## 2016-08-29 MECO ECAC - September 2016

From:Hawaii.PUC@hawaii.govSent:Monday, August 29, 2016 12:39 PMTo:Haack, LyndonSubject:Hawaii PUC eFiling Confirmation of Filing

Your eFile document has been filed with the Hawaii Public Utilities commision on 2016 Aug 29 PM 12:36. The mere fact of filing shall not waive any failure to comply with Hawaii Administrative Rules Chapter 6-61, Rules of Practice and Procedure Before the Public Utilities Commission, or any other application requirements. Your confirmation number is LYND16123646134. If you have received this email in error please notify the Hawaii Public Utilities Commission by phone at 808 586-2020 or email at hawaii.puc@hawaii.gov.



SHARON M. SUZUKI President

August 29, 2016

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 September 2016

Maui Electric Company, Limited's ("Maui Electric" or "Company") September 2016 energy cost adjustment factor for our Maui Division is -7.866 cents per kilowatt-hour ("kWh"), a decrease of 0.893 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$145.42, a decrease of \$4.47 compared to rates effective August 1, 2016.

The Company's Maui Division fuel composite cost of generation, central station and other decreased 67.45 cents per million BTU to 1,120.95 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy increased 0.522 cents per kWh to 19.374 cents per kWh.

The energy cost adjustment factor for our Lāna'i Division for September 2016 is -12.634 cents per kWh, a decrease of 0.433 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$136.43, a decrease of \$1.74 compared to rates effective August 1, 2016.

The Company's Lāna'i Division fuel composite cost of generation, central station and other decreased 39.58 cents per million BTU to 1,548.64 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 September 2016 is -9.794 cents per kWh, an increase of 0.112 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$133.55, an increase of \$0.44 compared to rates effective August 1, 2016.

The Company's Moloka'i Division fuel composite cost of generation, central station and other increased 9.15 cents per million BTU to 1,330.94 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 Honorable Chair and Members of the Hawai'i Public Utilities Commission August 29, 2016 Page 2

The attached sheets set forth the fuel adjustment in cents per kWh for each rate schedule that is applicable for pro rata use beginning September 1, 2016.

Sincerely,

/s/ Sharon M. Suzuki

Sharon M. Suzuki President

Attachments

cc: Division of Consumer Advocacy

# **ENERGY COST ADJUSTMENT FACTOR**

	EFFECTIVE DATES		
	<u>08-01-16</u>	<u>09-01-16</u>	<u>Change</u>
<u>COMPOSITE COSTS</u> Generation, Central Station & Other, ¢/mbtu	1,588.22	1,548.64	(39.58)
DG Energy, ¢/kWh Purchased Energy, ¢/kWh	0.00 27.00	0.00 27.00	0.00 0.00
Residential Schedule "R"			
Energy Cost Adjustment, ¢/kWh	(12.201)	(12.634)	(0.433)
Others - "G,P,F"			
Energy Cost Adjustment, ¢/kWh	(12.201)	(12.634)	(0.433)
Residential Customer with			
400 KWH Consumption, \$/Bill	138.17	136.43	(1.74)
500 KWH Consumption, \$/Bill	171.84	169.68	(2.16)

Supersedes Sheet Effective:	August 1, 2016
Superseues Sheet Ellective.	August 1, 2010

#### ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - September 1, 2016 (page 1 of 2)

Line

- September 1, 2016 August 1, 2016 1 Effective Date
- 2 Supercedes Factors of

#### **GENERATION COMPONENT**

FUEL PRICES, g/mmbtu3Industrial0.004Diesel - Miki Basin1,548.645Diesel - Manele Bay0.006Other0.00%7Industrial0.00%9Diesel - Manele Bay <sup>1</sup> 0.00%10Other0.00%10Other0.00%10Other0.00%11COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER g/mmbtu1,548.64 (Lines (3 x7) + (4 x 8) + (5 x 9) + (6 x 10))12% Input to System kWh Mix91.55%28BASE DG ENERGY COMP COST0.00012% Input to System kWh Mix91.55%28EFFICIENCY FACTOR, mmbtu/kWh91.55%28EFFICIENCY FACTOR, mmbtu/kWh2813Industrial0.0000014Diesel0.01115115Other0.01115114Diesel0.01115115Other0.0000016Weighted Efficiency Factor, mmbtu/kWh (lines 13(D) + 14(D) + 15(D)]0.01115117WEIGHTED DASE CENTRAL STATION + OTHER GEN COST, g/kWh (lines 13(D) + 14(D) + 15(D)]0.01115116Base % Input to System Rubul & 80.65%2021WEIGHTED DASE CENTRAL STATION + OTHER GEN COST, g/kWh (lines (13 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))10.633623Revenue Tax Reg Multiplier 1.0653610.65%24COST, g/kWh (line (22 x 23))-11.6922825COST LESS BASE (line(17 - 2		CENTRAL STATION				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		FUEL PRICES, ¢/mmbtu				
5         Diesel - Manele Bay         0.00           6         Other         0.00           8         Diesel - Miki Basin         100.00%           9         Diesel - Manele Bay'         0.00%           10         Other         0.00%           11         COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢mmbtu         1.548.64           (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))         12 % Input to System kWh Mix         91.55%           28         BASE DG ENERGY COMP COST         0.0000           (A)         (B)         (C)         (D)           Percent of         Eff Factor         Centr Stn + Weighted           13         Industriat         0.00000         0.00         0.00000           14         Diesel         0.011151         10.00         0.00000           15         Other         0.011151         0.	3	Industrial	0.00			
6         Other         0.00           BTU MIX, %         0.00%           7         Industrial         0.00%           8         Diesel - Maneie Bay'         0.00%           10         Other         0.00%           11         COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu         548.64           (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))         12 % Input to System kWh Mix         91.55%           28         BASE DG ENERGY COMP COST         0.000           29         Base % Input to System kWh Mix         0.00%           31         Industrial         0.00000         0.000000           12         % Input to System kWh Mix         0.00000           13         Industrial         0.000000         0.000000           14         Diesel         0.011151         0.00         0.000000           12         Dither         0.011151         0.00         0.00000           14         Diesel         0.011151         0.00         0.000000	4	Diesel - Miki Basin	1,548.64			
BTU MIX, %Disel - Mixi Basin $0.00\%$ Disel - Mixi Basin $0.00\%$ $2\%$ Input to System kWh Mix $0.00\%$ $2\%$ Input to System kWh Mix $0.00000$ $0.00000$ $0.00000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ $0.000000$ <th co<="" td=""><td>5</td><td>Diesel - Manele Bay</td><td>0.00</td><td></td><td></td></th>	<td>5</td> <td>Diesel - Manele Bay</td> <td>0.00</td> <td></td> <td></td>	5	Diesel - Manele Bay	0.00		
7       Industrial       0.00%       25 COMPOSITE COST OF DG         8       Diesel - Miki Basin       100.00%       ENERGY, ¢/kWh       0.000         9       Diesel - Manele Bay <sup>1</sup> 0.00%       26 % Input to System kWh Mix       0.00%         10       Other       0.00%       26 % Input to System kWh Mix       0.00%         11       COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu       1,548.64       27 WEIGHTED COMPOSITE DG ENERGY         12       % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12       % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12       % Input to System kWh Mix       90.00000       29 Base % Input to System kWh Mix       0.00%         13       Industrial       0.000000       0.000000       31 Cost Less Base (Line 27 - 30)       0.000000         14       Diesel       0.011151       0.00       0.0011151       31 Rovenue Tax Req Multiplier       1.0975         15       Other       0.0011151       0.0011151       0.011151       1.0875         16       Weighted Efficiency Factor, mmbtu/kWh (lines (11 x 12 x 16))       0.011151       31 Rovenue Tax Req Multiplier       1.0975         19       Base C	6	Other	0.00			
7       Industrial       0.00%       25 COMPOSITE COST OF DG         8       Diesel - Miki Basin       100.00%       ENERGY, ¢/kWh       0.000         9       Diesel - Manele Bay <sup>1</sup> 0.00%       26 % Input to System kWh Mix       0.00%         10       Other       0.00%       26 % Input to System kWh Mix       0.00%         11       COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu       1,548.64       27 WEIGHTED COMPOSITE DG ENERGY         12       % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12       % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12       % Input to System kWh Mix       90.00000       29 Base % Input to System kWh Mix       0.00%         13       Industrial       0.000000       0.000000       31 Cost Less Base (Line 27 - 30)       0.000000         14       Diesel       0.011151       0.00       0.0011151       31 Rovenue Tax Req Multiplier       1.0975         15       Other       0.0011151       0.0011151       0.011151       1.0875         16       Weighted Efficiency Factor, mmbtu/kWh (lines (11 x 12 x 16))       0.011151       31 Rovenue Tax Req Multiplier       1.0975         19       Base C						
8Diesel - Miki Basin100.00% 0.00%ENERGY, $\ell/kWh$ 0.0009Diesel - Manele Bay <sup>1</sup> 0.00%0.00%26 % Input to System kWh Mix0.00%10Other0.00%26 % Input to System kWh Mix0.00%11COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER $\ell/mmbtu$ 1.548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))28 BASE DG ENERGY COMP COST0.000012% Input to System kWh Mix91.55%28 BASE DG ENERGY COMP COST0.00012% Input to System kWh Mix91.55%28 BASE DG ENERGY COMP COST0.00013Mutto System kWh Mix91.55%28 BASE DG ENERGY COST0.000014Diesel0.011151100.000.01115131 Cost Less Base (Line 27 - 30)0.0000014Diesel0.0111510.000.001115132 Loss Factor1.051015Other0.0111510.000.01115134 DG FACTOR, $\ell/kWh$ (Line 31 x 32 x 33)0.0000016Weighted Efficiency Factor, mmbtu/kWh (lines (11 x 12 x 16))15.8096618BASE CENTRAL STATION + OTHER GENERATION COST, $\ell/kWh$ (lines (18 x 19 x 20))26.46322SUMMARY OF TOTAL GENERATION FACTOR, $\ell/kWh$ (line 24 11.69228)SUMMARY OF TOTAL GENERATION FACTOR, $\ell/kWh$ 35 CNTRL STATION + OTHER GENERATION FACTOR, $\ell/kWh$ (line (22 x 23))-11.6922822COST LESS BASE (line(17 - 21))(10.65356)CortRL STN + OTHER (line 24)(11.69228)24COST LESS BASE (line(17 - 21))(10.65356)STRLE STN + OTHER (line 24)(11.69228) <td>_</td> <td></td> <td></td> <td></td> <td></td>	_					
