



November 28, 2016

FILED

2016 NOV 28 P 3: 54

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

PUBLIC UTILITIES
COMMISSION

Dear Commissioners:

Subject: Hawaiian Electric Energy Cost Adjustment Factor for December 2016

Hawaiian Electric Company Inc.'s ("Hawaiian Electric" or "Company") December 2016 energy cost adjustment factor is -3.578 cents per kilowatt-hour ("kWh"), an increase of 0.270 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$132.32, an increase of \$1.28 compared to rates effective November 1, 2016. The increase in the typical residential bill is due to the increase in the energy cost adjustment factor (+\$1.35) and the decrease in the Purchased Power Adjustment Clause rate (-\$0.07).

The Company's fuel composite cost of generation increased 61.75 cents per million BTU to 912.95 cents per million BTU. The Company's Distributed Generation ("DG") energy component decreased 0.001 cents per kWh to 0.004 cents per kWh. The composite cost of purchased energy remained at 7.937 cents per kWh.

In accordance with Decision and Order No. 33745, filed in Docket No. 2014-0086 on June 6, 2016, the Company is collecting 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 will be shown separately each month on Attachment 2, page 2, at line 84. The calculation of the rate adjustment for December 2016 is shown on Attachment 4, pages 2-3.

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 December 1, 2016.

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>11/1/16</u>	<u>12/01/16</u>	
Composite Cost Of Generation, ¢/mmbtu	851.20	912.95	61.75
DG Energy Component, ¢/kWh	0.005	0.004	(0.001)
Composite Cost Of Purchased Energy, ¢/kWh	7.937	7.937	-
 <u>Residential, Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(3.848)	(3.578)	0.270
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(3.848)	(3.578)	0.270
 <u>Residential Customer with:</u>			
600 kWh Consumption, \$/bill	156.03	157.56	1.53
500 kWh Consumption, \$/bill	131.04	132.32	1.28

Supersedes Sheet Effective: November 1, 2016

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

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

Line		
1	Effective Date	- December 1, 2016
2	Supersedes Factor	- November 1, 2016

GENERATION COMPONENT

CENTRAL STATION							
FUEL PRICES, ¢/MBTU							
3	Honolulu			908.18			
4	Kahe			908.50			
5	Waiau-Steam			908.18			
6	Waiau-Diesel			1,198.97			
7	CIP-Diesel			N/A			
8	CIP-Biodiesel			918.33			
9	Other			0			
BTU MIX, %							
10	Honolulu			0.00			
11	Kahe			75.19			
12	Waiau-Steam			22.18			
13	Waiau-Diesel			1.52			
14	CIP-Diesel			N/A			
15	CIP-Biodiesel			1.11			
16	Other			0.00			
				100.00			
17	COMPOSITE COST OF GENERATION, CNTRL STN + OTHER ¢/mmbtu			912.95			
18	% Input to system kWh Mix			42.80			
EFFICIENCY FACTOR, mmbtu/kWh							
	(A)	(B)	(C)	(D)			
		Eff Factor	Percent of	Weighted			
	Fuel Type	mmbtu/kWh	Centrl Stn +	Eff Factor			
			Other				
19	LSFO	0.011079	98.63	0.010927			
20	Diesel	0.019721	0.79	0.000156			
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))]			0.011200			
24	WGTD. COMPOSITE CNTRL STN + OTHER GEN COST, ¢/kWh (lines 17 x 18 x 23)			4.37632			
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)			(4.31558)			
30	Revenue Tax Req Multiplier			1.0975			
31	CNTRL STN + OTHER GENERATION FACTOR, ¢/KWH (Line 29 x 30)			(4.73635)			
					DG ENERGY COMPONENT		
					32	COMPOSITE COST OF DG ENERGY, ¢/kWh	7.450
					33	% Input to System kWh Mix	0.05
					34	WTD COMP DG ENRGY COST, ¢/kWh (Lines 32 x 33)	0.00373
					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)	0.00373
					39	Loss Factor	1.053
					40	Revenue Tax Req Multiplier	1.0975
					41	DG FACTOR, ¢/kWh (Line 38 x 39 x 40)	0.00431
					SUMMARY OF TOTAL GENERATION FACTOR, ¢/kWh		
					42	CNTRL STN + OTHER (line 31)	(4.73635)
					43	DG (line 41)	0.00431
					44	TOTAL GENERATION FACTOR, ¢/KWH (lines 42 + 43)	(4.73204)

