



FILED

July 27, 2017

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PUBLIC UTILITIES
COMMISSION

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

Dear Commissioners:

Subject: Hawaiian Electric Energy Cost Adjustment Factor for August 2017

Hawaiian Electric Company Inc.'s ("Hawaiian Electric" or "Company") August 2017 energy cost adjustment factor is -2.180 cents per kilowatt-hour ("kWh"), a decrease of 0.177 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$140.14, a decrease of \$1.65 compared to rates effective July 1, 2017. The decrease in the typical residential bill is due to a decrease in the Energy Cost Adjustment factor (-\$0.88), and a decrease in the Purchased Power Adjustment Clause rate (-\$0.77).

The Company's fuel composite cost of generation decreased 61.84 cents per million BTU to 1,021.76 cents per million BTU. The Company's Distributed Generation ("DG") energy component increased 0.006 cents per kWh to 0.043 cents per kWh. The composite cost of purchased energy decreased 0.118 cents per kWh to 8.390 cents per kWh.

In accordance with Decision and Order No. 33745, filed in Docket No. 2014-0086 on June 6, 2016, the Company collected the Commission-approved D-VAR adder True-up for the Kahuku Wind Farm purchased power expense through the energy cost adjustment clause ("ECAC") over the twelve-month period from August 2016 through July 2017. The adjustment to the ECAC for this item has been fully collected, and will terminate effective August 1, 2017.

The attached sheets set forth the energy cost adjustment factor in cents per kWh for each rate schedule that is applicable for prorata use beginning August 1, 2017.

Very truly yours,

Dean K. Matsuura
Manager, Regulatory Rate Proceedings

Attachments

cc: Division of Consumer Advocacy

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FACTOR

	<u>Effective Dates</u>		<u>Change</u>
	<u>07/01/17</u>	<u>08/01/17</u>	
Composite Cost Of Generation, ¢/mmbtu	1,083.60	1,021.76	(61.84)
DG Energy Component, ¢/kWh	0.037	0.043	0.006
Composite Cost Of Purchased Energy, ¢/kWh	8.508	8.390	(0.118)
 <u>Residential, Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(2.003)	(2.180)	(0.177)
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(2.003)	(2.180)	(0.177)
 <u>Residential Customer with:</u>			
500 kWh Consumption, \$/bill	141.79	140.14	(1.65)
600 kWh Consumption, \$/bill	168.91	166.92	(1.99)

Supersedes Sheet Effective:

July 1, 2017

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - August 1, 2017 (page 1 of 2)

<u>Line</u>		
1	Effective Date	- August 1, 2017
2	Supersedes Factor	- July 1, 2017

GENERATION COMPONENT

CENTRAL STATION					
FUEL PRICES, ¢/MBTU					
3	Honolulu		979.78		
4	Kahe		980.10		
5	Waiau-Steam		979.78		
6	Waiau-Diesel		1,202.08		
7	CIP-Diesel		N/A		
8	CIP-Biodiesel		2,660.02		
9	Other		0		
BTU MIX, %					
10	Honolulu		0.00		
11	Kahe		63.34		
12	Waiau-Steam		24.62		
13	Waiau-Diesel		11.01		
14	CIP-Diesel		N/A		
15	CIP-Biodiesel		1.03		
16	Other		0.00		
17	COMPOSITE COST OF GENERATION, CNTRL STN + OTHER ¢/mmbtu		1,021.76		
18	% Input to system kWh Mix		42.71		
EFFICIENCY FACTOR, mmbtu/kWh					
	(A)	(B)	(C)	(D)	
		Eff Factor	Percent of	Weighted	
	Fuel Type	mmbtu/kwh	Centrl Stn + Other	Eff Factor	
19	LSFO	0.011079	93.73	0.010384	
20	Diesel	0.019721	5.69	0.001122	
21	Biodiesel	0.020169	0.58	0.000117	
22	Other	0.011143	0.00	0.000000	
(Lines 19 through 22): Col(B) x Col(C) = Col(D)					
23	Weighted Efficiency Factor, mmbtu/kWh [(lines 19(D) + 20(D) + 21(D) + 22(D))]			0.011623	
24	WGTD. COMPOSITE CNTRL STN + OTHER GEN COST, ¢/kWh (lines 17 x 18 x 23)			5.07220	
25	BASE CNTRL STN + OTHER GEN. COST, ¢/Mbtu			1,354.58	
26	Base % Input to System kWh Mix			57.59	
27	Efficiency Factor, Mbtu/kWh			0.011142	
28	WEIGHTED BASE CNTRL STN + OTHER GEN COST ¢/KWH (lines 25 x 26 x 27)			8.69190	
29	Cost Less Base (Line 24 - 28)			(3.61970)	
30	Revenue Tax Req Multiplier			1.0975	
31	CNTRL STN + OTHER GENERATION FACTOR, ¢/KWH (Line 29 x 30)			(3.97262)	
				DG ENERGY COMPONENT	
				32 COMPOSITE COST OF DG ENERGY, ¢/kWh	25.130
				33 % Input to System kWh Mix	0.17
				34 WTD COMP DG ENRGY COST, ¢/kWh (Lines 32 x 33)	0.04272
				35 BASE DG ENERGY COMP COST	0.000
				36 Base % Input to System kWh Mix	0.00
				37 WTD BASE DG ENERGY COST, ¢/kWh (Line 35 x 36)	0.00000
				38 Cost Less Base (Line 34 - 37)	0.04272
				39 Loss Factor	1.053
				40 Revenue Tax Req Multiplier	1.0975
				41 DG FACTOR, ¢/kWh (Line 38 x 39 x 40)	0.04937
				SUMMARY OF TOTAL GENERATION FACTOR, ¢/kWh	
				42 CNTRL STN + OTHER (line 31)	(3.97262)
				43 DG (line 41)	0.04937
				44 TOTAL GENERATION FACTOR, ¢/KWH (lines 42 + 43)	(3.92325)