9 Diesel - Manele Bay <sup>1</sup> 0.00%         10 Other       0.00%         11 COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu       1,548.64         (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))       27 WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 25 x 26)       0.00000         12 % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12 % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         12 % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         13 Industrial       0.000000       0.000000       30 WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 28 x 29)       0.00000         14 Diesel       0.011151       10.00       0.000000       31 Cost Less Base (Line 27 - 30)       0.00000         14 Diesel       0.011151       0.00       0.000000       32 Loss Factor       1.0510         15 Other       0.011151       0.00       0.000000       32 Loss Factor       1.0975         14 Diesel       0.011151       0.00       0.0011151       1.0510       33 Revenue Tax Req Multiplier       1.0975         17 WEIGHTED COMPOSITE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh       (lines (11 x 12 x 16))       15.80966       \$         18 BASE CENTRAL STATION + OTHER GENERAT						
10         Other         0.00% 100.00%           11         COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu 1,548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))         26 % Input to System kWh Mix         0.00%           12         % Input to System kWh Mix         91.55%         28 BASE DG ENERGY COMP COST         0.0000           12         % Input to System kWh Mix         91.55%         28 BASE DG ENERGY COMP COST         0.0000           12         % Input to System kWh Mix         0.00%         30 WEIGHTED BASE DG ENERGY COST         0.0000           12         % Input to System kWh Mix         91.55%         28 BASE DG ENERGY COMP COST         0.000           13         industrial         0.000000         0.00         0.000000         29 Base % Input to System kWh Mix         0.00000           13         industrial         0.000000         0.00         0.000000         31 Cost Less Base (Line 27 - 30)         0.00000           14         Diesel         0.011151         10.00         0.000000         (Lines 13, 14, 15): Col(B) x Col(C) = Col(D)           16         Weighted Efficiency Factor, mmbtu/kWh         0.011151         15.80966         \$4 DG FACTOR, \$4 KWh (Line 31 x 32 x 33)         0.000000           17         WEIGHTED COMPOSITE CENTRAL STATION + OTHER GENERATION COST \$4 KWh         15.80966				ENERGY, ¢/kWh	0.000	
100.00%           11         COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu 1,548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))         27         WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 25 x 26)         0.00000           12         % Input to System kWh Mix         91.55%         28         BASE DG ENERGY COMP COST         0.0000           12         % Input to System kWh Mix         91.55%         28         BASE DG ENERGY COMP COST         0.000           12         % Input to System kWh Mix         91.55%         28         BASE DG ENERGY COMP COST         0.000           12         % Input to System kWh Mix         91.55%         28         BASE DG ENERGY COMP COST         0.000           13         Industrial         0.000000         0.00         0.000000         30         WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 28 x 29)         0.000000           14         Diesel         0.011151         10.00         0.000000         32         Revenue Tax Req Multiplier         1.0575           34         DG FACTOR, ¢/kWh (Line 31 x 41 32 x 13)         0.000000         ¢/kWh (Line 31 x 32 x 33)         0.000000           16         BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu/kwh         0.011151         0.04000         ¢/kWh (Line 31 x 32 x 33)         0.000000           16		-				
27 WEIGHTED COMPOSITE DG ENERGY         11 COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER ¢/mmbtu       1,548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))         12 % Input to System kWh Mix       91.55%         28 BASE DG ENERGY COMP COST       0.0000         29 Base % Input to System kWh Mix       0.00%         29 EFFICIENCY FACTOR, mmbtu/kWh       (b)         (A)       (B)       (C)         (B)       (C)       (D)         (B)       (D)       (D)         (B)       (C)       (C)         (Lines 13, 14, 15)       (C)       (C) </td <td>10</td> <td>Other</td> <td>0.00%</td> <td>26 % Input to System kWh Mix</td> <td>0.00%</td>	10	Other	0.00%	26 % Input to System kWh Mix	0.00%	
11COMPOSITE COST OF GENERATION, CENTRAL STATION + OTHER $\notelemmbtu$ 1,548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10))12% Input to System kWh Mix91.55%28BASE DG ENERGY COMP COST0.0000 (2929Base % Input to System kWh Mix0.00%6(A)(B)(C)7(A)(B)(C)7Percent of8EfFICIENCY FACTOR, mmbtu/kWh (A)(B)(C)9(D)Percent of13Industrial0.0000000.0014Diesel0.01115110.00.015Other0.0111510.0016Weighted Efficiency Factor, mmbtu/kWh (lines 13, 14, 15): Col(B) x Col(C) = Col(D)1616Weighted Efficiency Factor, mmbtu/kWh (lines 13(D) + 14(D) + 15(D)]0.01115117WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, $\notel/kWh$ 0.01115118BASE CENTRAL STATION + OTHER GENERATION COST, $\notel/mmbtu$ 2.647.1519Base % Input to Sys kWh Mix (lines (11 x 12 x 16))26.4632211WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST $\notel/kWh$ (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65366)23Revenue Tax Req Multiplier (line 24)1.59228)24CENTRAL STATION + OTHER GENERATION FACTOR, $\notel/kWh$ (line (22 x 23))-11.69228)24COST LESS BASE (line(17 - 21))10.65356)25COST LESS BASE (line(17 - 21))10.65356)26Go (li			100.00%			
