



July 29, 2020

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

Dear Commissioners:

Subject: Maui Electric Energy Cost Recovery Factor for August 2020

Maui Electric Company, Limited's ("Maui Electric" or "Company") August 2020 Energy Cost Recovery factor for our Maui Division is 13.780 cents per kilowatt-hour ("kWh"), a decrease of 0.923 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$149.70, a decrease of \$5.07 compared to rates effective July 1, 2020. The decrease in the typical residential bill is due to the decrease in the Energy Cost Recovery factor (-\$4.61) and decrease in the residential DSM adjustment (-\$0.53), partially offset by the increase in the Purchase Power Adjustment (+\$0.07).

The Company's Maui Division fuel composite cost of generation, central station and other increased 41.900 cents per million BTU to 953.42 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy decreased 0.189 cents per kWh to 19.279 cents per kWh.

The Energy Cost Recovery factor for our Lāna'i Division for August 2020 is 17.755 cents per kWh, an increase of 1.420 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$140.41, an increase of \$5.68 compared to rates effective July 1, 2020. The increase in the typical residential bill is due to the increase in the Energy Cost Recovery factor.

The Company's Lāna'i Division fuel composite cost of generation, central station and other increased 106.68 cents per million BTU to 1,490.92 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 Recovery factor for our Moloka'i Division for August 2020 is 12.013 cents per kWh, an increase of 1.542 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$125.55, an increase of \$7.13 compared to rates effective July 1, 2020. The increase in the typical residential bill is due to the increase in the Energy Cost Recovery factor (+\$6.17) and increase in the Purchase Power Adjustment (+\$0.96).

The Honorable Chair and Members
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July 29, 2020
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The Company's Moloka'i Division fuel composite cost of generation, central station and other increased 156.95 cents per million BTU to 995.10 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 22.46 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 August 1, 2020.

Sincerely,

/s/ Sharon M. Suzuki
Sharon M. Suzuki
President
Maui County and Hawai'i Island Utilities

Attachments

cc: Division of Consumer Advocacy

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

ENERGY COST RECOVERY FACTOR

	EFFECTIVE DATES		<u>Change</u>
	<u>07/01/2020</u>	<u>08/01/2020</u>	
<u>COMPOSITE COSTS</u>			
Generation, Central Station & Other, ¢/mbtu	911.52	953.42	41.900
DG Energy, ¢/kWh	0.00	0.00	0.000
Purchased Energy, ¢/kWh	19.468	19.279	(0.189)
<u>Residential Schedule "R"</u>			
Energy Cost Recovery Factor, ¢/kWh	14.702	13.780	(0.923)
<u>Others - "G.P.F"</u>			
Energy Cost Recovery Factor, ¢/kWh	14.702	13.780	(0.923)
<u>Residential Customer with</u>			
500 KWH Consumption, \$/Bill	154.77	149.70	(5.07)
600 KWH Consumption, \$/Bill	184.77	178.68	(6.09)

Supersedes Sheet Effective:

July 1, 2020

**MAUI ELECTRIC COMPANY, LTD.
MAUI DIVISION
ENERGY COST RECOVERY (ECR) FILING**

ENERGY COST RECOVERY (ECR) FILING - August 1, 2020 (page 1 of 2)

<u>Line</u>		
1	Effective Date	August 1, 2020
2	Supercedes Factors of	July 1, 2020

GENERATION COMPONENT

CENTRAL STATION						DG ENERGY COMPONENT	
FUEL PRICES, ¢/mmbtu							
3	Industrial			739.28			
4	Diesel			1,000.49			
5	Other						
BTU MIX, %							
6	Industrial			18.02%	23	COMPOSITE COST OF DG	
7	Diesel			81.98%		ENERGY, ¢/kWh	0.000
8	Other			0.00%	24	% Input to System kWh Mix	0.00%
				100.00%			
9	COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu (Lines (3 x 6) + (4 x 7) + (5 x 8))			953.42	25	WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 23 x 24)	-
10	% Input to System kWh Mix			72.59%	26	BASE DG ENERGY COMP COST	0.000
EFFICIENCY FACTOR, mmbtu/kWh					27	Base % Input to System kWh Mix	0.00
	(A)	(B)	(C)	(D)	28	WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 26 x 27)	0.00000
			Percent of		29	Cost Less Base (Line 25 - 28)	0.00000
			Centrl Stn +		30	Loss Factor	1.057
	Fuel Type	Eff Factor	Other	Weighted	31	Revenue Tax Req Multiplier	1.0975
		mmbtu/kwh		Eff Factor	32	DG FACTOR, ¢/kWh (Line 29 x 30 x 31)	0.00000
11	Industrial	0.015786	11.71	0.001849			
12	Diesel	0.009938	88.29	0.008774			
13	Other	0.011072	0.00	-			
	(Lines 11, 12, 13): Col(B) x Col(C) = Col(D)						
14	Weighted Efficiency Factor, mmbtu/kWh [lines 11(D) + 12(D) + 13(D)]			0.010623			
15	WEIGHTED COMPOSITE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh (lines (9 x 10 x 14))			7.35205			
16	BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu			0.00			
17	Base % Input to Sys kWh Mix			0.00			
18	Efficiency Factor, mmbtu/kwh			0.011072			
19	WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (16 x 17 x 18))			-			
20	COST LESS BASE (line(15 - 19))			7.35205			
21	Revenue Tax Req Multiplier			1.0975			
22	CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (20 x 21))			8.06887			
						SUMMARY OF	
						TOTAL GENERATION FACTOR, ¢/kWh	
					33	CNTRL STN + OTHER (line 22)	8.06887
					34	DG (line 32)	-
					35	TOTAL GENERATION FACTOR, ¢/kWh (lines 33 + 34)	8.06887

