



October 27, 2017

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PUBLIC UTILITIES  
COMMISSION

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: Hawaiian Electric Energy Cost Adjustment Factor for November 2017

Hawaiian Electric Company Inc.'s ("Hawaiian Electric" or "Company") November 2017 energy cost adjustment factor is -2.109 cents per kilowatt-hour ("kWh"), an increase of 0.107 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$139.52, a decrease of \$0.39 compared to rates effective October 1, 2017. The decrease in the typical residential bill is due to an increase in the Energy Cost Adjustment factor (+\$0.53), and a decrease in the Purchased Power Adjustment Clause rate (-\$0.92).

The Company's fuel composite cost of generation increased 83.38 cents per million BTU to 1,135.00 cents per million BTU. The Company's Distributed Generation ("DG") energy component decreased 0.003 cents per kWh to 0.013 cents per kWh. The composite cost of purchased energy increased 0.026 cents per kWh to 8.117 cents per kWh.

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 November 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>10/01/17</u>	<u>11/01/17</u>	
Composite Cost Of Generation, ¢/mmbtu	1,051.62	1,135.00	83.38
DG Energy Component, ¢/kWh	0.017	0.013	(0.003)
Composite Cost Of Purchased Energy, ¢/kWh	8.091	8.117	0.026
 <u>Residential, Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(2.216)	(2.109)	0.107
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(2.216)	(2.109)	0.107
 <u>Residential Customer with:</u>			
500 kWh Consumption, \$/bill	139.91	139.52	(0.39)
600 kWh Consumption, \$/bill	166.65	166.18	(0.47)

Supersedes Sheet Effective:                      October 1, 2017



Hawaiian Electric Company, Inc.  
ENERGY COST ADJUSTMENT FILING

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

Line

1 **Effective Date** - November 1, 2017  
2 **Supercedes Factor** - October 1, 2017

Line	PURCHASED ENERGY COMPONENT		
PURCHASED ENERGY PRICE - c/KWH			
45	PAR Hawaii	- On Peak	10.939
46	(f.k.a HIE/Tesoro)	- Off Peak	11.261
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	10.939
52		- Off Peak	11.261
53	Kalaeloa		9.179
54	AES-HI		3.233
55	Kawailoa		21.738
56	Kahuku Wind		20.401
57	As Available I		21.717
58	FIT		19.314
PURCHASED ENERGY KWH MIX, %			
59	PAR Hawaii	- On Peak	0.22
60	(f.k.a HIE/Tesoro)	- Off Peak	0.16
61	HRRV	- On Peak	6.98
62		- Off Peak	2.41
63	HRRV	- On Peak (excess)	0.00
64		- Off Peak (excess)	0.91
65	IES Downstream	- On Peak	0.01
66	(f.k.a Chevron)	- Off Peak	0.01
67	Kalaeloa		42.58
68	AES-HI		40.90
69	Kawailoa		2.36
70	Kahuku Wind		1.51
71	As Available I		0.45
72	FIT		1.50
			100.00
73	COMPOSITE COST OF PURCHASED ENERGY, c/KWH		8.117
74	% Input to System kWh Mix		56.25
75	WTD CMP PURCH ENRGY COST, c/KWH (lines 73 x 74)		4.56581
76	BASE PURCH ENERGY COMP COST		8.328
77	Base % Input to System kWh Mix		42.41
78	WEIGHTED COMP. PURCH. ENERGY COST, c/KWH (lines 76 x 77)		3.53190
79	Cost Less Base (Line 75 - 78)		1.03391
80	Loss Factor		1.053
81	Revenue Tax Req Multiplier		1.0975
82	PURCHASED ENERGY FACTOR, c/KWH (lines 79 x 80 x 81)		1.19486

Line SYSTEM COMPOSITE

83 GEN AND PURCHASED ENERGY FACTOR, c/kWh (lines 44 + 82) (2.17577)  
84 Kahuku Wind D-VAR Adjustment, c/kWh 0.000  
85 ECA Reconciliation Adjustment 0.067  
86 ECA FACTOR, c/kWh (lines 83 + 84 + 85) (2.109)

**Hawaiian Electric Company, Inc.**  
**FUEL OIL INVENTORY PRICES FOR 11-01-17**

	Honolulu	Kahe	Waiiau
Average Low Sulfur Fuel Oil, ¢/Mbtu	1,098.77	1,098.77	1,098.77
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	-	-	-

Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	1,098.77	1,099.09	1,098.77
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	Waiiau	CIP
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,494.58	2,789.65
Thruput Charges, ¢/Mbtu	-	-

Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,494.58	2,789.65
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	Honolulu	Kahe	Waiiau
Average Low Sulfur Fuel Oil, \$/bbl	68.91	68.91	68.91
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	-	-	-

Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	68.91	68.93	68.91
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	Waiiau	CIP
Average Diesel / Biodiesel Oil, \$/bbl	85.67	148.18
Thruput Charges, ¢/Mbtu	-	-

Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	85.67	148.18
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Distributed Generation Fuel Prices Used for Filing, ¢/kWh	26.540
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**FOAC November 2017**

<b><u>LSFO</u></b>	<b><u>BARRELS</u></b>	<b><u>MBTU</u></b>	<b><u>AMOUNT</u></b>	<b><u>AVE \$/MBTU</u></b>
Per FOAC run	662,482	4,154,951.58	45,653,356.68	10.987699
Additional	-	-	-	-
Forecast Amt	662,482	4,154,951.58	45,653,356.68	10.987699
	-	6.20	-	ADD'L BBL
	4,154,952	662,482	6.2718	MBTU / BBL
	45,653,357	662,482	68.91	DOLLARS / BBL
<b><u>WAIU DIESEL</u></b>	54,844	314,366.85	4,698,461.57	14.945792
	4,698,462	54,844	85.67	DOLLARS / BBL
<b><u>CIP BIODIESEL</u></b>	22,380	118,877.35	3,316,267.73	27.896548
	3,316,268	22,380	148.18	DOLLARS / BBL
<b>KAHE FUEL ADDITIVE *</b>				
Additional	-	-	-	0.003194
Forecast Amt	-	-	-	0.003194
\$ / BBL =		-	0.02	DOLLARS / BBL
<b>HONOLULU TRUCKING COST</b>				
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 10-1-17**

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
<b>LOW SULFUR FUEL OIL</b>		
Tax *	4.4506	71.79
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
<b>DIESEL</b>		
Tax *	5.8380	99.63
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
<b>BIODIESEL</b>		
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

Line No.		
L1	Estimated Distributed Generation Fuel Cost (\$/mbtu)	\$26.75
L2	Estimated Distributed Generation Fuel Transport Cost (\$/mbtu)	\$0.00
L3 = L1+ L2	Estimated Total Fuel and Transportation Cost (\$/mbtu)	\$26.75
L4	Estimated Mbtu Generation for month (November 2017)	2,500
L5 = L3 x L4	Estimated Distributed Generation Total Fuel Cost (\$)	\$66,883
L6	Estimated Distributed Generation kWh Produced (November 2017)	252,000
L7 = (L5 ÷ L6) x 100	Distributed Generation Fuel Prices Used for Filing, (¢/kWh)	<b>26.5400</b>



**Hawaiian Electric Company, Inc.**  
**ECA RECONCILIATION ADJUSTMENT**  
**November 2017**

1.	Amount to be collected	\$	988,400
2.	Monthly Amount (Line 1 x 1/3)	\$	329,467
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	361,594
5.	Estimated MWh Sales (October 2017)		543,100
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.067</u></u>

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

<u>Line</u>	<u>Description</u>	<b>Info Only</b>		<b>Basis for Recon</b>	
		W/O DeadBand September 2017 Cumulative <u>YTD Total</u>	collectn by company*	W/ DeadBand September 2017 Cumulative <u>YTD Total</u>	collectn by company*
ACTUAL COSTS:					
1	Generation	\$295,825.9		\$295,825.9	
2	Distributed Generation	\$117.4		\$117.4	
3	Purch Power	\$219,119.7		\$219,119.7	
4	TOTAL	\$515,063.0		\$515,063.0	
FUEL FILING COST					
5	Generation	\$295,988.8		\$297,142.9	
6	Distributed Generation	\$117.4		\$117.4	
7	Purch Power	\$219,119.7		\$219,119.7	
8	TOTAL	\$515,225.8		\$516,380.0	
BASE FUEL COST					
9	Generation	\$306,253.7		\$306,253.7	
10	Distributed Generation	\$63.1		\$63.1	
11	Purch Power	\$304,137.9		\$304,137.9	
12	TOTAL	\$610,454.7		\$610,454.7	
13	FUEL-BASE COST (Line 8-12)	-\$95,228.9		-\$94,074.7	
14	ACTUAL FOA LESS TAX	-\$92,334.4		-\$92,334.4	
15	Less: FOA reconciliation adj for prior year	\$4,246.9		\$4,246.9	
16	ADJUSTED FOA LESS TAX	-\$96,581.3		-\$96,581.3	
17	FOA-(FUEL-BASE) (Line 16-13)	-\$1,352.4	under	-\$2,506.6	under
ADJUSTMENTS:					
18	Current year FOA accrual reversal	-\$3,990.7		-\$3,990.7	
19	Other prior year FOA	\$0.0		\$0.0	
20	Other	\$0.0		\$0.0	
21	QUARTERLY FOA RECONCILIATION (Line 17+18+19+20)	-\$5,343.1	under	-\$6,497.3	under
22	2nd Quarter Reconciliation YTD			-\$5,508.9	
23	Amount to be collected			-\$988.4	