CENTRAL STATION + OTHER $e$ /mmbu 1,548.64 (Lines (3 x 7) + (4 x 8) + (5 x 9) + (6 x 10)) 12 % Input to System kWh Mix 91.55% EFFICIENCY FACTOR, mmbtu/kWh (A) (B) (C) (D) Percent of Eff Factor Centrl Stn + Weighted Euel Type mmbtu/kWh Other Eff Factor 13 Industrial 0.00000 0.00 0.0000000 (Lines 13, 14, 15): Col(B) x Col(C) = Col(D) 16 Weighted Efficiency Factor, mmbtu/kWh [lines 13, 14, 15): Col(B) x Col(C) = Col(D) 16 Weighted Efficiency Factor, mmbtu/kWh [lines 13, 14, 15): Col(B) x Col(C) = Col(D) 17 WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, $e$ /kWh (lines (11 x 12 x 16)) 15.80966 18 BASE CENTRAL STATION + OTHER GENERATION COST, $e$ /mmbtu (wh 0.011151 17 WEIGHTED CAMPOSITE CENTRAL STATION + OTHER GEN COST, $e$ /kWh (lines (18 x 19 x 20)) 26.46322 22 COST LESS BASE (line(17 - 21)) (10.65356) 23 Revenue Tax Req Multiplier 1.0975 24 CENTRAL STATION + OTHER GENERATION FACTOR, $e$ /kWh (line (22 x 23)) -11.69228 36 DG (line 34) - 37 TOTAL GENERATION FACTOR, $e$ /kWh						
$ \begin{array}{c} (\text{Lines } (3 \times 7) + (4 \times 8) + (5 \times 9) + (6 \times 10)) \\ 12 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	11			COST, ¢/kWh (Lines 25 x 26)	0.00000	
12 % Input to System kWh Mix       91.55%       28 BASE DG ENERGY COMP COST       0.000         29 Base % Input to System kWh Mix       0.00%         29 Base % Input to System kWh Mix       0.00%         31 Cost Less Base (Line 27 - 30)       0.00000         13 Industrial       0.00000       0.00       0.00000         14 Diesel       0.011151       100.00       0.011151         15 Other       0.011151       0.00000       0.000000         (Lines 13, 14, 15): Col(B) x Col(C) = Col(D)       33 Revenue Tax Req Multiplier       1.0975         16 Weighted Efficiency Factor, mmbtu/kWh       [lines 13]       0.011151       0.00000         (Lines 13, 14, 15): Col(B) x Col(C) = Col(D)       0.011151       0.00000         16 Weighted Efficiency Factor, mmbtu/kWh       [lines (11 x 12 x 16))       15.80966         18 BASE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh       0.011151       5.80966         18 BASE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh       0.011151       1.0975         21 WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST, ¢/kWh       0.011151         21 WEIGHTED BASE CENTRAL STATION + OTHER GENERATION + OTHER GENERATION COST, ¢/kWh       0.011151         22 COST LESS BASE (ine(17 - 21))       (10.65356)         23 Revenue Tax Req Multiplier       1.0975      <						
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	10				0.000	
EFFICIENCY FACTOR, mmbtu/kWh (A)30 WEIGHTED BASE DG ENERGY COST, $\ensuremath{\ell}$ /kWh (Line 28 x 29)(A)(B)(C)(D) Percent of Eff Factor31 Cost Less Base (Line 27 - 30)0.0000013 Industrial0.000000.000.00000032 Loss Factor1.051014 Diesel0.011151100.000.01115134 DG FACTOR,15 Other0.0111510.000.000000 $\ensuremath{\ell}$ /kWh (Line 31 x 32 x 33)0.00000(Lines 13, 14, 15): Col(B) x Col(C) = Col(D)6/kWh (Line 31 x 32 x 33)0.0000016 Weighted Efficiency Factor, mmbtu/kWh [lines 13(D) + 14(D) + 15(D)]0.011151 $\ensuremath{\ell}$ /kWh (Line 31 x 32 x 33)0.0000017 WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, $\ensuremath{\ell}$ /kWh15.80966 $\ensuremath{\ell}$ /kWh (Line 31 x 32 x 33)0.0000018 BASE CENTRAL STATION + OTHER GENERATION COST, $\ensuremath{\ell}$ /mmbtu2,647.15 $\ensuremath{9}$ $\ensuremath{8}$ 21 WEIGHTED BASE CENTRAL STATION + OTHER GENERATION + OTHER GENERATION COST $\ensuremath{\ell}$ /kWh0.011151 $\ensuremath{1}$ 22 COST LESS BASE (line(17 - 21))(10.65356) $\ensuremath{3}$ SUMMARY OF TOTAL GENERATION FACTOR, $\ensuremath{\ell}$ /kWh22 COST LESS BASE (line(17 - 21))(10.65356) $\ensuremath{3}$ $\ensuremath{3}$ 24 CENTRAL STATION + OTHER GENERATION FACTOR, $\ensuremath{\ell}$ /kWh (line (22 x 23))-11.69228) $\ensuremath{3}$ 34 DG (line 34)37 TOTAL GENERATION FACTOR,	12	// Input to System kwin wik	91.55%			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		EFEICIENCY FACTOR mmhtu/////h			0.00 /0	
Percent of Eff FactorEucl Typemmbtu/kwhOtherEff Factor31 Cost Less Base (Line 27 - 30)0.0000013Industrial0.0000000.000.00000032 Loss Factor1.051014Diesel0.011151100.000.001115133 Revenue Tax Req Multiplier1.097515Other0.0111510.000.000000 $(Lines 13, 14, 15)$ : Col(B) x Col(C) = Col(D) $(kWh (Line 31 x 32 x 33))$ 0.0000016Weighted Efficiency Factor, mmbtu/kWh $(lines (11 x 12 x 16)))$ 0.011151 $(kWh (Line 31 x 32 x 33)))$ 0.0000017WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, ¢/kWh $(lines (11 x 12 x 16)))$ 15.80966 $(kWh (Line 31 x 32 x 33))))$ 0.0000018BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbu $(2,647.15)$ $(kWh (Line 31 x 32 x 33))))$ $(kWh (Line 31 x 32 x 33))))))))))))))))))))))))))))))$			(D)		0 00000	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			(D)	¢/KWII (Line 20 x 25)	0.00000	
Euel 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,         ####################################			Weighted	31 Cost Less Base (Line 27 - 30)	0.00000	
14Diesel $0.011151$ $100.00$ $0.011151$ $34$ DG FACTOR,15Other $0.011151$ $0.00$ $0.000000$ $(Lines 13, 14, 15): Col(B) x Col(C) = Col(D)$ 16Weighted Efficiency Factor, mmbtu/kWh [lines 13(D) + 14(D) + 15(D)] $0.011151$ $(kWh (Line 31 x 32 x 33))$ 17WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, $\phi/kWh$ (lines (11 x 12 x 16)) $15.80966$ 18BASE CENTRAL STATION + OTHER GENERATION COST, $\phi/mmbtu$ $2,647.15$ 20Efficiency Factor, mmbtu/kwh (lines (18 x 19 x 20)) $0.011151$ 21WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST $\phi/kWh$ (lines (18 x 19 x 20)) $26.46322$ 22COST LESS BASE (line(17 - 21)) $(10.65356)$ 23Revenue Tax Req Multiplier FACTOR, $\phi/kWh$ (line (22 x 23)) $-11.69228$ 24CENTRAL STATION + OTHER GENERATION FACTOR, $\phi/kWh$ (line (22 x 23)) $-11.69228$ 36DG (line 34) 37 TOTAL GENERATION FACTOR, $\phi/kWh$		Fuel Type mmbtu/kwh Other	-	. ,	1.0510	
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       0.011151         16       Weighted Efficiency Factor, mmbtu/kWh       0.011151       0.011151         17       WEIGHTED COMPOSITE CENTRAL STATION +       0.011151         17       WEIGHTED COMPOSITE CENTRAL STATION +       0.00006         18       BASE CENTRAL STATION + OTHER GENERATION       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))         22       COST LESS BASE (line(17 - 21))       (10.65356)         23       Revenue Tax Req Multiplier       1.0975         24       CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh       35 CNTRL STN + OTHER (line 24)       (11.69228)         36       DG (line 34)       -         37       TOTAL GENERATION FACTOR,       -	13	Industrial 0.000000 0.00	0.000000	33 Revenue Tax Req Multiplier	1.0975	