**MAUI ELECTRIC COMPANY, LTD.
MAUI DIVISION
ENERGY COST RECOVERY (ECR) FILING**

ENERGY COST RECOVERY (ECR) FILING - August 1, 2020 (page 2 of 2)

<u>Line</u>		
1	Effective Date	August 1, 2020
2	Supercedes Factors of	July 1, 2020

Line	PURCHASED ENERGY COMPONENT	
	PURCHASED ENERGY PRICE - FOSSIL ¢/kWh	
	PURCHASED ENERGY PRICE - RENEWABLE, ¢/kWh	
36	Kaheawa Wind I - On Peak	13.891
37	- Off Peak	13.030
38	Kaheawa Wind II	26.069
39	Sempra Wind	22.530
40	Unused - On Peak	0.000
41	- Off Peak	0.000
42	South Maui RR	11.060
43	Ku'ia Solar	11.060
44	Unused	0.000
45	Unused	0.000
46	CBRE PV	16.500
47		
48	FIT	22.490
	PURCHASED ENERGY KWH MIX- FOSSIL, %	
48A	Subtotal Fossil %	0%
	PURCHASED ENERGY KWH MIX - RENEWABLE, %	
49	Kaheawa Wind I - On Peak	23.49%
50	- Off Peak	17.40%
51	Kaheawa Wind II	23.06%
52	Sempra Wind - On Peak	29.03%
53	Unused - On Peak	0.00%
54	- Off Peak	0.00%
55	South Maui RR	1.67%
56	Ku'ia Solar	1.62%
57	Unused	0.00%
58	Unused	0.00%
59	CBRE PV	0.10%
60		
61	FIT	3.63%
61A	Subtotal Renewable %	100.00%
61B	Total Purchased Energy %	100.00%
61C	Composite Cost of Purchased Energy, Fossil	N/A
61D	Composite Cost of Purchased Energy, Renewable	19.279
62	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh	19.279
	(Lines (36 x 49) + (37 x 50) + (38 x 51) + (39 x 52) + (40 x 53) + (41 x 54) + (42 x 55) + (43 x 56) + (44 x 57) + (45 x 58) + (46 x 59) + (48 x 61))	
63	% Input to System kWh Mix	27.41%
64	WEIGHTED COMPOSITE PURCHASED ENERGY COST, ¢/kWh (lines (62 x 63))	5.28437
65	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh	0.000
66	Base % Input to Sys kWh Mix	0.00
67	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (lines (65 x 66))	0.00000
68	COST LESS BASE (lines (64 - 67))	5.28437
69	Loss Factor	1.057
70	Revenue Tax Req Multiplier	1.0975
71	PURCHASED ENERGY FACTOR, ¢/kWh (lines (68 x 69 x 70))	6.13017