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - August 1, 2017 (page 2 of 2)

Line

1 **Effective Date** - August 1, 2017
2 **Supersedes Factor** - July 1, 2017

Line	PURCHASED ENERGY COMPONENT		
PURCHASED ENERGY PRICE - ¢/KWH			
45	PAR Hawaii	- On Peak	9.855
46	(f.k.a HIE/Tesoro)	- Off Peak	10.122
47	HRRV	- On Peak	16.89
48		- Off Peak	16.41
49	HRRV	- On Peak (excess)	10.76
50		- Off Peak (excess)	6.46
51	IES Downstream	- On Peak	9.855
52		- Off Peak	10.122
53	Kalaeloa		8.693
54	AES-HI		3.233
55	Kawailoa		21.738
56	Kahuku Wind		20.401
57	As Available I		21.735
58	FIT		19.315
PURCHASED ENERGY KWH MIX, %			
59	PAR Hawaii	- On Peak	0.20
60	(f.k.a HIE/Tesoro)	- Off Peak	0.15
61	HRRV	- On Peak	7.73
62		- Off Peak	2.23
63	HRRV	- On Peak (excess)	0.00
64		- Off Peak (excess)	0.94
65	IES Downstream	- On Peak	0.01
66	(f.k.a Chevron)	- Off Peak	0.01
67	Kalaeloa		40.93
68	AES-HI		39.15
69	Kawailoa		3.56
70	Kahuku Wind		2.26
71	As Available I		0.66
72	FIT		2.17
			100.00
73	COMPOSITE COST OF PURCHASED ENERGY, ¢/KWH		8.390
74	% Input to System kWh Mix		57.12
75	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 73 x 74)		4.79237
76	BASE PURCH ENERGY COMP COST		8.328
77	Base % Input to System kWh Mix		42.41
78	WEIGHTED COMP. PURCH. ENERGY COST, ¢/KWH (lines 76 x 77)		3.53190
79	Cost Less Base (Line 75 - 78)		1.26047
80	Loss Factor		1.053
81	Revenue Tax Req Multiplier		1.0975
82	PURCHASED ENERGY FACTOR, ¢/KWH (lines 79 x 80 x 81)		1.45668

Line SYSTEM COMPOSITE

83 GEN AND PURCHASED ENERGY FACTOR, ¢/kWh (lines 44 + 82) (2.46657)
84 Kahuku Wind D-VAR Adjustment, ¢/kWh 0.000
85 ECA Reconciliation Adjustment 0.287
86 ECA FACTOR, ¢/kWh (lines 83 + 84 + 85) (2.180)

Hawaiian Electric Company, Inc.
FUEL OIL INVENTORY PRICES FOR 08-01-17

	Honolulu	Kahe	Waiau
Average Low Sulfur Fuel Oil, ¢/Mbtu	979.78	979.78	979.78
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	979.78	980.10	979.78
	Waiau	CIP	
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,202.08	2,660.02	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,202.08	2,660.02	
	Honolulu	Kahe	Waiau
Average Low Sulfur Fuel Oil, \$/bbl	61.33	61.33	61.33
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	-	-	-
Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	61.33	61.35	61.33
	Waiau	CIP	
Average Diesel / Biodiesel Oil, \$/bbl	69.15	140.19	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	69.15	140.19	
Distributed Generation Fuel Prices Used for Filing, ¢/kWh			25.130

FOAC August 2017

<u>LSFO</u>	BARRELS	MBTU	AMOUNT	AVE \$/MBTU
Per FOAC run	631,347	3,951,914.53	38,720,222.12	9.797839
Additional	-	-	-	-
Forecast Amt	631,347	3,951,914.53	38,720,222.12	9.797839
	-	6.20	-	ADD'L BBL
	3,951,915	631,347	6.2595	MBTU / BBL
	38,720,222	631,347	61.33	DOLLARS / BBL
<u>WAI AU DIESEL</u>	21,575	124,108.60	1,491,881.53	12.020774
	1,491,882	21,575	69.15	DOLLARS / BBL
<u>CIP BIODIESEL</u>	34,765	183,218.47	4,873,647.65	26.600199
	4,873,648	34,765	140.19	DOLLARS / BBL
KAHE FUEL ADDITIVE *				
Additional	-	-	-	0.003194
Forecast Amt	-	-	-	0.003194
\$ / BBL =		-	0.02	DOLLARS / BBL
HONOLULU TRUCKING COST				
Per FOAC run	-	-	-	-
Additional	-	-	-	-
Forecast Amt	-	-	-	-
\$ / BBL =	-	-	-	DOLLARS / BBL

* Annualized amount per HECO T-4 in Docket No. 2010-0080

Hawaiian Electric Company, Inc.