(Lines 13, 14, 15): Col(B) x Col(C) = Col(D)16Weighted Efficiency Factor, mmbtu/kWh [lines 13(D) + 14(D) + 15(D)]0.01115117WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, ¢/kWh (lines (11 x 12 x 16))15.8096618BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu2,647.1519Base % Input to Sys kWh Mix89.65%20Efficiency Factor, mmbtu/kwh0.01115121WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)23Revenue Tax Req Multiplier1.097524CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922836DG (line 34)-37TOTAL GENERATION FACTOR,	14	Diesel 0.011151 100.00	0.011151	34 DG FACTOR,		
<ul> <li>16 Weighted Efficiency Factor, mmbtu/kWh [lines 13(D) + 14(D) + 15(D)] 0.011151</li> <li>17 WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, ¢/kWh (lines (11 x 12 x 16)) 15.80966</li> <li>18 BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbtu 2,647.15</li> <li>19 Base % Input to Sys kWh Mix 89.65%</li> <li>20 Efficiency Factor, mmbtu/kwh 0.011151</li> <li>21 WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20)) 26.46322</li> <li>22 COST LESS BASE (line(17 - 21)) (10.65356)</li> <li>23 Revenue Tax Req Multiplier 1.0975</li> <li>24 CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23)) -11.69228</li> <li>37 TOTAL GENERATION FACTOR,</li> </ul>	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)			
17 WEIGHTED COMPOSITE CENTRAL STATION + OTHER GEN COST, $\phi/kWh$ (lines (11 x 12 x 16))18 BASE CENTRAL STATION + OTHER GENERATION COST, $\phi/mmbtu$ 2,647.1519 Base % Input to Sys kWh Mix89.65%20 Efficiency Factor, mmbtu/kwh0.01115121 WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST $\phi/kWh$ (lines (18 x 19 x 20))26.4632222 COST LESS BASE (line(17 - 21))(10.65356)23 Revenue Tax Req Multiplier1.097524 CENTRAL STATION + OTHER GENERATION FACTOR, $\phi/kWh$ (line (22 x 23))-11.6922836 DG (line 34)-37 TOTAL GENERATION FACTOR,	16					
OTHER GEN COST, ¢/kWh (lines (11 x 12 x 16))15.8096618BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbu2,647.1519Base % Input to Sys kWh Mix89.65%20Efficiency Factor, mmbu/kwh0.01115121WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh 		[lines 13(D) + 14(D) + 15(D)]	0.011151			
OTHER GEN COST, ¢/kWh (lines (11 x 12 x 16))15.8096618BASE CENTRAL STATION + OTHER GENERATION COST, ¢/mmbu2,647.1519Base % Input to Sys kWh Mix89.65%20Efficiency Factor, mmbu/kwh0.01115121WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)23Revenue Tax Req Multiplier1.097524CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922837TOTAL GENERATION FACTOR,	17	WEIGHTED COMPOSITE CENTRAL STA	TION +			
$ \begin{array}{c} (lines (11 x 12 x 16)) & 15.80966 \\ 18 \ BASE CENTRAL STATION + OTHER GENERATION \\ COST, \ensuremath{\textit{c}}/mmbtu & 2,647.15 \\ 19 \ Base \ensuremath{\%}$ line to Sys kWh Mix $89.65\%$ 20 Efficiency Factor, mmbtu/kwh $0.011151$ 21 WEIGHTED BASE CENTRAL STATION + $0.0011151$ 21 WEIGHTED BASE CENTRAL STATION + $0.0011151$ 22 COST LESS BASE (line(17 - 21)) (10.65356) 23 Revenue Tax Req Multiplier $1.0975$ 24 CENTRAL STATION + OTHER GENERATION $35$ CNTRL STN + OTHER (line 24) (11.69228) 36 DG (line 34) - $37$ TOTAL GENERATION FACTOR, $4$						
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))       (10.65356)         23       Revenue Tax Req Multiplier       1.0975         24       CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))       -11.69228			15 80966			
COST, ¢/mmbtu2,647.1519Base % Input to Sys kWh Mix89.65%20Efficiency Factor, mmbtu/kwh0.01115121WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)23Revenue Tax Req Multiplier1.097524CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922837TOTAL GENERATION FACTOR,						
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       0.011151         (lines (18 x 19 x 20))       26.46322         22       COST LESS BASE (line(17 - 21))       (10.65356)         23       Revenue Tax Req Multiplier       1.0975         24       CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))       -11.69228         37       TOTAL GENERATION FACTOR,	18	BASE CENTRAL STATION + OTHER GEN	IERATION			
20Efficiency Factor, mmbtu/kwh0.01115121WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)23Revenue Tax Req Multiplier1.097524CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922837TOTAL GENERATION FACTOR,		COST, ¢/mmbtu	2,647.15			
21WEIGHTED BASE CENTRAL STATION + OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)23Revenue Tax Req Multiplier1.097524CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))37707AL GENERATION FACTOR, ¢/kWh-37TOTAL GENERATION FACTOR, ¢/kWh	19	Base % Input to Sys kWh Mix	89.65%			
OTHER GENERATION COST ¢/kWh (lines (18 x 19 x 20))26.4632222COST LESS BASE (line(17 - 21))(10.65356)TOTAL GENERATION FACTOR, ¢/kWh23Revenue Tax Req Multiplier1.097535 CNTRL STN + OTHER (line 24)(11.69228)24CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922837 TOTAL GENERATION FACTOR,	20	Efficiency Factor, mmbtu/kwh	0.011151			
(lines (18 x 19 x 20))         26.46322           22         COST LESS BASE (line(17 - 21))         (10.65356)           23         Revenue Tax Req Multiplier         1.0975           24         CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))         -11.69228           37         TOTAL GENERATION FACTOR,	21					
22COST LESS BASE (line(17 - 21))(10.65356)SUMMARY OF23Revenue Tax Req Multiplier1.097535 CNTRL STN + OTHER (line 24)(11.69228)24CENTRAL STATION + OTHER GENERATION36 DG (line 34)-FACTOR, ¢/kWh (line (22 x 23))-11.6922837 TOTAL GENERATION FACTOR,						
22         COST LESS BASE (line(17 - 21))         (10.65356)         TOTAL GENERATION FACTOR, ¢/kWh           23         Revenue Tax Req Multiplier         1.0975         35 CNTRL STN + OTHER (line 24)         (11.69228)           24         CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))         -11.69228         36 DG (line 34)         -           37         TOTAL GENERATION FACTOR,         -         37 TOTAL GENERATION FACTOR,		(lines (18 x 19 x 20))	26.46322			
23 Revenue Tax Req Multiplier1.097535 CNTRL STN + OTHER (line 24)(11.69228)24 CENTRAL STATION + OTHER GENERATION FACTOR, ¢/kWh (line (22 x 23))-11.6922836 DG (line 34)-37 TOTAL GENERATION FACTOR,			(40.05050)			
24 CENTRAL STATION + OTHER GENERATION36 DG (line 34)FACTOR, ¢/kWh (line (22 x 23))-11.6922837 TOTAL GENERATION FACTOR,			```			
FACTOR, ¢/kWh (line (22 x 23)) -11.69228 37 TOTAL GENERATION FACTOR,					11.69228)	
	24		-		-	
¢/kwn (lines 35 + 36) (11.69228)		FAUTUR, ¢/KVVN (IINE (22 X 23))	-11.69228		11 60000	
				$\varphi$ ( $\varphi$ ( $\varphi$ ) $\varphi$ ) $\varphi$ ( $\varphi$ ) $\varphi$ ) $\varphi$ (	11.09220)	