Line	Calculation of Monthly Fossil Fuel Cost Risk Sharing Component	
	Baseline IFO	
72	IFO \$, baseline month	\$1,709,027
73	IFO mmbtu, baseline	193,384
74	Baseline IFO, ¢/mmbtu	883.75
	Baseline Diesel	
75	Diesel \$, baseline month	\$7,688,936
76	Diesel mmbtu, baseline	503,889
77	Baseline Diesel, ¢/mmbtu	1,525.92
	Month IFO	
78	IFO mmbtu, budget	126,166
79	IFO Cost, ¢/mmbtu	739.28
80	IFO ECRC Fossil Cost	\$932,720
81	IFO Base ECRC Recovery Target	\$1,114,992
82	IFO differential	-\$182,271
	Month Diesel	
83	Diesel mmbtu, budget	574,049
84	Diesel Cost, ¢/mmbtu	1,000.49
85	Diesel ECRC Fossil Cost	\$5,743,306
86	Diesel Base ECRC Recovery Target	\$8,759,534
87	Diesel differential	-\$3,016,228
88	Total Fossil	-\$3,198,499
89	2% of above	-\$63,970
90	Total Monthly Fossil Fuel Cost Risk Sharing, Prior Months in Year	-\$147,630
91	Maximum Annual Cap (bi-directional)	\$570,000
92	Number of Days in year from implementation	366
93	Fossil Risk % Proration (based on 366 day year)	100.00%
94	Maximum Annual Cap (bi-directional) prorated	\$570,000
95	Applicable Monthly Fossil Fuel Cost Risk Sharing	-\$63,970
96	Total Monthly Fossil Fuel Cost Risk Sharing, Including This Month	-\$211,600
97	Fossil Cost Risk Sharing before taxes	-\$63,970
98	Revenue Tax Adjustment	1.097514
99	Fossil Cost Risk Sharing w/revenue tax	-\$70,208
100	Forecasted Month MWh Sales	85,185
101	Fossil Fuel Cost Risk Sharing Component, ¢/kWh	0.0824

Derivation of Non-Adjustable Component:		
102	Maalaea Biodiesel (\$000s)	\$511.3
103	Hana (\$000s)	\$19.2
104	Ignition Startup (\$000s)	\$37.6
	Total	\$568.1
	Final Settlement, MECO-602, p1 and MECO-603, p1	
105	Revenue Tax Adjustment	1.097514
106	Non-Adj Revenues, \$000	\$623.5
107	2018 TY Sales, MWh	1,017,968
	Final Tariffs submitted 4/17/2019, Docket No. 2017-0150, Exhibit 2, Att 1, p361	
108	Non-Adj Revenues, ¢/kWh	0.06125
109	Generation and Purchased Energy Factors	14.19904
110	ECR Reconciliation Adjustment	(0.563)
111	Non-Adjustable Component	0.0612
112	Fossil Fuel Cost Risk Sharing Component	0.0824
113	ECR FACTOR, ¢/kWh (lines (109 + 110 + 111 + 112))	13.780

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

Fuel Oil Inventory Prices for August 2020

<u>TYPE OF OIL BURNED</u>	<u>PRICES \$/BBL</u>	<u>CONVERSION FACTORS</u>		<u>PRICES ¢/MBTU</u>
INDUSTRIAL	46.5748	6.30	MBTU/BBL	739.28
DIESEL/ULSD	58.5679	5.85	MBTU/BBL	1,000.49

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

Month End Fuel Oil Estimate

<u>Kahului</u>	<u>Barrels</u>	<u>MBTU</u>	<u>(\$)</u>
7/21/2020	138,982.76	875,591.39	6,427,835.76
Estimated Use	8,737.87	55,048.57	399,453.68
Estimated Received	0.00	0.00	37,746.23
Estimated Additional	0.00	0.00	0.00
Estimated End	<u>130,244.89</u>	<u>820,542.82</u>	<u>6,066,128.31</u>

Next month's expense (\$/bbl) = \$ 46.5748

<u>Maalaea</u>	<u>Barrels</u>	<u>MBTU</u>	<u>(\$)</u>
7/21/2020	101,032.01	591,434.66	5,746,270.14
Estimated Use	22,808.17	133,517.50	1,266,380.22
Estimated Received	44,000.00	257,573.08	2,678,509.40
Estimated Additional	0.00	0.00	0.00
Estimated End	<u>122,223.84</u>	<u>715,490.24</u>	<u>7,158,399.32</u>

Next month's expense (\$/bbl) = \$ 58.5679

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

Contract Prices effective July 1, 2020

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
INDUSTRIAL		
Tax *	3.0050	47.70
Ocean Transportation	1.7277	27.42
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.4000	6.35
DIESEL		
Tax *	3.7101	63.32
Ocean Transportation	1.7277	29.48
Land Transportation	0.9694	16.54
Storage	2.9635	50.57
Wharfage	0.4000	6.83

* Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST tax, Environmental Response Tax, Customs Duty Fee, and Fed Oil Spill Recovery Fee

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.
MAUI DIVISION**

PURCHASED POWER PRICE CALCULATIONS

KAHEAWA WIND POWER ENERGY RATE:

Kaheawa Wind - On Peak, ¢/kWh	13.891
- Off Peak, ¢/kWh	13.030

Kaheawa Wind Energy Rate Calculations:

Percent of Energy Payment Rate:

Fixed energy payment rate	70%
Flat payment rate	<u>30%</u>
	<u>100%</u>

Fixed Energy Payment Rate (Table D-1) for 2020:

On-peak, ¢/kwh	10.415
Off-peak, ¢/kwh	9.186

Flat Payment Rate Per Docket No. 2011-0192 D&O 30331:

On-peak, ¢/kwh	22.000
Off-peak, ¢/kwh	22.000

On-Peak Rate = $10.4150 \text{ ¢/kwh} \times 0.7 + 22.000 \text{ ¢/kwh} \times 0.3 = 13.891 \text{ ¢/kwh}$

Off-Peak Rate = $9.186 \text{ ¢/kwh} \times 0.7 + 22.000 \text{ ¢/kwh} \times 0.3 = 13.03 \text{ ¢/kwh}$

MAUI ELECTRIC COMPANY, LTD.
Maui Division
ECR Reconciliation Adjustment
August 2020

1. Amount to be Refunded	(\$1,311,800)
2. Monthly amount (1 / 3 X Line 1)	(\$437,267)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$479,907)
5. Estimated Sales (August 2020)	85,185 mwh
6. Adjustment (Line 4 ÷ Line 5)	(0.563) ¢/kwh

MAUI ELECTRIC COMPANY, LTD.
MAUI DIVISION
2020 FUEL OIL ADJUSTMENT RECONCILIATION SUMMARY
(Thousand \$)

<u>Line</u>	<u>W/O Deadband 2nd Quarter YTD Total</u>	<u>collection by company*</u>	<u>Basis for Recon With Deadband 2nd Quarter YTD Total</u>	<u>collection by company*</u>
ACTUAL COSTS:				
1	Generation		\$43,749.2	\$43,749.2
2	Distributed Generation		\$18.8	\$18.8
3	Purch Power		<u>\$24,326.9</u>	<u>\$24,326.9</u>
4	TOTAL		\$68,094.9	\$68,094.9
FUEL FILING COST				
5	Generation		\$43,497.6	\$43,618.4
6	Distributed Generation		\$0.0	\$0.0
7	Purch Power		<u>\$24,326.9</u>	<u>\$24,326.9</u>
8	TOTAL		\$67,824.5	\$67,945.3
BASE FUEL COST				
9	Generation		\$0.0	\$0.0
10	Distributed Generation		\$0.0	\$0.0
11	Purch Power		<u>\$0.0</u>	<u>\$0.0</u>
12	TOTAL		\$0.0	\$0.0
13	FUEL-BASE COST (Line 8-12)		\$67,824.5	\$67,945.3
14	ACTUAL FOA LESS TAX		\$67,822.8	\$67,822.8
15	FOA reconciliation adj for prior year		-\$1,924.7	-\$1,924.7
15A	Less: Non-Adjustable Component Revenues less tax		<u>\$242.8</u>	<u>\$242.8</u>
16	ADJUSTED FOA LESS TAX		\$69,504.7	\$69,504.7
17	FOA-(FUEL-BASE) (Line 16-13)		\$1,680.2 Over	\$1,559.4 Over
ADJUSTMENTS				
18	Current year FOA accrual reversal		\$369.8	\$369.8
19	Other prior year FOA		\$0.0	\$0.0
20	Other		<u>\$0.0</u>	<u>\$0.0</u>
21	2nd QUARTER YTD FOA RECONCILIATION (Lines 17+18+19+20)		\$2,050.0 Over	\$1,929.2 Over
21A	Fossil Fuel YTD Cost Risk Sharing Adjustment		<u>-\$62.6</u>	<u>-\$62.6</u>
21B	YTD Quarterly FOA Recon w/Fossil Risk Adj (Line 21 + Line 21A)		\$1,987.4	\$1,866.6
22	1st Quarter FOA Reconciliation YTD			<u>\$554.8</u> Over
23	FOA Reconciliation to be Refunded August 2020 to October 2020 (Line 22- 21B)			<u><u>-\$1,311.8</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.
MAUI DIVISION**

