY, ¢/kWh				0.000	
24	% Input to System kWh Mix				0.00	
25	WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 23 x 24)				0.00000	
26	BASE DG ENERGY COMP COST				0.000	
27	Base % Input to System kWh Mix				0.00	
28	WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 26 x 27)				0.00000	
29	Cost Less Base (Line 25 - 28)				0.00000	
30	Loss Factor				1.095	
31	Revenue Tax Req Multiplier				1.0975	
32	DG FACTOR, ¢/kWh (Line 29 x 30 x 31)				0.00000	
SUMMARY OF						
TOTAL GENERATION FACTOR, ¢/kWh						
33	CNTRL STN + OTHER (line 22)				-4.94884	
34	DG (line 32)				0.00000	
35	TOTAL GENERATION FACTOR, ¢/kWh (lines 33 + 34)				-4.94884	

MAUI ELECTRIC COMPANY, LTD.
MOLOKAI DIVISION
ENERGY COST ADJUSTMENT (ECA) FILING

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

<u>Line</u>		
1	Effective Date	May 1, 2018
2	Supercedes Factors	April 1, 2018

<u>Line</u>	<u>PURCHASED ENERGY COMPONENT</u>	
	PURCHASED ENERGY PRICE, ¢/kWh	
36	FIT	21.800
37		0.000
38	Sch Q	0.000
	PURCHASED ENERGY KWH MIX, %	
39	FIT	100.00
40		0.00
41	Sch Q	0.000
42	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh (Lines (36 x 39) + (37 x 40) + (38 x 41))	21.800
43	% Input to System kWh Mix	0.02
44	WEIGHTED COMPOSITE PURCHASED ENERGY COST, ¢/kWh (lines (42 x 43))	0.00416
45	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh	21.800
46	Base % Input to Sys kWh Mix	0.09
47	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (lines (45 x 46))	0.01962
48	COST LESS BASE (lines (44 - 47))	(0.01546)
49	Loss Factor	1.095
50	Revenue Tax Req Multiplier	1.0975
51	PURCHASED ENERGY FACTOR, ¢/kWh (lines (48 x 49 x 50))	(0.01858)

<u>Line</u>	<u>SYSTEM COMPOSITE CALCULATIONS</u>	
52	GENERATION AND PURCHASED ENERGY FACTOR, ¢/kWh (lines (35 + 51))	(4.96742)
53	Adjustment, ¢/kWh	0.000
54	ECA Reconciliation Adjustment	(0.064)
55	ECA FACTOR, ¢/kWh (lines (52 + 53 + 54))	(5.031)

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

MONTH END FUEL OIL ESTIMATE

	<u>Barrels</u>	<u>MBTU</u>	<u>\$</u>
4/19/2018	9,290.33	53,233.61	920,183.62
Estimated Use	1,582.14	9,065.66	151,596.22
Estimated Received	-	-	-
Estimated Additional	-	-	-
Estimated End	<u>7,708.19</u>	<u>44,167.95</u>	<u>768,587.40</u>

Next Months Expense = \$ 99.7105 /bbl

FUEL OIL INVENTORY PRICE USED FOR FILING

<u>Type of Oil Burned</u>	<u>Price</u>	<u>Prices ¢/MBTU</u>
Diesel	\$ 99.7105 5.73 BTU/BBL	1740.15

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

Contract Prices effective April 1, 2018

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
ULTRA LOW SULFUR DIESEL		
Tax *	2.1447	37.43
Ocean Transportation	1.6542	28.87
Storage	4.8063	83.88
Wharfage	0.2900	5.06

* Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST tax, Environmental Response Tax, Customs Duty Fee, Federal Oil Spill Recovery Fee, 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.
Molokai Division
ECA Reconciliation Adjustment

May 2018

1. Amount to be refunded	(\$4,029)
2. Monthly amount (1/3 x Line 1)	(\$1,343)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$1,474)
5. Estimated Sales (May 2018)	2,308 mwh
6. Adjustment (Line 4 ÷ Line 5)	-0.064 ¢/kwh