\* 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
<b>Industrial</b>		
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	2,396,608,854
Industrial Consumption (Recorded), MMBTU	b	26,844,322
Industrial Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	11,201
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	<b>11,129</b>
<b>Diesel</b>		
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	32,664,385
Diesel Consumption (Recorded), MMBTU	b	610,699
Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	18,696
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	<b>19,671</b>
<b>Biodiesel</b>		
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	41,218,294
Biodiesel Consumption (Recorded), MMBTU	b	705,512
Biodiesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	17,116
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	<b>20,119</b>
<b>Hydro</b>		
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	<b>0</b>
<b>Other</b>		
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	<b>0</b>

\* 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,**  
**September 2017 Year-to-Date**

	<u>Without Deadband</u>	<u>With Deadband - As Filed</u>
<b><u>INDUSTRIAL FUEL FILING COST</u></b>		
LSFO Portion of Recorded Sales , MWH	2,396,608,854	2,396,608,854
LSFO Sales Efficiency Factor (mmbtu/kwh)	0.011079	0.011129
Mmbtu adjusted for Sales Efficiency Factor	26,552,029,493	26,671,859,936
\$/mmbtu	<u>\$10.1714</u>	<u>\$10.1714</u>
TOTAL LSFO \$ TO BE RECOVERED	\$270,070,101	\$271,288,939
<b><u>DIESEL FUEL FILING COST</u></b>		
Diesel Portion of Recorded Sales, MWH	32,664,385	32,664,385
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.019721	0.019671
Mmbtu adjusted for Sales Efficiency Factor	644,174,337	642,541,117
\$/mmbtu	<u>\$12.1092</u>	<u>\$12.1092</u>
TOTAL DIESEL \$ TO BE RECOVERED	\$7,800,460	\$7,780,683
<b><u>BIODIESEL FUEL FILING COST</u></b>		
Biodiesel Portion of Recorded Sales , MWH	41,218,294	41,218,294
Biodiesel Sales Efficiency Factor (mmbtu/kwh)	0.020169	0.020119
Mmbtu adjusted for Sales Efficiency Factor	831,331,772	829,270,857
\$/mmbtu	<u>\$21.7942</u>	<u>\$21.7942</u>
TOTAL BIODIESEL \$ TO BE RECOVERED	\$18,118,236	\$18,073,320
<b><u>TOTAL GENERATION FUEL FILING COST</u></b>		
Generation Portion of Recorded Sales , MWH		
Sales Efficiency Factor (mmbtu/kwh)		
Mmbtu adjusted for Sales Efficiency Factor		
\$/mmbtu		
TOTAL GENERATION FUEL FILING COST \$	\$295,988,797	\$297,142,942
<b><u>GENERATION BASE FUEL COST</u></b>		
TOTAL GENERATION BASE FUEL COST	\$306,253,743	\$306,253,743
TOTAL GENERATION FUEL FILING COST \$ YTD	\$295,988,797	\$297,142,942
TOTAL GENERATION BASE FUEL COST YTD	\$306,253,743	\$306,253,743

**HAWAIIAN ELECTRIC COMPANY, INC.**  
**2017 Cumulative Reconciliation Balance**

Month	(1) YTD FOA Reconciliation	Qtr	(2) FOA Rec Adjust Variance	(3) FOA Rec Less Variance	(4) Try to Collect	(5) Actual Collect	(6) Month-end Cumulative Balance
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	331,277	12,411
August	(4,553,893)	(2)	(539)	(4,553,354)	1,517,964	1,583,875	(2,957,069)
September					1,517,964	1,579,137	(1,377,932)
October					1,517,964		
November	(988,400)	(3)	140,027	(1,128,427)	329,467		