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

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

<u>Line</u>		
1	Effective Date	- December 1, 2016
2	Supersedes Factor	- November 1, 2016

<u>Line</u>	<u>PURCHASED ENERGY COMPONENT</u>		
PURCHASED ENERGY PRICE - ¢/KWH			
45	THC	- On Peak	9.616
46		- Off Peak	9.438
47	HRRV	- On Peak	16.65
48		- Off Peak	16.17
49	HRRV	- On Peak (excess)	10.60
50		- Off Peak (excess)	6.36
51	Chevron	- On Peak	9.616
52		- Off Peak	9.438
53	Kalaeloa		8.805
54	AES-HI		3.166
55	Kawailoa		21.417
56	Kahuku Wind		20.100
57	As Available I		21.394
58	FIT		18.971
PURCHASED ENERGY KWH MIX, %			
59	THC	- On Peak	0.21
60		- Off Peak	0.15
61	HRRV	- On Peak	7.80
62		- Off Peak	2.34
63	HRRV	- On Peak (excess)	0.00
64		- Off Peak (excess)	0.87
65	Chevron	- On Peak	0.00
66		- Off Peak	0.00
67	Kalaeloa		42.65
68	AES-HI		40.51
69	Kawailoa		2.74
70	Kahuku Wind		1.58
71	As Available I		0.41
72	FIT		0.74
			100.00
73	COMPOSITE COST OF PURCHASED ENERGY, ¢/KWH		7.937
74	% Input to System kWh Mix		57.15
75	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 73 x 74)		4.53600
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)		1.00410
80	Loss Factor		1.053
81	Revenue Tax Req Multiplier		1.0975
82	PURCHASED ENERGY FACTOR, ¢/KWH (lines 79 x 80 x 81)		1.16041

<u>Line</u>	<u>SYSTEM COMPOSITE</u>	
83	GEN AND PURCHASED ENERGY FACTOR, ¢/kWh (lines 44 + 82)	(3.57163)
84	Kahuku Wind D-VAR Adjustment, ¢/kWh	0.023
85	ECA Reconciliation Adjustment	(0.029)
86	ECA FACTOR, ¢/kWh (lines 83 + 84 + 85)	(3.578)

Hawaiian Electric Company, Inc.
FUEL OIL INVENTORY PRICES FOR 12-01-16

	<u>Honolulu</u>	<u>Kahe</u>	<u>Waiau</u>
Average Low Sulfur Fuel Oil, ¢/Mbtu	908.18	908.18	908.18
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	-	-	-
	<hr/> <hr/>		
Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	908.18	908.50	908.18
	<hr/> <hr/>		
	<u>Waiau</u>	<u>CIP</u>	
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,198.97	918.33	
Thruput Charges, ¢/Mbtu	-	-	
	<hr/> <hr/>		
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,198.97	918.33	
	<hr/> <hr/>		
	<u>Honolulu</u>	<u>Kahe</u>	<u>Waiau</u>
Average Low Sulfur Fuel Oil, \$/bbl	57.09	57.09	57.09
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	-	-	-
	<hr/> <hr/>		
Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	57.09	57.11	57.09
	<hr/> <hr/>		
	<u>Waiau</u>	<u>CIP</u>	
Average Diesel / Biodiesel Oil, \$/bbl	68.75	48.54	
Thruput Charges, ¢/Mbtu	-	-	
	<hr/> <hr/>		
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	68.75	48.54	
	<hr/> <hr/>		
Distributed Generation Fuel Prices Used for Filing, ¢/kWh			7.450