**MAUI ELECTRIC COMPANY, LTD.
MOLOKAI DIVISION
2018 FUEL OIL ADJUSTMENT RECONCILIATION SUMMARY
(Thousand \$)**

<u>Line</u>	<u>Description</u>	Without Deadband 1st Quarter <u>YTD Total</u>	collection by <u>company*</u>	Basis for Recon With Deadband 1st Quarter <u>YTD Total</u>	collection by <u>company*</u>
Actual Costs					
1	Generation	\$1,254.6		\$1,254.6	
2	Distributed Generation	\$0.0		\$0.0	
3	Purch Power	<u>\$0.3</u>		<u>\$0.3</u>	
4	Total	\$1,254.9		\$1,254.9	
Fuel Filing Cost					
5	Generation	\$1,278.1		\$1,272.4	
6	Distributed Generation	\$0.0		\$0.0	
7	Purch Power	<u>\$0.3</u>		<u>\$0.3</u>	
8	Total	\$1,278.3		\$1,272.6	
Base Fuel Cost					
9	Generation	\$1,629.1		\$1,629.1	
10	Distributed Generation	\$0.0		\$0.0	
11	Purch Power	<u>\$0.3</u>		<u>\$0.3</u>	
12	Total	\$1,629.4		\$1,629.4	
13	FUEL - BASE COST (Line 8-12)	-\$351.0		-\$356.7	
14	ACTUAL FOA REVENUE LESS TAX	-\$360.2		-\$360.2	
15	FOA reconciliation adj for prior years	<u>-\$7.5</u>		<u>-\$7.5</u>	
16	ADJUSTED FOA LESS TAX	-\$352.7		-\$352.7	
17	FOA-(FUEL-BASE) (Line 16-13)	-\$1.7		\$4.0	
ADJUSTMENTS					
18	Current year FOA accrual reversal	\$0.0		\$0.0	
19	Other prior year FOA	\$0.0		\$0.0	
20	Other	<u>\$0.0</u>		<u>\$0.0</u>	
21	1st QUARTER FOA RECONCILIATION (Lines 17+18+19+20)	-\$1.7	Under	\$4.0	Over
22	2017 FOA Reconciliation Recognized in FOA Rates			<u>\$0.0</u>	
23	FOA Reconciliation to be Refunded May 2018 to July 2018 (Line 22- 21)			<u><u>-\$4.0</u></u>	To Be Refunded

* Over means an over-collection by the company.
Under means an under-collection by the company.

**MAUI ELECTRIC COMPANY, LTD.
MOLOKAI DIVISION
DEADBAND CALCULATION**

Determination of Efficiency Factor to use for Cost-Recovery Purposes
Period: January 1, 2018 through March 31, 2018

	<u>Notes</u>	<u>Jan 1 - Mar 31</u>
<u>Palaau Diesel</u>		
Palaau Diesel Efficiency Factor (TY2009), BTU/kWh	f	11,194
Palaau Diesel Deadband Definition, +/- BTU/kWh	d	50
Palaau Diesel Portion of Recorded Sales, MWh	a	6,786
Palaau Diesel Consumption (Recorded), MMBTU	b	74,608
Palaau Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	10,994
Lower limit of Palaau Diesel Deadband, BTU/kWh	e = f-d	11,144
Higher limit of Palaau Diesel Deadband, BTU/kWh	g = f+d	11,244
Palaau Diesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e, or g	11,144

**MAUI ELECTRIC COMPANY, LTD.
MOLOKAI DIVISION
GENERATION FUEL FILING COST AND GENERATION BASE FUEL COST, WITHOUT and WITH DEADBAND
2018**

	<u>Without Deadband</u> <u>Jan 1 - Mar 31</u>	<u>With Deadband - AS FILED</u> <u>Jan 1 - Mar 31</u>
<u>DIESEL FUEL FILING COST</u>		
Diesel Portion of Recorded Sales, MWH	6,786	6,786
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.011194	0.011144
Mmbtu adjusted for Sales Efficiency Factor	75,965	75,625
\$/mmbtu	<u>\$16.8247</u>	<u>\$16.8247</u>
TOTAL DIESEL \$000s TO BE RECOVERED	\$1,278.1	\$1,272.4
TOTAL GENERATION FUEL FILING COST, \$000s	\$1,278.1	\$1,272.4
TOTAL GENERATION BASE FUEL COST , \$000s YTD	\$1,629.1	\$1,629.1
TOTAL GENERATION FUEL FILING COST, \$000s YTD	\$1,278.1	\$1,272.4
TOTAL GENERATION BASE FUEL COST, \$000s YTD	\$1,629.1	\$1,629.1

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

<u>Month</u>	(1) <u>YTD FOA Reconciliation</u>	<u>Qtr</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</u>
December '17					(533)	(534)	528
January '18					(533)	(550)	(22)
February	10,400	(4)	-	10,400	(3,467)	(3,397)	6,981
March					(3,467)	(3,553)	3,428
April					(3,467)		
May	4,029	(4)	(33)	4,062	(1,343)		

NOTES:

- Col(1): Quarterly FOA reconciliation amounts. (Refer to Attachment 20)
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.
Molokai Division
Calculations of the Average Residential Customer Bill**

	Rate			Charge (\$) at 400 Kwh		
		04-01-18	05-01-18	04-01-18	05-01-18	Difference
Base Rates	effective date:	08/01/13	08/01/13			
Base Fuel/Energy Charge	¢/kWh	26.3468	26.3468	105.39	105.39	0.00
Non-fuel Fuel Energy Charge						
First 250 kWhr per month	¢/kWh	11.4278	11.4278	28.57	28.57	0.00
Next 500 kWhr per month	¢/kWh	14.0778	14.0778	21.12	21.12	0.00
Customer Charge	\$	8.50	8.50	8.50	8.50	0.00
Total Base Charges				163.58	163.58	0.00
IRP Refund	% on base	0.000	0.000	0.00	0.00	0.00
Revenue Balancing Rate Adjustment	¢/kWh	1.5654	1.5654	6.26	6.26	0.00
PBF Surcharge	¢/kWh	0.4244	0.4244	1.70	1.70	0.00
Renewable Energy Infrastructure Cost Recovery Provision	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
SolarSaver Adjustment	¢/kWh	-0.1278	0.0000	-0.51	0.00	0.51
Energy Cost Adjustment	¢/kWh	-5.975	-5.031	-23.90	-20.12	3.78
Green Infrastructure Fee	\$	1.34	1.34	1.34	1.34	0.00
Avg Residential Bill at 400 kwh				148.47	152.76	