<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 - September 1, 2016 (page 2 of 2)

Line 1 Eff 2 Su

ffective Date	September 1, 2016
unercedes Factors of	August 1 2016

2 Supercedes Factors of A	lugust 1, 2016
---------------------------	----------------

Line	PURCHASED ENERGY COMPOR	NENT
38	PURCHASED ENERGY PRICE, ¢/kWh LANAI SOLAR RESEARCH - On Peak	27.000
39	- Off Peak	27.000
40	Sch Q	0.000
41	PURCHASED ENERGY KWH MIX, % LANAI SOLAR RESEARCH - On Peak	100.00%
42	- Off Peak	0.00%
		0.0070
43	Sch Q	0.00%
44	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh	27.000
	(Lines $(38 \times 41) + (39 \times 42) + (40 \times 43)$ )	27.000
45	% Input to System kWh Mix	8.45%
46	WEIGHTED COMP. PURCH. ENERGY	
	COST, ¢/kWh (lines (44 x 45))	2.28150
47	BASE PURCHASED ENERGY	
47	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))	(0.51300)
	Loss Factor	(0.51300)
	Revenue Tax Reg Multiplier	1.0975
	PURCHASED ENERGY FACTOR,	(0.59173)
	¢/kWh (lines (50 x 51 x 52))	

#### Line SYSTEM COMPOSITE CALCULATIONS

54	54 GENERATION AND PURCHASED ENERGY				
	FACTOR, ¢/kWh	(12.28401)			
	(lines (37 + 53))				
55	Adjustment, ¢/kWh	0.000			
56	ECA Reconciliation Adjustment	(0.350)			
57	ECA FACTOR, ¢/kWh	(12.634)			
	(lines (54 + 55 + 56))				

### Maui Electric Company, Ltd. Lanai Division

### MONTH END FUEL OIL ESTIMATE

<u> Miki Basin - ULSD</u>	Barrels		MBTU	\$
8/22/2016	3,355.10		19,224.72	305,240.00
Estimated Use	1,342.60		7,693.10	122,183.32
Estimated Received	2,142.86		12,278.59	185,678.39
Estimated Additional				-
Estimated End	4,155.36		23,810.21	368,735.07
Next Month's Combined Miki Exp	ense (\$/bbl)	=	\$ 88.7372 /bbl	

#### FUEL OIL INVENTORY PRICE USED FOR FILING

Type of Oil Burned	Price	Conversion Factor	Prices ¢/MBTU
Diesel - Miki Basin	\$ 88.7372	5.73 BTU/BBL	1,548.64

### **Contract Prices effective August 1, 2016**

TYPE OF OIL BURNED	\$/BBL	¢/MBTU

<u> MIKI BASIN - ULTRA LOW SULFUR DIESEL (DYED)</u>				
Tax *	1.5120	26.39		
Ocean Transportation	0.0000	0.00		
Storage	0.0000	0.00		
Wharfage	0.0000	0.00		

## **MIKI BASIN - ULTRA LOW SULFUR DIESEL**

Tax *	1.5120	26.39
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

# September 2016

1. Amount to be refunded	(\$21,600)
2. Monthly amount (1 / 3 X Line 1)	(\$7,200)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$7,902)
5. Estimated Sales (September 2016)	2,258 mwh
6. Adjustment (Line 4 ÷ Line 5)	-0.350 ¢/kwh

## MAUI ELECTRIC COMPANY, LTD. LANAI DIVISION 2016 Cumulative Reconciliation Balance

Month	(1) YTD FOA <u>Reconciliation</u>	<u>Qtr</u>	(2) FOA Rec Adjust <u>Variance</u>	(3) FOA Rec Less <u>Variance</u>	(4) Try to <u>Collect</u>	(5) Actual <u>Collect</u>	(6) Month-end Cumulative <u>Balance</u>
December '15	i				(2,067)	(2,151)	1,855
January '16					(2,067)	(2,194)	(339)
February	(13,300)	(4)	(208)	(13,092)	4,433	4,591	(8,840)
March					4,433	4,930	(3,910)
April					4,433	5,061	1,151
May	14,900	(1)	528	14,372	(4,967)	(5,627)	9,896
June					(4,967)	(5,492)	4,404
July					(4,967)	(5,749)	(1,345)
August	21,600	(2)	(557)	22,157	(7,200)		
September					(7,200)		

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 K		00 Kwh	
		08-01-16	09-01-16	08-01-16	09-01-16	Difference
	<i></i>	00/04/40	00/04/40			
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	1.4082	1.4082	5.63	5.63	0.00
PBF Surcharge	¢/kWh	0.5865	0.5865	2.35	2.35	0.00
Renewable Energy Infrastructure Cost						
Recovery Provision	¢/kWh	0.0099	0.0099	0.04	0.04	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
Energy Cost Adjustment	¢/kWh	-12.201	-12.634	-48.80	-50.54	-1.74
Green Infrastructure Fee	\$	1.13	1.13	1.13	1.13	0.00

Avg Residential Bill at 400 kwh

Avg Residential Bill at 500 kwh

Increase (Decrease -)	
% Change	

136.43

138.17

-1.2	6%

	Rate				
		08-01-16	09-01-16		
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	1.4082	1.4082		
PBF Surcharge	¢/kWh	0.5865	0.5865		
Renewable Energy Infrastructure Cost					
Recovery Provision	¢/kWh	0.0099	0.0099		
SolarSaver Adjustment	¢/kWh	0.0000	0.0000		
Energy Cost Adjustment	¢/kWh	-12.201	-12.634		
Green Infrastructure Fee	\$	1.13	1.13		

Charge (\$) at 500 Kwh					
08-01-16	09-01-16	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			
7.04	7.04	0.00			
2.93	2.93	0.00			
0.05	0.05	0.00			
0.00	0.00	0.00			
-61.01 1.13	-63.17 1.13	-2.16 0.00			
171.84	169.68				