**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 CENTS / KWH RESIDENTIAL &amp; COMMERCIAL</u>	<u>RESIDENTIAL BILL (\$)</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
September 1, 2017	-2.288	139.74	166.45
October 1, 2017	-2.216	139.91	166.65
November 1, 2017	-2.109	139.52	166.18

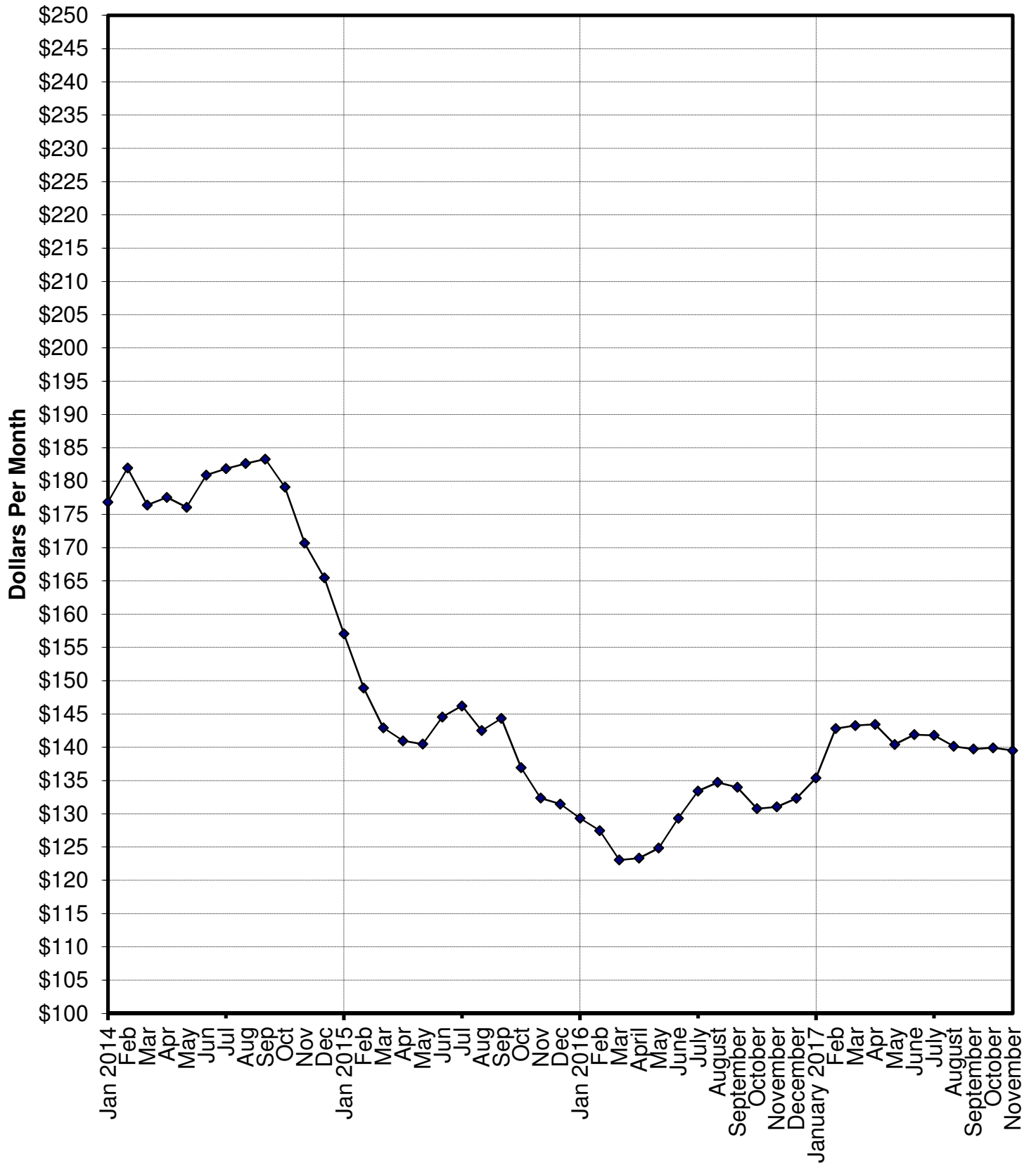
**Hawaiian Electric Company, Inc.**  
**RESIDENTIAL SURCHARGE DATA**