Determination of Efficiency Factor to use for Cost-Recovery Purposes

Period: January 1, 2020 through June 30, 2020

	<u>Notes</u>	<u>YTD</u>
<u>Industrial Fuel Oil</u>		
Industrial Fuel Oil Efficiency Factor, BTU/kWh	f	15,786
Industrial Fuel Oil Deadband Definition, - BTU/kWh	d	100
Industrial Fuel Oil Portion of Recorded Sales, MWh	a	61,628
Industrial Fuel Oil Consumption (Recorded), MMBTU	b	999,698
Industrial Fuel Oil Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	16,221
Lower limit of Industrial Fuel Oil Deadband, BTU/kWh	e = f-d	15,686
Higher limit of Industrial Fuel Oil Deadband, BTU/kWh	g = f+d	15,886
Industrial Fuel Oil Efficiency Factor for cost-recovery, BTU/kWh	h = c, e, or g	15,886
<u>Diesel</u>		
Diesel Efficiency Factor, BTU/kWh	f	9,938
Diesel Deadband Definition, - BTU/kWh	d	100
Diesel Portion of Recorded Sales, MWh	a	251,257
Diesel Consumption (Recorded), MMBTU	b	2,501,683
Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	9,957
Lower limit of Diesel Deadband, BTU/kWh	e = f-d	9,838
Higher limit of Diesel Deadband, BTU/kWh	g = f+d	10,038
Diesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e, or g	9,957

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

2020

	Without Deadband	With Deadband AS FILED
	<u>Jan 1 - Jun 30</u>	<u>Jan 1 - Jun 30</u>
<u>INDUSTRIAL</u>		
Industrial Portion of Recorded Sales , MWH	61,628	61,628
Industrial Sales Efficiency Factor (mmbtu/kwh)	0.015786	0.015886
Mmbtu adjusted for Sales Efficiency Factor	972,865	979,027
\$/mmbtu	<u>\$8.7480</u>	<u>\$8.7480</u>
TOTAL Industrial \$000s TO BE RECOVERED	\$8,510.6	\$8,564.5
<u>DIESEL FUEL FILING COST</u>		
Diesel Portion of Recorded Sales, MWH	251,257	251,257
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.009938	0.009957
Mmbtu adjusted for Sales Efficiency Factor	2,496,994	2,501,768
\$/mmbtu	<u>\$14.0116</u>	<u>\$14.0116</u>
TOTAL DIESEL \$000s TO BE RECOVERED	\$34,987.0	\$35,053.9
TOTAL GENERATION FUEL FILING COST, \$000s	\$43,497.6	\$43,618.4
TOTAL GENERATION BASE FUEL COST , \$000s	\$0.0	\$0.0
TOTAL GENERATION FUEL FILING COST, \$000s YTD	\$43,497.6	\$43,618.4
TOTAL GENERATION BASE FUEL COST, \$000s YTD	\$0.0	\$0.0

Fossil Fuel Cost Risk Sharing Mechanism and Non-Adjustable Component, June 2020, Maui

		Jan-20, Baseline	YTD Subject to Fossil Risk
A	IFO Fossil Fuel Cost Risk Sharing		
	MMBtu	193383.6849	999,698
B	\$ cost, actuals	\$1,709,027	8,739,848
C = B / A (Baseline Column)	Jan 2020 baseline \$/mmbtu	8.837492	8.837492
D	IFO Gen kWh		64,923,283
E	Total kWh, Gen, Purch Pwr, DG		457,715,998
F	Sales kWh		435,102,262
G = (D / E) x F	IFO kWh-sales		61,715,709
H	Target Heat Rate		15,786
I1	Upper limit w/deadband		15,886
I2	Lower limit w/deadband		15,686
I3	Calculated Heat Rate (YTD subject to fossil risk, before deadband)		16,221
I	Recovery Heat Rate (YTD subject to fossil risk, after deadband)		15,886
J = B / A ytd	Actual Cost \$/MMBtu		8.7424861
K = C x H x G / 1,000,000	Base Cost Recovery w/Target Heat Rate		\$8,609,875
L = I x J x G / 1,000,000	Fuel Filing Cost Recovery		\$8,571,271
M = 2% x (L-K)	IFO Cost Risk Sharing		-\$772
	Diesel Fossil Fuel Cost Risk Sharing		
AA	MMBtu	503,889	2,501,683
BB	\$ cost, actuals	\$7,688,936	\$35,009,333
CC = BB / AA (Baseline Column)	Jan 2020 baseline \$/mmbtu	15.2592017	15.2592017
DD	Diesel Gen kWh		264,383,920
EE	Total kWh, Gen, Purch Pwr, DG		457,715,998
FF	Sales kWh		435,102,262
GG = (DD / EE) x FF	Diesel kWh-sales		251,321,872
HH	Target Heat Rate		9,938
II1	Upper limit w/deadband		10,038
II2	Lower limit w/deadband		9,838
II3	Calculated Heat Rate (YTD subject to fossil risk, before deadband)		9,957
II	Recovery Heat Rate (YTD subject to fossil risk, after deadband)		9,957
JJ = BB/AA (YTD Column)	Actual Cost \$/MMBtu		13.9943144
KK = CC x HH x GG / 1,000,000	Base Cost Recovery w/Target Heat Rate		\$38,111,943
LL = II x JJ x GG / 1,000,000	Fuel Filing Cost Recovery		\$35,019,539
MM = 2% x (LL-KK)	Diesel Cost Risk Sharing		-\$61,848
NN	Annual Cap (non-prorated)		\$570,000
OO	# Days		366
PP	Annual Cap (pro-rated)		\$570,000
QQ = M + MM, up to cap	Total Fossil Fuel Cost Risk Sharing Adjustment, subject to ±\$570000 cap		-\$62,620
	Non-Adjustable Component		
AAA = F	YTD kWh under ECRC		435,102,262
BBB	Non-Adjustable Component, cents/kWh		0.06125
CCC	Non-Adjustable Component Revenues w/tax		\$266,500
DDD	Non-Adjustable Component Revenues less tax		\$242,822