Increase (Decrease -) % Change

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

	FUEL FACTOR CENTS / KWH RESIDENTIAL &	RESIDENT	IAL BILL (\$)
EFFECTIVE DATE	<u>COMMERCIAL</u>	<u>@ 400 KWH</u>	<u>@ 500 KWH</u>
January 1, 2014	0.693	187.14	233.37
February 1, 2014	1.420	190.05	237.00
March 1, 2014	1.370	189.85	236.75
April 1, 2014	1.854	190.81	237.94
May 1, 2014	-1.036	180.23	224.72
June 1, 2014	0.013	187.69	234.05
July 1, 2014	0.208	189.21	235.94
August 1, 2014	-0.179 -0.244	187.66 187.40	234.00
September 1, 2014 October 1, 2014	-0.244 -3.591	174.02	233.68 216.94
November 1, 2014	-1.766	181.32	210.94
December 1, 2014	-3.365	175.18	218.07
,			
January 1, 2015	-4.698	169.85	211.41
February 1, 2015	-7.361	159.20	198.09
March 1, 2015	-8.793	153.47	190.93
April 1, 2015	-6.831	160.22	199.37
May 1, 2015	-9.750	149.64	186.15
June 8, 2015	-8.842	153.16	190.56
July 1, 2015	-7.314	158.27	196.91
August 1, 2015	-8.457	153.70	191.19
September 1, 2015	-10.465	145.71	181.20
October 1, 2015	-12.259	138.53	172.23
November 1, 2015	-12.177	138.86	172.64
December 1, 2015	-11.304	142.35	177.01
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