Increase (Decrease -)	4.29
% Change	2.89%

	Rate			Charge (\$) at 500 Kwh		
		04-01-18	05-01-18	04-01-18	05-01-18	Difference
Base Rates	effective date:	08/01/13	08/01/13			
Base Fuel/Energy Charge	¢/kWh	26.3468	26.3468	131.73	131.73	0.00
Non-fuel Fuel Energy Charge						
First 250 kWhr per month	¢/kWh	11.4278	11.4278	28.57	28.57	0.00
Next 500 kWhr per month	¢/kWh	14.0778	14.0778	35.19	35.19	0.00
Customer Charge	\$	8.50	8.50	8.50	8.50	0.00
Total Base Charges				203.99	203.99	0.00
IRP Refund	% on base	0.000	0.000	0.00	0.00	0.00
Revenue Balancing Rate Adjustment	¢/kWh	1.5654	1.5654	7.83	7.83	0.00
PBF Surcharge	¢/kWh	0.4244	0.4244	2.12	2.12	0.00
Renewable Energy Infrastructure Cost Recovery Provision	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
SolarSaver Adjustment	¢/kWh	-0.1278	0.0000	-0.64	0.00	0.64
Energy Cost Adjustment	¢/kWh	-5.975	-5.031	-29.88	-25.16	4.72
Green Infrastructure Fee	\$	1.34	1.34	1.34	1.34	0.00
Avg Residential Bill at 500 kwh				184.76	190.12	

Increase (Decrease -)	5.36
% Change	2.90%

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

<u>EFFECTIVE DATE</u>	<u>FUEL FACTOR CENTS / KWH RESIDENTIAL & COMMERCIAL</u>	<u>RESIDENTIAL BILL (\$)</u>	
		<u>@ 400 KWH</u>	<u>@ 500 KWH</u>
January 1, 2016	-9.942	133.44	165.99
February 1, 2016	-11.270	128.13	159.35
March 1, 2016	-12.649	122.61	152.45
April 1, 2016	-13.391	118.92	147.82
May 1, 2016	-13.226	120.31	149.57
June 1, 2016	-13.376	118.95	147.87
July 1, 2016	-12.675	122.03	151.76
August 1, 2016	-9.906	133.11	165.61
September 1, 2016	-9.794	133.55	166.17
October 1, 2016	-11.131	128.21	159.48
November 1, 2016	-9.970	132.85	165.29
December 1, 2016	-9.244	135.75	168.92
January 1, 2017	-8.940	137.11	170.58
February 1, 2017	-8.792	137.70	171.32
March 1, 2017	-8.066	140.61	174.95
April 1, 2017	-8.432	138.59	172.43
May 1, 2017	-8.851	137.47	171.02
June 1, 2017	-8.516	139.44	173.49
July 1, 2017	-8.482	138.83	172.76
August 1, 2017	-9.670	134.08	166.82
September 1, 2017	-10.692	129.95	161.66
October 1, 2017	-9.093	136.35	169.65
November 1, 2017	-4.912	153.07	190.56
December 1, 2017	-5.591	150.36	187.16
January 1, 2018	-6.300	147.68	183.78
February 1, 2018	-6.275	147.78	183.90
March 1, 2018	-4.937	153.13	190.59
April 1, 2018	-5.975	148.47	184.76
May 1, 2018	-5.031	152.76	190.12

**MAUI ELECTRIC COMPANY, LTD. -- Molokai Division
RESIDENTIAL SURCHARGE DATA**

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
06/01/11	IRP RECOVERY REFUND	0.000 PERCENT ON BASE
08/01/13	FINAL RATE INCREASE (1.25%), DOCKET NO. 2011-0092 (2012 TEST YEAR)	
01/01/16 - 06/30/16	GREEN INFRASTRUCTURE FEE	1.30 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	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.5654 CENTS/KWH
07/01/17 - 12/31/17	GREEN INFRASTRUCTURE FEE	1.18 DOLLARS/MONTH
08/17/17	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0000 CENTS/KWH
07/01/17	RESID. PBF SURCHARGE ADJUSTMENT	0.4244 CENTS/KWH
01/01/18	GREEN INFRASTRUCTURE FEE	1.34 DOLLARS/MONTH
04/01/18 - 04/30/18	SOLARSAVER ADJUSTMENT	1.3400 CENTS/KWH
05/01/18	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH

~ Surcharges currently in effect are in bold.

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