MAUI ELECTRIC COMPANY, LTD.
MAUI DIVISION
2020 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 '18					(327,700)	(323,073)	279,528
January '19					(327,700)	(345,025)	(65,497)
February	1,886,900	(4)	(48,178)	1,935,078	(628,967)	(587,149)	1,282,432
March					(628,967)	(591,146)	691,286
April					(628,967)	(657,008)	34,278
May	1,531,500	(1)	62,314	1,469,186	(510,500)	(538,146)	965,318
June					(510,500)	(580,323)	384,995
July					(510,500)	(585,791)	(200,796)
August	1,306,700	(2)	(125,510)	1,432,210	(435,567)	(484,194)	747,220
September					(435,567)	(495,890)	251,330
October					(435,567)	(480,697)	(229,367)
November	2,679,900	(3)	(184,241)	2,864,141	(893,300)	(987,633)	1,647,141
December '19					(893,300)	(950,248)	696,893
January '20					(893,300)	(961,281)	(264,388)
February	1,031,400	(4)	(196,411)	1,227,811	(343,800)	(327,089)	636,334
March					(343,800)	(344,340)	291,994
April					(343,800)	(255,361)	36,633
May	554,800	(1)	(51,810)	606,610	(184,933)	(181,950)	461,293
June					(184,933)	(182,971)	278,322
July					(184,933)		
August	1,311,800	(1)	93,384	1,218,416	(437,267)		

NOTES:

- Col(1): Quarterly FOA reconciliation amounts. (Refer to Attachment 5)
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.
Maui Division
Calculations of the Average Residential Customer Bill**

	Rate		Charge (\$) at 500 Kwh		
	07/01/20	08/01/20	07/01/20	08/01/20	Difference
Base Rates	effective date: 09/01/19	09/01/19			
Base Fuel/Energy Charge	¢/kWh	0.0000	0.00	0.00	0.00
Non-fuel Energy Charge					
First 350 kWh per month	¢/kWh	12.1240	42.43	42.43	0.00
Next 850 kWh per month	¢/kWh	14.3840	21.58	21.58	0.00
Customer Charge	\$	11.50	11.50	11.50	0.00
Total Base Charges			75.51	75.51	0.00
RBA Rate Adjustment	¢/kWh	0.3383	1.69	1.69	0.00
PBF Surcharge	¢/kWh	0.5882	2.94	2.94	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.00	0.00	0.00
Refund of 2018 Interim	% on Base	0.00	0.00	0.00	0.00
Purchased Power Adjustment	¢/kWh	-0.0091	-0.05	0.02	0.07
Energy Cost Recovery	¢/kWh	14.702	73.51	68.90	-4.61
DSM Adjustment	¢/kWh	-0.0048	-0.02	-0.55	-0.53
Green Infrastructure Fee	\$	1.19	1.19	1.19	0.00
Avg Residential Bill at 500 kwh			154.77	149.70	
			Increase (Decrease -)		-5.07
			% Change		-3.28%