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

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 (2007 TEST YEAR)         11/12/11 - 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         -0.0888         CENTS/KWH           05/01/11 - 03/31/12         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/11 - 05/31/11         IRP RECOVERY REFUND         -0.356         PERCENT ON BASE           01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         6/1/2012 - 07/31/13         INTERIM RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)	EFFECTIVE DATE	DESCRIPTION OF SURCHARGE		RATE
01/12/11 - 05/03/12       FINAL RATE INCREASE (3.65%), DOCKET NO. 2006-0387 (2007 TEST YEAR)         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       -0.0888 CENTS/KWH         05/01/11 - 03/31/12       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         05/01/11 - 05/31/11       IRP RECOVERY REFUND       -0.356 PERCENT ON BASE         06/01/11       IRP RECOVERY REFUND       -0.356 PERCENT ON BASE         01/01/12 - 12/31/12       RESID. PBF SURCHARGE ADJUSTMENT       0.6000 PERCENT ON BASE         01/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       0.6766 CENTS/KWH         05/01/11 - 05/31/11       IRP RECOVERY REFUND       -0.2392 CENTS/KWH         04/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       -0.2392 CENTS/KWH         05/01/12 - 07/31/13       SOLARSAVER ADJUSTMENT       -0.2392 CENTS/KWH         05/01/12 - 07/31/13       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         05/01/12 - 07/31/13       INTERIM RATE INCREASE 2012 TEST YEAR       4.02 PERCENT ON BASE         01/01/13 - 06/30/13       RESID. PBF SURCHARGE ADJUSTMENT       0.7850 CENTS/KW				
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       -0.0888       CENTS/KWH         05/01/11 - 03/31/12       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/11 - 05/31/11       IRP RECOVERY REFUND       -0.356       PERCENT ON BASE         06/01/11       05/01/12 - 12/31/12       RESID. PBF SURCHARGE ADJUSTMENT       0.6766       CENTS/KWH         01/01/12 - 12/31/12       RESID. PBF SURCHARGE ADJUSTMENT       0.6766       CENTS/KWH         04/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 07/31/13       FINAL RATE INCREASE 2012 TEST YEAR       4.02       PERCENT ON BASE         01/01/13 - 06/30/13       RESID. PBF SURCHARGE ADJUSTMENT       0.7850       CENTS/KWH				
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       -0.0888       CENTS/KWH         05/01/11 - 03/31/12       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/11 - 05/31/11       IRP RECOVERY REFUND       -0.356       PERCENT ON BASE         06/01/11       IRP RECOVERY REFUND       -0.356       PERCENT ON BASE         01/01/12 - 12/31/12       RESID. PBF SURCHARGE ADJUSTMENT       0.60766       CENTS/KWH         04/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       0.6766       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000       CENTS/KWH         05/01/22 - 07/31/13       FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)       (1/2012 - 07/31/13         01/01/13 - 06/30/13       RESID. PBF SURCHARGE ADJUSTMENT       0.7850       CENTS/KWH         04/01/13 - 04/30/13       SOLARSAVER ADJUSTMENT       0.7850       CENTS/KWH				
03/01/11 - 04/30/11         IRP RECOVERY REFUND         0.000         PERCENT ON BASE           04/01/11 - 04/30/11         SOLARSAVER ADJUSTMENT         -0.0888         CENTS/KWH           05/01/11 - 03/31/12         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/11 - 05/31/11         IRP RECOVERY REFUND         -0.356         PERCENT ON BASE           06/01/11         IRP RECOVERY REFUND         -0.356         PERCENT ON BASE           01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         0.6766         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 07/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUS				
04/01/11 - 04/30/11       SOLARSAVER ADJUSTMENT       -0.0888 CENTS/KWH         05/01/11 - 03/31/12       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         05/01/11 - 05/31/11       IRP RECOVERY REFUND       -0.356 PERCENT ON BASE         06/01/11       IRP RECOVERY REFUND       0.0000 PERCENT ON BASE         01/01/12 - 12/31/12       RESID. PBF SURCHARGE ADJUSTMENT       0.6766 CENTS/KWH         04/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       0.6766 CENTS/KWH         05/01/11 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         04/01/12 - 04/30/12       SOLARSAVER ADJUSTMENT       0.6766 CENTS/KWH         05/01/12 - 03/31/13       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         05/01/12 - 07/31/13       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         05/01/12 - 07/31/13       SOLARSAVER ADJUSTMENT       0.0000 CENTS/KWH         6/1/2012 - 07/31/13       FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)       10/01/01/01/01/01/01/01/01/01/01/01/01/0				
05/01/11 - 03/31/12         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/11 - 05/31/11         IRP RECOVERY REFUND         -0.356         PERCENT ON BASE           06/01/11         IRP RECOVERY REFUND         0.000         PERCENT ON BASE           01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         0.6000         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.6766         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 07/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           05/01/12 - 07/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           6/1/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         0.2053         CENTS/KWH				
05/01/11 - 05/31/11         IRP RECOVERY REFUND         -0.356         PERCENT ON BASE           06/01/11         IRP RECOVERY REFUND         0.000         PERCENT ON BASE           01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           5/4/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         0.7850         CENTS/KWH				
06/01/11         IRP RECOVERY REFUND         0.000         PERCENT ON BASE           01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           5/4/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)            6/1/2012 - 07/31/13         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         0.2053         CENTS/KWH				
01/01/12 - 12/31/12         RESID. PBF SURCHARGE ADJUSTMENT         0.6766         CENTS/KWH           04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           5/4/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         0.2053         CENTS/KWH				
04/01/12 - 04/30/12         SOLARSAVER ADJUSTMENT         -0.2392         CENTS/KWH           05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH           5/4/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         -0.2053         CENTS/KWH				
05/01/12 - 03/31/13         SOLARSAVER ADJUSTMENT         0.0000 CENTS/KWH           5/4/2012 - 07/31/13         FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163 (2010 TEST YEAR)           6/1/2012 - 07/31/13         INTERIM RATE INCREASE 2012 TEST YEAR         4.02 PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850 CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         -0.2053 CENTS/KWH				
6/1/2012 - 07/31/13         INTERIM RATE INCREASE 2012 TEST YEAR         4.02         PERCENT ON BASE           01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         -0.2053         CENTS/KWH				
01/01/13 - 06/30/13         RESID. PBF SURCHARGE ADJUSTMENT         0.7850         CENTS/KWH           04/01/13 - 04/30/13         SOLARSAVER ADJUSTMENT         -0.2053         CENTS/KWH	5/4/2012 - 07/31/13	FINAL RATE INCREASE (1.51%), DOCKET NO. 2009-0163	(2010 TEST YI	EAR)
04/01/13 - 04/30/13 SOLARSAVER ADJUSTMENT -0.2053 CENTS/KWH	6/1/2012 - 07/31/13	INTERIM RATE INCREASE 2012 TEST YEAR	4.02	PERCENT ON BASE
	01/01/13 - 06/30/13	RESID. PBF SURCHARGE ADJUSTMENT	0.7850	CENTS/KWH
	04/01/13 - 04/30/13	SOLARSAVER ADJUSTMENT	-0.2053	CENTS/KWH
	05/01/13 - 03/31/14	SOLARSAVER ADJUSTMENT		
06/01/13 - 05/31/14 REVENUE BALANCING ACCOUNT RATE ADJUSTMENT 0.8071 CENTS/KWH	06/01/13 - 05/31/14	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.8071	CENTS/KWH
07/01/13 - 06/30/14 RESID. PBF SURCHARGE ADJUSTMENT 0.8312 CENTS/KWH	07/01/13 - 06/30/14			
08/01/13 FINAL RATE INCREASE (1.25%), DOCKET NO. 2011-0092 (2012 TEST YEAR)				
04/01/14 - 04/30/14 SOLARSAVER ADJUSTMENT -0.2453 CENTS/KWH				
05/01/14 - 03/31/15 SOLARSAVER ADJUSTMENT 0.0000 CENTS/KWH				
06/01/14 - 05/31/15 REVENUE BALANCING ACCOUNT RATE ADJUSTMENT 1.6239 CENTS/KWH				
07/01/14 -11/30/14 RESID. PBF SURCHARGE ADJUSTMENT 1.0157 CENTS/KWH				
12/01/14 - 06/30/15 RESID. PBF SURCHARGE ADJUSTMENT 0.7583 CENTS/KWH				
12/01/14 - 06/30/15 GREEN INFRASTRUCTURE FEE 1.29 DOLLARS/MONTH				
04/01/15 - 04/30/15         SOLARSAVER ADJUSTMENT         -0.2744         CENTS/KWH           05/01/15 - 03/31/16         SOLARSAVER ADJUSTMENT         0.0000         CENTS/KWH				
06/01/15 - 06/07/15REVENUE BALANCING ACCOUNT RATE ADJUSTMENT0.0000CENTS/KWH06/08/15 - 05/31/16REVENUE BALANCING ACCOUNT RATE ADJUSTMENT1.5987CENTS/KWH				
07/01/15 - 06/30/16 RESID. PBF SURCHARGE ADJUSTMENT 0.4749 CENTS/KWH				
07/01/15 - 12/31/15 GREEN INFRASTRUCTURE FEE 1.42 DOLLARS/MONTH				
08/17/15 - 02/29/16 RENEWABLE ENERGY INFRASTRUCTURE COST 0.0103 CENTS/KWH				
RECOVERY PROVISION	00/17/13 - 02/23/10		0.0105	
01/01/16 - 06/30/16 GREEN INFRASTRUCTURE FEE 1.3000 DOLLARS/MONTH	01/01/16 - 06/30/16		1 3000	DOLLARS/MONTH
03/01/16 RENEWABLE ENERGY INFRASTRUCTURE COST 0.0099 CENTS/KWH				
RECOVERY PROVISION				
04/01/16 - 04/30/16 SOLARSAVER ADJUSTMENT -0.1835 CENTS/KWH	04/01/16 - 04/30/16		-0.1835	CENTS/KWH
05/01/16 SOLARSAVER ADJUSTMENT 0.0000 CENTS/KWH			0.0000	CENTS/KWH
06/01/16 REVENUE BALANCING ACCOUNT RATE ADJUSTMENT 1.4082 CENTS/KWH	06/01/16	<b>REVENUE BALANCING ACCOUNT RATE ADJUSTMENT</b>	1.4082	CENTS/KWH
07/01/16 RESID. PBF SURCHARGE ADJUSTMENT 0.5865 CENTS/KWH	07/01/16	RESID. PBF SURCHARGE ADJUSTMENT	0.5865	CENTS/KWH
07/01/16 GREEN INFRASTRUCTURE FEE 1.13 DOLLARS/MONTH	07/01/16	GREEN INFRASTRUCTURE FEE	1.13	DOLLARS/MONTH

Surcharges currently in effect are in bold.
 Base charges include customer charge, demand charge, energy charge, power factor adjustment, voltage discount and minimum charge.