CONTRACT PRICES EFFECTIVE 7-1-17

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
LOW SULFUR FUEL OIL		
Tax *	4.1418	66.81
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
DIESEL		
Tax *	4.8425	82.64
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
BIODIESEL		
Tax *	0.0000	0.00
Ocean Transportation	0.0000	0.00
Land 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, Federal Oil Spill Recovery Fee, and Environmental Response, Energy and FS 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.

HAWAIIAN ELECTRIC COMPANY, INC.

DETERMINATION OF DISTRIBUTED GENERATION EXPENSE

<u>Line No.</u>		
L1	Estimated Distributed Generation Fuel Cost (\$/mbtu)	\$24.57
L2	Estimated Distributed Generation Fuel Transport Cost (\$/mbtu)	\$0.00
L3 = L1+ L2	Estimated Total Fuel and Transportation Cost (\$/mbtu)	\$24.57
L4	Estimated Mbtu Generation for month (August 2017)	10,000
L5 = L3 x L4	Estimated Distributed Generation Total Fuel Cost (\$)	\$245,741
L6	Estimated Distributed Generation kWh Produced (August 2017)	978,000
L7 = (L5 ÷ L6) x 100	Distributed Generation Fuel Prices Used for Filing, (¢/kWh)	25.1300

Hawaiian Electric Company, Inc.
ECA RECONCILIATION ADJUSTMENT
August 2017

1.	Amount to be collected	\$	4,553,893
2.	Monthly Amount (Line 1 x 1/3)	\$	1,517,964
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	1,665,987
5.	Estimated MWh Sales (August 2017)		580,100
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.287</u></u>

Hawaiian Electric Company, Inc.
FUEL OIL ADJUSTMENT RECONCILIATION SUMMARY
June 2017
(Thousand \$)

<u>Line</u>	<u>Description</u>	Info Only		Basis for Recon	
		W/O DeadBand June 2017 Cumulative <u>YTD Total</u>	collectn by company*	W/ DeadBand June 2017 Cumulative <u>YTD Total</u>	collectn by company*
ACTUAL COSTS:					
1	Generation	\$193,902.0		\$193,902.0	
2	Distributed Generation	\$23.2		\$23.2	
3	Purch Power	\$139,038.1		\$139,038.1	
4	TOTAL	\$332,963.3		\$332,963.3	
FUEL FILING COST					
5	Generation	\$193,950.3		\$194,719.1	
6	Distributed Generation	\$23.2		\$23.2	
7	Purch Power	\$139,038.1		\$139,038.1	
8	TOTAL	\$333,011.6		\$333,780.3	
BASE FUEL COST					
9	Generation	\$201,911.3		\$201,911.3	
10	Distributed Generation	\$15.6		\$15.6	
11	Purch Power	\$188,412.3		\$188,412.3	
12	TOTAL	\$390,339.2		\$390,339.2	
13	FUEL-BASE COST (Line 8-12)	-\$57,327.6		-\$56,558.8	
14	ACTUAL FOA LESS TAX	-\$57,184.2		-\$57,184.2	
15	Less: FOA reconciliation adj for prior year	\$4,246.9		\$4,246.9	
16	ADJUSTED FOA LESS TAX	-\$61,431.1		-\$61,431.1	
17	FOA-(FUEL-BASE) (Line 16-13)	-\$4,103.5	under	-\$4,872.3	under
ADJUSTMENTS:					
18	Current year FOA accrual reversal	-\$636.6		-\$636.6	
19	Other prior year FOA	\$0.0		\$0.0	
20	Other	\$0.0		\$0.0	
21	QUARTERLY FOA RECONCILIATION (Line 17+18+19+20)	-\$4,740.1	under	-\$5,508.9	under
22	1st Quarter Reconciliation YTD			-\$955.0	
23	Amount to be collected			-\$4,553.9	