	Rate		Charge (\$) at 600 Kwh		
	07/01/20	08/01/20	07/01/20	08/01/20	Difference
Base Rates	effective date: 09/01/19	09/01/19			
Base Fuel/Energy Charge	¢/kWh	0.0000	0.00	0.00	0.00
Non-fuel Energy Charge					
First 350 kWh per month	¢/kWh	12.1240	42.43	42.43	0.00
Next 850 kWh per month	¢/kWh	14.3840	35.96	35.96	0.00
Customer Charge	\$	11.50	11.50	11.50	0.00
Total Base Charges			89.89	89.89	0.00
RBA Rate Adjustment	¢/kWh	0.3383	2.03	2.03	0.00
PBF Surcharge	¢/kWh	0.5882	3.53	3.53	0.00
Renewable Energy Infrastructure Cost					
Recovery Provision	¢/kWh	0.0000	0.00	0.00	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.00	0.00	0.00
Refund of 2018 Interim	% on Base	0.00	0.00	0.00	0.00
Purchased Power Adjustment	¢/kWh	-0.0091	-0.05	0.02	0.07
Energy Cost Recovery	¢/kWh	14.702	88.21	82.68	-5.53
DSM Adjustment	¢/kWh	-0.0048	-0.03	-0.66	-0.63
Green Infrastructure Fee	\$	1.19	1.19	1.19	0.00
Avg Residential Bill at 600 kwh			184.77	178.68	
			Increase (Decrease -)		-6.09
			% Change		-3.30%

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

<u>EFFECTIVE DATE</u>	FUEL FACTOR CENTS / KWH <u>RESIDENTIAL & COMMERCIAL</u>	<u>RESIDENTIAL BILL (\$)</u> <u>@ 500 KWH</u>	<u>@ 600 KWH</u>
January 1, 2018	-6.115	154.28	184.75
February 1, 2018	-5.747	156.16	187.00
March 1, 2018	-4.402	162.88	195.07
April 1, 2018	-4.914	159.68	191.23
May 1, 2018	-4.510	162.34	194.42
June 1, 2018	-2.402	174.53	209.05
July 1, 2018	-1.259	180.32	216.01
August 1, 2018	-3.848	167.07	200.11
September 1, 2018	-3.445	174.06	208.51
October 1, 2018	-3.282	174.90	209.51
November 1, 2018	-2.358	179.87	215.47
December 1, 2018	-2.401	179.65	215.21
January 1, 2019	-3.405	174.77	209.33
February 1, 2019	-5.987	161.69	193.64
March 1, 2019	-5.839	162.44	194.54
April 1, 2019	-5.441	163.99	196.39
May 1, 2019	-4.041	171.40	205.29
June 1, 2019	3.899	179.76	214.71
July 1, 2019	3.059	178.60	213.35
August 1, 2019	2.938	178.02	212.67
September 1, 2019	18.068	173.77	207.57
October 1, 2019	17.098	168.93	201.76
November 1, 2019	17.061	168.70	201.48
December 1, 2019	16.191	164.37	196.28
January 1, 2020	16.751	168.57	201.30
February 1, 2020	17.482	172.82	206.40
March 1, 2020	17.800	174.41	208.31
April 1, 2020	17.503	172.62	206.17
May 1, 2020	16.260	166.06	198.28
June 1, 2020	15.145	157.82	188.40
July 1, 2020	14.702	154.77	184.77
August 1, 2020	13.780	149.70	178.68