FOAC December 2016

<u>LSFO</u>	BARRELS	MBTU	AMOUNT	AVE \$/MBTU
Per FOAC run	801,790	5,039,922.26	45,771,330.66	9.081753
Additional	-	-	-	-
Forecast Amt	801,790	5,039,922.26	45,771,330.66	9.081753
	-	6.20	-	ADD'L BBL
	5,039,922	801,790	6.2858	MBTU / BBL
	45,771,331	801,790	57.09	DOLLARS / BBL
<u>WAIU DIESEL</u>	28,577	163,862.07	1,964,655.81	11.989692
	1,964,656	28,577	68.75	DOLLARS / BBL
<u>CIP BIODIESEL</u>	48,530	256,498.23	2,355,493.50	9.183274
	2,355,494	48,530	48.54	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 11-1-16

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
LOW SULFUR FUEL OIL		
Tax *	4.0900	65.98
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
 DIESEL		
Tax *	5.1042	87.11
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)	\$7.34
L2	Estimated Distributed Generation Fuel Transport Cost (\$/mbtu)	\$0.00
L3 = L1+ L2	Estimated Total Fuel and Transportation Cost (\$/mbtu)	\$7.34
L4	Estimated Mbtu Generation for month (December 2016)	2,600
L5 = L3 x L4	Estimated Distributed Generation Total Fuel Cost (\$)	\$19,075
L6	Estimated Distributed Generation kWh Produced (December 2016)	256,000
L7 = (L5 ÷ L6) x 100	Distributed Generation Fuel Prices Used for Filing, (¢/kWh)	7.4500

Hawaiian Electric Company, Inc.
ECA RECONCILIATION ADJUSTMENT
December 2016

1.	Amount to be returned	\$	(435,211)
2.	Monthly Amount (Line 1 x 1/3)	\$	(145,070)
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	(159,217)
5.	Estimated MWh Sales (December 2016)		544,200
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>(0.029)</u></u>

Hawaiian Electric Company, Inc.
D-VAR TRUE-UP RECONCILIATION ADJUSTMENT
December 2016

1.	Amount to be collected	\$	1,369,958
2.	Monthly Amount (Line 1 x 1/12)	\$	114,163
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	125,296
5.	Estimated MWh Sales (December 2016)		544,200
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.023</u></u>

HAWAIIAN ELECTRIC COMPANY, INC.
2016 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 '15					4,516,067	4,466,182	(4,472,032)
January '16					4,516,067	4,450,144	(21,888)
February	(4,371,700)	(4)	44,029	(4,415,729)	1,457,233	1,422,190	(3,015,427)
March					1,457,233	1,420,558	(1,594,869)
April					1,457,233	1,463,268	(131,601)
May	(2,067,034)	(1)	(137,641)	(1,929,393)	689,011	687,091	(1,373,903)
June					689,011	708,113	(665,790)
July					689,011	721,298	55,508
August	(4,207,200)	(2)	23,216	(4,230,416)	1,402,400	1,513,131	(2,661,776)
September					1,402,400	1,483,222	(1,178,554)
October					1,402,400	1,420,418	241,864
November	435,211	(3)	223,840	211,371	(145,070)		
December					(145,070)		

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 & 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

