

State of Hawaii



Public Utilities Commission

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October 28, 2015

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

Dear Commissioners:

Subject: Hawaiian Electric Energy Cost Adjustment Factor for November 2015

Hawaiian Electric Company Inc.'s ("Hawaiian Electric" or "Company") November 2015 energy cost adjustment factor is -3.179 cents per kilowatt-hour ("kWh"), a decrease of 0.386 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$132.36, a decrease of \$4.59 compared to rates effective October 1, 2015. The decrease in the typical residential bill is due to the decrease in the energy cost adjustment factor (-\$1.93) and the decrease in the Purchased Power Adjustment Clause rate (-\$2.66).

The Company's fuel composite cost of generation decreased 164.91 cents per million BTU to 831.69 cents per million BTU. The Company's Distributed Generation ("DG") energy component remained at 0.002 cents per kWh. The composite cost of purchased energy increased 0.045 cents per kWh to 7.802 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, 2015.

Very truly yours,

/s/ Dean K. Matsuura

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>10/1/15</u>	<u>11/01/15</u>	
Composite Cost Of Generation, ¢/mmbtu	996.60	831.69	(164.91)
DG Energy Component, ¢/kWh	0.003	0.002	(0.000)
Composite Cost Of Purchased Energy, ¢/kWh	7.757	7.802	0.045
 <u>Residential, Schedule "R"</u>			
Energy Cost Adjustment, ¢/kWh	(2.793)	(3.179)	(0.386)
 <u>Others, Schedules "G,J,DS,P,F"</u>			
Energy Cost Adjustment, ¢/kWh	(2.793)	(3.179)	(0.386)
 <u>Residential Customer with:</u>			
600 kWh Consumption, \$/bill	163.07	157.57	(5.50)
500 kWh Consumption, \$/bill	136.95	132.36	(4.59)

Supersedes Sheet Effective: October 1, 2015

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - November 1, 2015 (page 1 of 2)

Line
1 **Effective Date** - November 1, 2015
2 **Supersedes Factor** - October 1, 2015

GENERATION COMPONENT

CENTRAL STATION							
FUEL PRICES, ¢/MBTU							
3	Honolulu			883.63			
4	Kahe			800.86			
5	Waiau-Steam			800.54			
6	Waiau-Diesel			1,323.71			
7	CIP-Diesel			N/A			
8	CIP-Biodiesel			3,155.06			
9	Other			0			
BTU MIX, %							
10	Honolulu			0.00			
11	Kahe			70.41			
12	Waiau-Steam			27.39			
13	Waiau-Diesel			1.14			
14	CIP-Diesel			N/A			
15	CIP-Biodiesel			1.06			
16	Other			0.00			
				100.00			
17	COMPOSITE COST OF GENERATION, CNTRL STN + OTHER ¢/mmbtu			831.69			
18	% Input to system kWh Mix			46.95			
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	98.98	0.010966			
20	Diesel	0.019721	0.56	0.000110			
21	Biodiesel	0.020169	0.46	0.000093			
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))]			0.011169			
24	WGTD. COMPOSITE CNTRL STN + OTHER GEN COST, ¢/kWh (lines 17 x 18 x 23)			4.36079			
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)			(4.33111)			
30	Revenue Tax Req Multiplier			1.0975			
31	CNTRL STN + OTHER GENERATION FACTOR, ¢/KWH (Line 29 x 30)			(4.75339)			
					DG ENERGY COMPONENT		
					32	COMPOSITE COST OF DG ENERGY, ¢/kWh	7.600
					33	% Input to System kWh Mix	0.03
					34	WTD COMP DG ENRGY COST, ¢/kWh (Lines 32 x 33)	0.00220
					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)	0.00220
					39	Loss Factor	1.053
					40	Revenue Tax Req Multiplier	1.0975
					41	DG FACTOR, ¢/kWh (Line 38 x 39 x 40)	0.00254
					SUMMARY OF		
					TOTAL GENERATION FACTOR, ¢/kWh		
					42	CNTRL STN + OTHER (line 31)	(4.75339)
					43	DG (line 41)	0.00254
					44	TOTAL GENERATION FACTOR, ¢/KWH (lines 42 + 43)	(4.75085)

Hawaiian Electric Company, Inc.
ENERGY COST ADJUSTMENT FILING

ENERGY COST ADJUSTMENT (ECA) FILING - November 1, 2015 (page 2 of 2)