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

Hawaiian Electric Company, Inc.
DEADBAND CALCULATION
2017

	Notes	YTD
Industrial		
Industrial Efficiency Factor (per D&O), BTU/kWh*	f	11,079
Industrial Deadband Definition, +/- BTU/kWh	d	50
Industrial Portion of Recorded Sales, kWh	a	1,580,889,831
Industrial Consumption (Recorded), MMBTU	b	17,703,094
Industrial Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	11,198
Lower limit of Industrial Deadband, BTU/kWh	e = f-d	11,029
Higher limit of Industrial Deadband, BTU/kWh	g = f+d	11,129
Industrial Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	11,129
Diesel		
Diesel Efficiency Factor (per D&O), BTU/kWh*	f	19,721
Diesel Deadband Definition, +/- BTU/kWh	d	50
Diesel Portion of Recorded Sales, MWh	a	21,868,100
Diesel Consumption (Recorded), MMBTU	b	390,786
Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	17,870
Lower limit of Diesel Deadband, BTU/kWh	e = f-d	19,671
Higher limit of Diesel Deadband, BTU/kWh	g = f+d	19,771
Diesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	19,671
Biodiesel		
Biodiesel Efficiency Factor (per D&O), BTU/kWh*	f	20,169
Biodiesel Deadband Definition, +/- BTU/kWh	d	50
Biodiesel Portion of Recorded Sales, MWh	a	26,022,751
Biodiesel Consumption (Recorded), MMBTU	b	446,575
Biodiesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	17,161
Lower limit of Biodiesel Deadband, BTU/kWh	e = f-d	20,119
Higher limit of Biodiesel Deadband, BTU/kWh	g = f+d	20,219
Biodiesel Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	20,119
Hydro		
Hydro Efficiency Factor (per D&O), BTU/kWh*	f	0
Hydro Deadband Definition, +/- BTU/kWh	d	50
Hydro Portion of Recorded Sales, MWh	a	0
Hydro Consumption (Recorded), MMBTU	b	0
Hydro Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	0
Lower limit of Hydro Deadband, BTU/kWh	e = f-d	-50
Higher limit of Hydro Deadband, BTU/kWh	g = f+d	50
Hydro Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	0
Other		
Other Efficiency Factor (per D&O), BTU/kWh*	f	0
Other Deadband Definition, +/- BTU/kWh	d	50
Other Portion of Recorded Sales, MWh	a	0
Other Consumption (Recorded), MMBTU	b	0
Other Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	0
Lower limit of Other Deadband, BTU/kWh	e = f-d	-50
Higher limit of Other Deadband, BTU/kWh	g = f+d	50
Other Efficiency Factor for cost-recovery, BTU/kWh	h = c, e or g	0

* YTD Efficiency Factor (per D&O) is actual YTD & projected to the end of the year weighted by calendar days in the year.

HAWAIIAN ELECTRIC COMPANY, INC.
GENERATION FUEL FILING COST AND GENERATION BASE FUEL COST,
June 2017 Year-to-Date

	<u>Without Deadband</u>	<u>With Deadband - As Filed</u>
<u>INDUSTRIAL FUEL FILING COST</u>		
LSFO Portion of Recorded Sales , MWH	1,580,889,831	1,580,889,831
LSFO Sales Efficiency Factor (mmbtu/kwh)	0.011079	0.011129
Mmbtu adjusted for Sales Efficiency Factor	17,514,678,438	17,593,722,929
\$/mmbtu	<u>\$10.2057</u>	<u>\$10.2057</u>
TOTAL LSFO \$ TO BE RECOVERED	\$178,750,012	\$179,556,718
<u>DIESEL FUEL FILING COST</u>		
Diesel Portion of Recorded Sales, MWH	21,868,100	21,868,100
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.019721	0.019671
Mmbtu adjusted for Sales Efficiency Factor	431,260,800	430,167,395
\$/mmbtu	<u>\$12.1266</u>	<u>\$12.1266</u>
TOTAL DIESEL \$ TO BE RECOVERED	\$5,229,734	\$5,216,475
<u>BIODIESEL FUEL FILING COST</u>		
Biodiesel Portion of Recorded Sales , MWH	26,022,751	26,022,751
Biodiesel Sales Efficiency Factor (mmbtu/kwh)	0.020169	0.020119
Mmbtu adjusted for Sales Efficiency Factor	524,852,865	523,551,727
\$/mmbtu	<u>\$18.9969</u>	<u>\$18.9969</u>
TOTAL BIODIESEL \$ TO BE RECOVERED	\$9,970,584	\$9,945,866
<u>TOTAL GENERATION FUEL FILING COST</u>		
Generation Portion of Recorded Sales , MWH		
Sales Efficiency Factor (mmbtu/kwh)		
Mmbtu adjusted for Sales Efficiency Factor		
\$/mmbtu		
TOTAL GENERATION FUEL FILING COST \$	\$193,950,329	\$194,719,059
<u>GENERATION BASE FUEL COST</u>		
TOTAL GENERATION BASE FUEL COST	\$201,911,309	\$201,911,309
TOTAL GENERATION FUEL FILING COST \$ YTD	\$193,950,329	\$194,719,059
TOTAL GENERATION BASE FUEL COST YTD	\$201,911,309	\$201,911,309

HAWAIIAN ELECTRIC COMPANY, INC.
2017 Cumulative Reconciliation Balance

	(1)		(2)	(3)	(4)	(5)	(6)
<u>Month</u>	<u>YTD FOA Reconciliation</u>	<u>Qtr</u>	<u>FOA Rec Adjust Variance</u>	<u>FOA Rec Less Variance</u>	<u>Try to Collect</u>	<u>Actual Collect</u>	<u>Month-end Cumulative Balance</u>
December 16					(145,070)	(146,542)	159,869
January'17					(145,070)	(136,541)	23,328
February	(4,392,100)	(4)	14,792	(4,406,892)	1,464,033	1,375,221	(3,008,344)
March					1,464,033	1,470,145	(1,538,199)
April					1,464,033	1,458,185	(80,014)
May	(955,000)	(1)	(74,171)	(880,829)	318,333	312,457	(648,385)
June					318,333	329,519	(318,866)
July					318,333		
August	(4,553,893)	(2)	(539)	(4,553,354)	1,517,964		