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
<b>09/01/12</b>	<b>FINAL RATE INCREASE (TY2011) 3.39% EFFECTIVE 09/01/12, DOCKET NO. 2010-0080</b>	
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
<b>2/1/2013</b>	<b>REFUND OF 2011 INTERIM RATE INCREASE</b>	<b>0.00 PERCENT ON BASE</b>
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
<b>5/15/2016</b>	<b>RENEWABLE ENERGY INFRASTRUCTURE COST RECOVERY PROVISION</b>	<b>0.0000 CENTS/KWH</b>
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
<b>4/1/2017</b>	<b>RESIDENTIAL DSM ADJUSTMENT</b>	<b>0.0774 CENTS/KWH</b>
4/1/2017 - 4/30/2017	SOLAR SAVER ADJUSTMENT	-0.1187 CENTS/KWH
<b>5/1/2017</b>	<b>SOLAR SAVER ADJUSTMENT</b>	<b>0.0000 CENTS/KWH</b>
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
<b>6/1/2017</b>	<b>REVENUE BALANCING ACCOUNT RATE ADJUSTMENT</b>	<b>2.2291 CENTS/KWH</b>
<b>7/1/2017</b>	<b>GREEN INFRASTRUCTURE FEE</b>	<b>1.1800 DOLLARS/MONTH</b>
7/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.5388 CENTS/KWH
<b>7/1/2017</b>	<b>RESID. PBF SURCHARGE ADJUSTMENT</b>	<b>0.4244 CENTS/KWH</b>
8/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3840 CENTS/KWH
9/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.4128 CENTS/KWH
10/1/2017	PURCHASED POWER ADJUSTMENT CLAUSE	3.3748 CENTS/KWH
<b>11/1/2017</b>	<b>PURCHASED POWER ADJUSTMENT CLAUSE</b>	<b>3.1890 CENTS/KWH</b>

~ Surcharges currently in effect are in bold.

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

## 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			
	10/1/2017	11/1/2017	10/1/2017	11/1/2017	Difference	
<b>Base Rates</b>	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
<b>Total Base Charges</b>				119.28	119.28	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	3.3748	3.1890	16.87	15.95	-0.92
<b>RBA Rate Adjustment</b>	¢/kWh	2.2291	2.2291	11.15	11.15	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0774	0.0774	0.39	0.39	0.00
<b>Interim Rate Increase (TY 2011)</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>Refund of 2011 Interim</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4244	0.4244	2.12	2.12	0.00
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	-	-	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Energy Cost Adjustment</b>	¢/kWh	-2.216	-2.109	-11.08	-10.55	0.53
<b>Green Infrastructure Fee</b>	\$	1.18	1.18	1.18	1.18	0.00
<b>Avg Residential Bill at 500 kWh</b>				139.91	139.52	

Increase / (Decrease -) -0.39  
% Change -0.28%

	Rate		Charge (\$) at 600 kWh			
	10/1/2017	11/1/2017	10/1/2017	11/1/2017	Difference	
<b>Base Rates</b>	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
<b>Total Base Charges</b>				142.14	142.14	0.00
<b>Purchase Power Adjustment</b>	¢/kWh	3.3748	3.1890	20.25	19.13	-1.12
<b>RBA Rate Adjustment</b>	¢/kWh	2.2291	2.2291	13.37	13.37	0.00
<b>DSM Adjustment</b>	¢/kWh	0.0774	0.0774	0.46	0.46	0.00
<b>Interim Rate Increase (TY 2011)</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>Refund of 2011 Interim</b>	% on base	0.000%	0.000%	0.00	0.00	0.00
<b>PBF Surcharge</b>	¢/kWh	0.4244	0.4244	2.55	2.55	0.00
<b>Renewable Energy Infrastructure Cost Recovery Provision</b>	¢/kWh	-	-	0.00	0.00	0.00
<b>SolarSaver Adjustment</b>	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
<b>Energy Cost Adjustment</b>	¢/kWh	-2.216	-2.109	-13.30	-12.65	0.65
<b>Green Infrastructure Fee</b>	\$	1.18	1.18	1.18	1.18	0.00
<b>Avg Residential Bill at 600 kWh</b>				166.65	166.18	

Increase / (Decrease -) -0.47  
% Change -0.28%