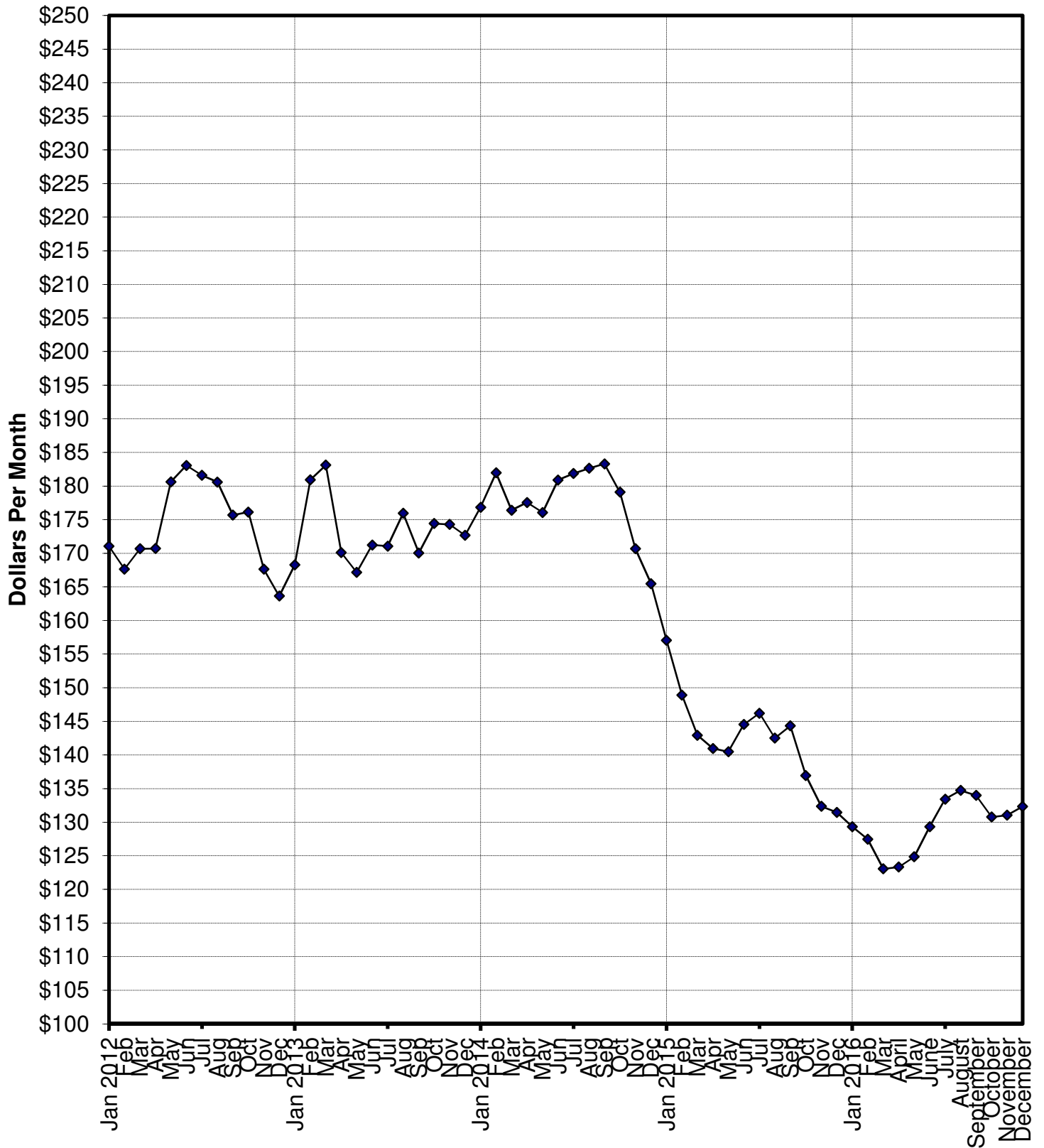
**Hawaiian Electric Company, Inc.
RESIDENTIAL SURCHARGE DATA**

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 - 7/31/2013	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	RESIDENTIAL DSM ADJUSTMENT	0.0811 CENTS/KWH
5/1/2016	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	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

~ 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			
	11/1/2016	12/1/2016	11/1/2016	12/1/2016	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	3.1959	3.1815	15.98	15.91	-0.07
RBA Rate Adjustment	¢/kWh	2.1098	2.1098	10.55	10.55	0.00
DSM Adjustment	¢/kWh	0.0811	0.0811	0.41	0.41	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	0.5865	0.5865	2.93	2.93	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	-3.848	-3.578	-19.24	-17.89	1.35
Green Infrastructure Fee	\$	1.13	1.13	1.13	1.13	0.00
Avg Residential Bill at 500 kWh				131.04	132.32	

Increase / (Decrease -) 1.28
% Change 0.98%

	Rate		Charge (\$) at 600 kWh			
	11/1/2016	12/1/2016	11/1/2016	12/1/2016	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	3.1959	3.1815	19.18	19.09	-0.09
RBA Rate Adjustment	¢/kWh	2.1098	2.1098	12.66	12.66	0.00
DSM Adjustment	¢/kWh	0.0811	0.0811	0.49	0.49	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	0.5865	0.5865	3.52	3.52	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	-3.848	-3.578	-23.09	-21.47	1.62
Green Infrastructure Fee	\$	1.13	1.13	1.13	1.13	0.00
Avg Residential Bill at 600 kWh				156.03	157.56	

Increase / (Decrease -) 1.53
% Change 0.98%