NOTES:

- Col(1): Quarterly FOA reconciliation amounts. (Refer to Attachment 4)
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))

Hawaiian Electric Company, Inc.
FUEL OIL ADJUSTMENT FACTOR DATA

<u>EFFECTIVE DATE</u>	<u>FUEL FACTOR</u> <u>CENTS / KWH</u>		<u>RESIDENTIAL BILL (\$)</u>	
	<u>RESIDENTIAL &</u> <u>COMMERCIAL</u>		<u>@ 500 KWH</u>	<u>@ 600 KWH</u>
January 1, 2012	11.428		171.04	204.17
February 1, 2012	10.924		167.64	200.11
March 1, 2012	11.530		170.67	203.74
April 1, 2012	11.600		170.71	203.79
May 1, 2012	13.122		180.63	215.69
June 1, 2012	13.274		183.06	218.60
July 1, 2012	12.917		181.60	216.85
August 1, 2012	12.332		180.60	215.65
September 1, 2012	7.083		175.67	209.82
October 1, 2012	7.023		176.13	210.37
November 1, 2012	5.828		167.64	200.18
December 1, 2012	5.029		163.64	195.38
January 1, 2013	5.885		168.27	200.91
February 1, 2013	7.674		180.93	216.11
March 1, 2013	8.113		183.12	218.75
April 1, 2013	5.602		170.09	203.11
May 1, 2013	5.631		167.15	199.59
June 1, 2013	5.502		171.23	204.47
July 1, 2013	5.422		171.06	204.27
August 1, 2013	5.844		175.95	210.14
September 1, 2013	4.640		170.05	203.06
October 1, 2013	5.521		174.43	208.32
November 1, 2013	5.406		174.29	208.15
December 1, 2013	5.087		172.67	206.20
January 1, 2014	5.946		176.84	211.22
February 1, 2014	7.338		181.96	217.36
March 1, 2014	5.978		176.41	210.70
April 1, 2014	6.057		177.55	212.05
May 1, 2014	5.541		176.07	210.28
June 1, 2014	5.685		180.90	216.08
July 1, 2014	5.721		181.86	217.24
August 1, 2014	5.901		182.65	218.17
September 1, 2014	5.988		183.30	218.96
October 1, 2014	5.155		179.10	213.91
November 1, 2014	3.694		170.67	203.79
December 1, 2014	2.659		165.48	197.32
January 1, 2015	1.065		157.06	187.22
February 1, 2015	-0.755		148.91	177.45
March 1, 2015	-1.863		142.92	170.25
April 1, 2015	-1.151		140.96	167.91
May 1, 2015	-1.931		140.48	167.34
June 8, 2015	-1.624		144.54	172.20
July 1, 2015	-0.997		146.21	174.20
August 1, 2015	-1.673		142.51	169.75
September 1, 2015	-1.343		144.33	171.94
October 1, 2015	-2.793		136.95	163.07
November 1, 2015	-3.179		132.36	157.57
December 1, 2015	-3.353		131.47	156.51
January 1, 2016	-3.748		129.34	153.97
February 1, 2016	-4.637		127.47	151.74
March 1, 2016	-5.498		123.06	146.43
April 1, 2016	-5.393		123.34	146.76
May 1, 2016	-5.527		124.85	148.58
June 1, 2016	-4.651		129.34	153.95
July 1, 2016	-3.854		133.43	158.90
August 1, 2016	-3.176		134.73	160.45
September 1, 2016	-3.345		133.98	159.57
October 1, 2016	-3.964		130.77	155.71
November 1, 2016	-3.848		131.04	156.03
December 1, 2016	-3.578		132.32	157.56
January 1, 2017	-2.091		135.39	161.22
February 1, 2017	-1.863		142.81	170.13
March 1, 2017	-1.730		143.26	170.66
April 1, 2017	-1.608		143.43	170.86
May 1, 2017	-2.347		140.42	167.26
June 1, 2017	-2.215		141.89	169.01
July 1, 2017	-2.003		141.79	168.91
August 1, 2017	-2.180		140.14	166.92