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

<u>EFFECTIVE DATE</u>	<u>DESCRIPTION OF SURCHARGE</u>	<u>RATE</u>
06/01/11	IRP RECOVERY REFUND	0.000 PERCENT ON BASE
08/17/17	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0000 CENTS/KWH
01/01/18 - 01/31/18	PURCHASED POWER ADJUSTMENT	-0.0060 CENTS/KWH
01/01/18 - 06/30/18	GREEN INFRASTRUCTURE FEE	1.3400 DOLLARS/MONTH
02/01/18 - 04/30/18	PURCHASED POWER ADJUSTMENT	0.0003 CENTS/KWH
04/01/18 - 04/30/18	SOLARSAVER ADJUSTMENT	-0.1278 CENTS/KWH
05/01/18 - 03/31/19	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
05/01/18 - 06/30/18	PURCHASED POWER ADJUSTMENT	0.0004 CENTS/KWH
06/01/18 - 08/22/18	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.8954 CENTS/KWH
07/01/18 - 07/31/18	PURCHASED POWER ADJUSTMENT	0.0003 CENTS/KWH
07/01/18 - 06/30/19	RESID. PBF SURCHARGE ADJUSTMENT	0.4658 CENTS/KWH
07/01/18 - 12/31/18	GREEN INFRASTRUCTURE FEE	1.2100 DOLLARS/MONTH
08/01/18 - 08/31/18	PURCHASED POWER ADJUSTMENT	-0.0618 CENTS/KWH
09/01/18 - 09/30/18	PURCHASED POWER ADJUSTMENT	-0.0635 CENTS/KWH
08/23/18 - 05/31/19	INTERIM RATE INCREASE 2018 TEST YEAR	7.42 PERCENT ON BASE
08/23/18 - 05/31/19	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.3183 CENTS/KWH
10/01/18 - 10/31/18	PURCHASED POWER ADJUSTMENT	-0.0602 CENTS/KWH
11/01/18 - 11/30/19	PURCHASED POWER ADJUSTMENT	0.0108 CENTS/KWH
12/01/18 - 12/31/18	PURCHASED POWER ADJUSTMENT	0.0099 CENTS/KWH
01/01/19 - 01/31/19	PURCHASED POWER ADJUSTMENT	0.0094 CENTS/KWH
01/01/19 - 06/30/19	GREEN INFRASTRUCTURE FEE	1.35 DOLLARS/MONTH
02/01/19 - 02/28/19	PURCHASED POWER ADJUSTMENT	-0.0241 CENTS/KWH
03/01/19 - 03/31/19	PURCHASED POWER ADJUSTMENT	-0.0224 CENTS/KWH
04/01/19 - 04/30/19	PURCHASED POWER ADJUSTMENT	-0.0244 CENTS/KWH
04/01/19 - 04/30/19	SOLARSAVER ADJUSTMENT	-0.0855 CENTS/KWH
05/01/19 - 05/31/19	PURCHASED POWER ADJUSTMENT	-0.0274 CENTS/KWH
5/1/2019 - 03/31/20	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
06/01/19 - 06/30/19	PURCHASED POWER ADJUSTMENT	-0.0067 CENTS/KWH
06/01/19	FINAL RATE INCREASE (3.74%), DOCKET NO. 2017-0150 (2018 TEST YEAR)	
06/01/19 - 06/30/19	REFUND OF INTERIM RATE INCREASE 2018 TEST YEAR	-2.03 PERCENT ON BASE
06/01/19 - 05/31/20	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.8716 CENTS/KWH
07/01/19 - 07/31/19	PURCHASED POWER ADJUSTMENT	-0.0045 CENTS/KWH
07/01/19 - 12/31/19	RESID. PBF SURCHARGE ADJUSTMENT	0.4775 CENTS/KWH
07/01/19 - 12/31/19	GREEN INFRASTRUCTURE FEE	1.17 DOLLARS/MONTH
08/01/19 - 08/31/19	PURCHASED POWER ADJUSTMENT	0.0023 CENTS/KWH
09/01/19 - 09/30/19	PURCHASED POWER ADJUSTMENT	0.0005 CENTS/KWH
10/01/19 - 10/31/19	PURCHASED POWER ADJUSTMENT	0.0023 CENTS/KWH
11/01/19 - 11/30/19	PURCHASED POWER ADJUSTMENT	-0.0063 CENTS/KWH
12/01/19 - 12/31/19	PURCHASED POWER ADJUSTMENT	-0.0047 CENTS/KWH
01/01/20 - 01/31/20	PURCHASED POWER ADJUSTMENT	-0.0069 CENTS/KWH
01/01/20 - 06/30/20	RESID. PBF SURCHARGE ADJUSTMENT	0.7437 CENTS/KWH
01/01/20 - 06/30/20	GREEN INFRASTRUCTURE FEE	1.25 DOLLARS/MONTH
02/01/20 - 02/29/20	PURCHASED POWER ADJUSTMENT	-0.0126 CENTS/KWH
02/01/20 - 04/30/20	RESID. DSM ADJUSTMENT	0.1268 CENTS/KWH
03/01/20 - 03/31/20	PURCHASED POWER ADJUSTMENT	-0.0127 CENTS/KWH
04/01/20 - 04/30/20	PURCHASED POWER ADJUSTMENT	-0.0138 CENTS/KWH
04/01/20 - 04/30/20	SOLARSAVER ADJUSTMENT	-0.0592 CENTS/KWH
05/01/20	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
05/01/20 - 05/31/20	PURCHASED POWER ADJUSTMENT	-0.0128 CENTS/KWH
05/01/20 - 07/31/20	RESID. DSM ADJUSTMENT	-0.0048 CENTS/KWH
06/01/20 - 06/30/20	PURCHASED POWER ADJUSTMENT	-0.0124 CENTS/KWH
06/01/20	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.3383 CENTS/KWH
07/01/20 - 07/31/20	PURCHASED POWER ADJUSTMENT	-0.0091 CENTS/KWH
07/01/20	RESID. PBF SURCHARGE ADJUSTMENT	0.5882 CENTS/KWH
07/01/20	GREEN INFRASTRUCTURE FEE	1.19 DOLLARS/MONTH
08/01/20	RESID. DSM ADJUSTMENT	-0.1104 CENTS/KWH
08/01/20	PURCHASED POWER ADJUSTMENT	0.0033 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.

**Maui Electric Company, Ltd. - Maui Division
Residential Bill at 500 kWh/Month Consumption**