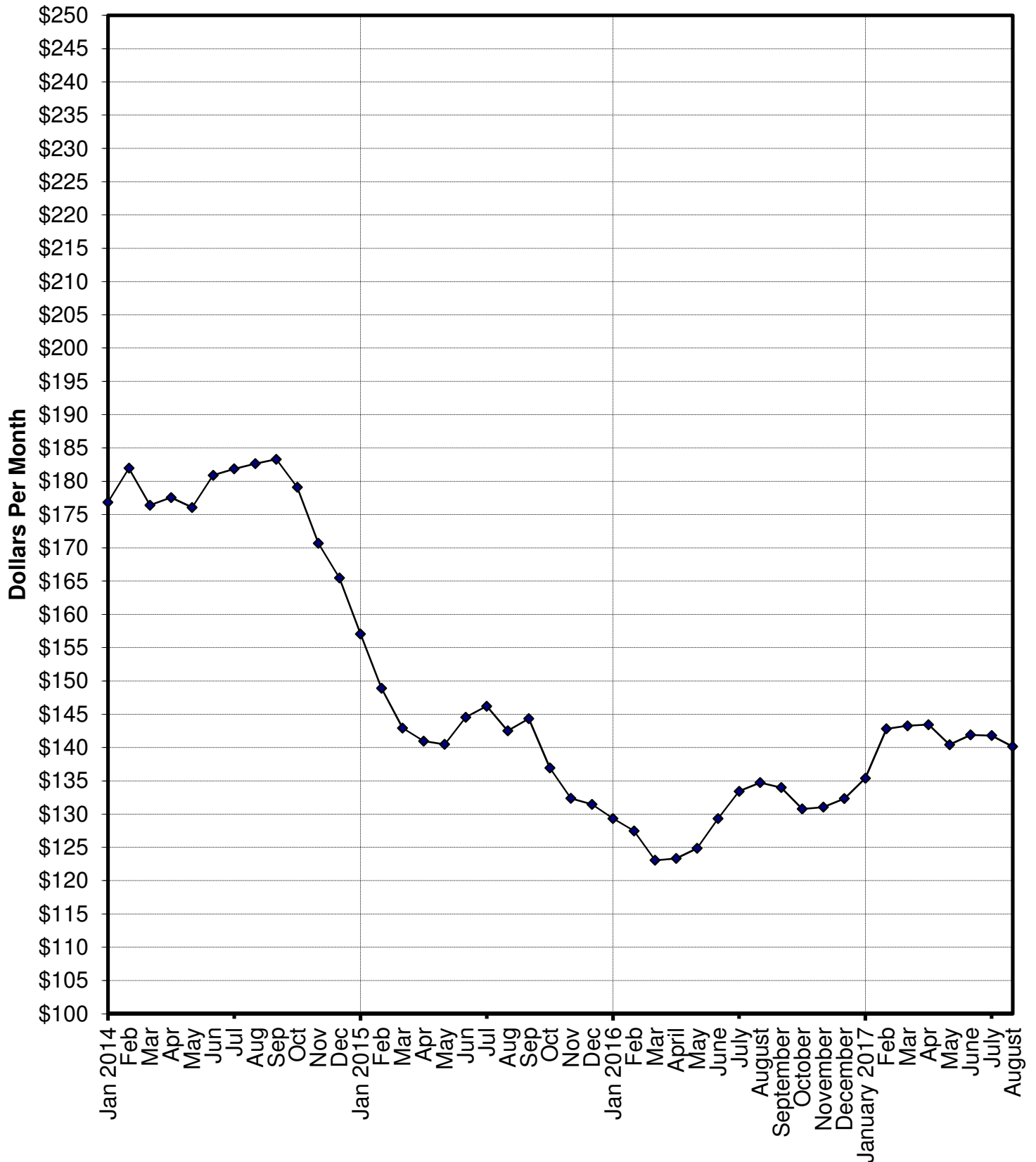
Hawaiian Electric Company, Inc.
RESIDENTIAL SURCHARGE DATA

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
09/01/12	FINAL RATE INCREASE (TY2011) 3.39% EFFECTIVE 09/01/12, DOCKET NO. 2010-0080	
9/1/2012 - 09/30/2012	REFUND OF 2011 INTERIM RATE INCREASE	-0.64 PERCENT ON BASE
10/1/2012 - 12/31/2012	REFUND OF 2011 INTERIM RATE INCREASE	0.00 PERCENT ON BASE
11/1/2012 - 01/31/2013	PURCHASED POWER ADJUSTMENT CLAUSE	2.6960 CENTS/KWH
1/1/2013 - 01/31/2013	REFUND OF 2011 INTERIM RATE INCREASE	-0.18 PERCENT ON BASE
1/1/2013 - 6/30/2013	RESID. PBF SURCHARGE ADJUSTMENT	0.7850 CENTS/KWH
2/1/2013	REFUND OF 2011 INTERIM RATE INCREASE	0.00 PERCENT ON BASE
2/1/2013 - 4/30/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.3989 CENTS/KWH
4/1/2013 - 4/30/2013	SOLARSAVER ADJUSTMENT	-0.1196 CENTS/KWH
4/1/2013 - 3/31/2014	RESIDENTIAL DSM ADJUSTMENT	0.1067 CENTS/KWH
5/1/2013 - 3/31/2014	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
5/1/2013 - 7/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	2.6617 CENTS/KWH
5/15/2013 - 2/28/2014	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0211 CENTS/KWH
6/1/2013 - 5/31/2014	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.3119 CENTS/KWH
7/1/2013 - 6/30/2014	RESID. PBF SURCHARGE ADJUSTMENT	0.8312 CENTS/KWH
8/1/2013 - 8/31/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.2174 CENTS/KWH
9/1/2013 - 9/30/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.2422 CENTS/KWH
10/1/2013 - 10/31/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.2377 CENTS/KWH
11/1/2013 - 11/30/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.3246 CENTS/KWH
12/1/2013 - 12/31/2013	PURCHASED POWER ADJUSTMENT CLAUSE	3.3179 CENTS/KWH
1/1/2014 - 1/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.2943 CENTS/KWH
2/1/2014 - 2/28/2014	PURCHASED POWER ADJUSTMENT CLAUSE	2.9263 CENTS/KWH
3/1/2014 - 3/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.1754 CENTS/KWH
3/1/2014 - 7/6/2014	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0226 CENTS/KWH
4/1/2014 - 4/30/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.4058 CENTS/KWH
4/1/2014 - 3/31/2015	RESIDENTIAL DSM ADJUSTMENT	0.1423 CENTS/KWH
4/1/2014 - 4/30/2014	SOLARSAVER ADJUSTMENT	-0.1177 CENTS/KWH
5/1/2014 - 5/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.4058 CENTS/KWH
5/1/2014 - 3/31/2015	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
6/1/2014 - 6/30/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.5152 CENTS/KWH
6/1/2014 - 5/31/2015	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.1269 CENTS/KWH
7/1/2014 - 7/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.4876 CENTS/KWH
7/1/2014 - 11/30/2014	RESID. PBF SURCHARGE ADJUSTMENT	1.0157 CENTS/KWH
7/7/2014 - 02/28/2015	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0223 CENTS/KWH
8/1/2014 - 8/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.4655 CENTS/KWH
9/1/2014 - 9/30/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.5100 CENTS/KWH
10/1/2014 - 10/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.5018 CENTS/KWH
11/1/2014 - 11/30/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.2773 CENTS/KWH
12/1/2014 - 12/31/2014	PURCHASED POWER ADJUSTMENT CLAUSE	3.2747 CENTS/KWH
12/1/2014 - 06/30/2015	GREEN INFRASTRUCTURE FEE	1.2900 DOLLARS/MONTH
12/1/2014 - 6/30/2015	RESID. PBF SURCHARGE ADJUSTMENT	0.7583 CENTS/KWH
01/1/2015 - 01/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.1849 CENTS/KWH
02/1/2015 - 02/28/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.3760 CENTS/KWH
03/1/2015 - 03/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.2873 CENTS/KWH
3/1/2015 - 08/16/2015	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0204 CENTS/KWH
04/1/2015 - 04/30/2015	PURCHASED POWER ADJUSTMENT CLAUSE	2.4105 CENTS/KWH
4/1/2015 - 4/30/2015	SOLARSAVER ADJUSTMENT	-0.1178 CENTS/KWH
4/1/2015 - 03/31/2016	RESIDENTIAL DSM ADJUSTMENT	0.0348 CENTS/KWH
05/1/2015 - 05/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	2.9760 CENTS/KWH
5/1/2015 - 03/31/2016	SOLAR SAVER ADJUSTMENT	0.00 CENTS/KWH
06/1/2015 - 06/30/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.4972 CENTS/KWH
06/1/2015 - 06/7/2015	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.00 CENTS/KWH
6/8/2015 - 5/31/2016	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.1078 CENTS/KWH
07/1/2015 - 07/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.4646 CENTS/KWH
7/1/2015 - 6/30/2016	RESID. PBF SURCHARGE ADJUSTMENT	0.4749 CENTS/KWH
7/1/2015 - 12/31/2015	GREEN INFRASTRUCTURE FEE	1.4200 DOLLARS/MONTH
08/1/2015 - 08/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.4002 CENTS/KWH
8/17/2015 - 12/16/2015	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0304 CENTS/KWH
09/1/2015 - 09/30/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.4246 CENTS/KWH
10/1/2015 - 10/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.3971 CENTS/KWH
11/1/2015 - 11/30/2015	PURCHASED POWER ADJUSTMENT CLAUSE	2.8651 CENTS/KWH
12/1/2015 - 12/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	2.8628 CENTS/KWH
01/1/2016 - 01/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	2.8642 CENTS/KWH
12/17/2015 - 02/29/2016	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0204 CENTS/KWH
01/01/2016 - 06/30/2016	GREEN INFRASTRUCTURE FEE	1.3000 DOLLARS/MONTH
02/1/2016 - 02/29/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3809 CENTS/KWH
03/1/2016 - 03/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3578 CENTS/KWH
3/1/2016 - 05/14/2016	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0204 CENTS/KWH
04/1/2016 - 04/30/2016	SOLAR SAVER ADJUSTMENT	-0.1223 CENTS/KWH
04/1/2016 - 04/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.3834 CENTS/KWH
4/1/2016 - 3/31/2017	RESIDENTIAL DSM ADJUSTMENT	0.0811 CENTS/KWH
5/1/2016 - 3/31/2017	SOLAR SAVER ADJUSTMENT	0.00 CENTS/KWH
05/1/2016 - 05/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.6989 CENTS/KWH
5/15/2016	RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION	0.0000 CENTS/KWH
06/1/2016 - 06/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.7373 CENTS/KWH
6/1/2016 - 5/31/2017	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.1098 CENTS/KWH
07/1/2016 - 07/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.6808 CENTS/KWH
7/1/2016 - 12/31/2016	GREEN INFRASTRUCTURE FEE	1.1300 DOLLARS/MONTH
7/1/2016	RESID. PBF SURCHARGE ADJUSTMENT	0.5865 CENTS/KWH
08/1/2016 - 08/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2621 CENTS/KWH
09/1/2016 - 09/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2827 CENTS/KWH
10/1/2016 - 10/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.2576 CENTS/KWH
11/1/2016 - 11/30/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.1959 CENTS/KWH
12/1/2016 - 12/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	3.1815 CENTS/KWH
01/1/2017 - 01/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	2.2812 CENTS/KWH
1/01/2017 - 06/30/2017	GREEN INFRASTRUCTURE FEE	1.2700 DOLLARS/MONTH
02/1/2017 - 02/28/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5384 CENTS/KWH
03/1/2017 - 03/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.4937 CENTS/KWH
04/1/2017 - 04/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5276 CENTS/KWH
4/1/2017	RESIDENTIAL DSM ADJUSTMENT	0.0774 CENTS/KWH
4/1/2017 - 4/30/2017	SOLAR SAVER ADJUSTMENT	-0.1187 CENTS/KWH
5/1/2017	SOLAR SAVER ADJUSTMENT	0.0000 CENTS/KWH
05/1/2017 - 05/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5484 CENTS/KWH
06/1/2017 - 06/30/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5894 CENTS/KWH
6/1/2017	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	2.2291 CENTS/KWH
7/1/2017	GREEN INFRASTRUCTURE FEE	1.1800 DOLLARS/MONTH
7/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5388 CENTS/KWH
7/1/2017	RESID. PBF SURCHARGE ADJUSTMENT	0.4244 CENTS/KWH
8/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3840 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.

Hawaiian Electric Company, Inc. Residential Bill at 500 KWH/Month Consumption



**Hawaiian Electric Company, Inc.
CALCULATIONS OF THE AVERAGE RESIDENTIAL CUSTOMER BILL**

	Rate		Charge (\$) at 500 kWh			
	7/1/2017	8/1/2017	7/1/2017	8/1/2017	Difference	
Base Rates	effective date:	09/01/12	09/01/12			
Base Fuel/Energy Charge	¢/kWh	13.6062	13.6062	68.03	68.03	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	8.1034	8.1034	28.36	28.36	0.00
Next 850 kWhr per month	¢/kWh	9.2569	9.2569	13.89	13.89	0.00
Customer Charge	\$	9.00	9.00	9.00	9.00	0.00
Total Base Charges				119.28	119.28	0.00
Purchase Power Adjustment	¢/kWh	3.5388	3.3840	17.69	16.92	-0.77
RBA Rate Adjustment	¢/kWh	2.2291	2.2291	11.15	11.15	0.00
DSM Adjustment	¢/kWh	0.0774	0.0774	0.39	0.39	0.00
Interim Rate Increase (TY 2011)	% on base	0.000%	0.000%	0.00	0.00	0.00
Refund of 2011 Interim	% on base	0.000%	0.000%	0.00	0.00	0.00
PBF Surcharge	¢/kWh	0.4244	0.4244	2.12	2.12	0.00
Renewable Energy Infrastructure Cost						
Recovery Provision	¢/kWh	-	-	0.00	0.00	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
Energy Cost Adjustment	¢/kWh	-2.003	-2.180	-10.02	-10.90	-0.88
Green Infrastructure Fee	\$	1.18	1.18	1.18	1.18	0.00
Avg Residential Bill at 500 kWh				141.79	140.14	

Increase / (Decrease -) -1.65
 % Change -1.16%

	Rate		Charge (\$) at 600 kWh			
	7/1/2017	8/1/2017	7/1/2017	8/1/2017	Difference	
Base Rates	effective date:	09/01/12	09/01/12			
Base Fuel/Energy Charge	¢/kWh	13.6062	13.6062	81.64	81.64	0.00
Non-fuel Fuel Energy Charge						
First 350 kWhr per month	¢/kWh	8.1034	8.1034	28.36	28.36	0.00
Next 850 kWhr per month	¢/kWh	9.2569	9.2569	23.14	23.14	0.00
Customer Charge	\$	9.00	9.00	9.00	9.00	0.00
Total Base Charges				142.14	142.14	0.00
Purchase Power Adjustment	¢/kWh	3.5388	3.3840	21.23	20.30	-0.93
RBA Rate Adjustment	¢/kWh	2.2291	2.2291	13.37	13.37	0.00
DSM Adjustment	¢/kWh	0.0774	0.0774	0.46	0.46	0.00
Interim Rate Increase (TY 2011)	% on base	0.000%	0.000%	0.00	0.00	0.00
Refund of 2011 Interim	% on base	0.000%	0.000%	0.00	0.00	0.00
PBF Surcharge	¢/kWh	0.4244	0.4244	2.55	2.55	0.00
Renewable Energy Infrastructure Cost						
Recovery Provision	¢/kWh	-	-	0.00	0.00	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
Energy Cost Adjustment	¢/kWh	-2.003	-2.180	-12.02	-13.08	-1.06
Green Infrastructure Fee	\$	1.18	1.18	1.18	1.18	0.00
Avg Residential Bill at 600 kWh				168.91	166.92	

Increase / (Decrease -) -1.99
 % Change -1.18%