<u>Line</u>		
1	Effective Date	- November 1, 2015
2	Supersedes Factor	- October 1, 2015

<u>Line</u>	<u>PURCHASED ENERGY COMPONENT</u>		
	PURCHASED ENERGY PRICE - ¢/KWH		
45	THC	- On Peak	8.484
46		- Off Peak	8.258
47	HRRV	- On Peak	16.43
48		- Off Peak	15.96
49	HRRV	- On Peak (excess)	10.47
50		- Off Peak (excess)	6.28
51	Chevron	- On Peak	8.484
52		- Off Peak	8.258
53	Kalaeloa		8.391
54	AES-HI		3.119
55	Kawailoa		21.100
56	Kahuku Wind		18.990
57	As Available I		21.068
58	FIT		18.986
	PURCHASED ENERGY KWH MIX, %		
59	THC	- On Peak	0.18
60		- Off Peak	0.13
61	HRRV	- On Peak	6.70
62		- Off Peak	2.41
63	HRRV	- On Peak (excess)	0.00
64		- Off Peak (excess)	1.28
65	Chevron	- On Peak	0.00
66		- Off Peak	0.00
67	Kalaeloa		41.93
68	AES-HI		40.23
69	Kawailoa		3.43
70	Kahuku Wind		2.56
71	As Available I		0.44
72	FIT		0.71
			100.00
73	COMPOSITE COST OF PURCHASED ENERGY, ¢/KWH		7.802
74	% Input to System kWh Mix		53.02
75	WTD CMP PURCH ENRGY COST, ¢/KWH (lines 73 x 74)		4.13646
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)		0.60456
80	Loss Factor		1.053
81	Revenue Tax Req Multiplier		1.0975
82	PURCHASED ENERGY FACTOR, ¢/KWH (lines 79 x 80 x 81)		0.69867

<u>Line</u>	<u>SYSTEM COMPOSITE</u>	
83	GEN AND PURCHASED ENERGY FACTOR, ¢/kWh (lines 44 + 82)	(4.05218)
84	Adjustment, ¢/kWh	0.000
85	ECA Reconciliation Adjustment	0.873
86	ECA FACTOR, ¢/kWh (lines 83 + 84 + 85)	(3.179)

Hawaiian Electric Company, Inc.
FUEL OIL INVENTORY PRICES FOR 10-01-15

	Honolulu	Kahe	Waiiau
Average Low Sulfur Fuel Oil, ¢/Mbtu	800.54	800.54	800.54
Kahe Fuel Additive, ¢/Mbtu	-	0.32	-
Honolulu Trucking Cost, ¢/Mbtu	83.09	-	-
Low Sulfur Fuel Oil Prices Used For Filing, ¢/Mbtu	883.63	800.86	800.54
	Waiiau	CIP	
Average Diesel / Biodiesel Oil, ¢/Mbtu	1,323.71	3,155.06	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, ¢/Mbtu	1,323.71	3,155.06	
	Honolulu	Kahe	Waiiau
Average Low Sulfur Fuel Oil, \$/bbl	49.93	49.93	49.93
Kahe Fuel Additive, \$/bbl	-	0.02	-
Honolulu Trucking Cost, \$/bbl	5.28	-	-
Low Sulfur Fuel Oil Prices Used For Filing, \$/bbl	55.21	49.95	49.93
	Waiiau	CIP	
Average Diesel / Biodiesel Oil, \$/bbl	76.19	166.27	
Thruput Charges, ¢/Mbtu	-	-	
Diesel / Biodiesel Oil Prices Used for Filing, \$/bbl	76.19	166.27	
Distributed Generation Fuel Prices Used for Filing, ¢/kWh			7.600

FOAC November 2015

<u>LSFO</u>	<u>BARRELS</u>	<u>MBTU</u>	<u>AMOUNT</u>	<u>AVE \$/MBTU</u>
Per FOAC run	815,836	5,088,397.25	40,734,812.99	8.005431
Additional	-	-	-	-
Forecast Amt	815,836	5,088,397.25	40,734,812.99	8.005431
	-	6.20	-	ADD'L BBL
	5,088,397	815,836	6.2370	MBTU / BBL
	40,734,813	815,836	49.93	DOLLARS / BBL
<u>WAIU DIESEL</u>	14,256	82,058.97	1,086,226.76	13.237149
	1,086,227	14,256	76.19	DOLLARS / BBL
<u>CIP BIODIESEL</u>	32,115	169,241.51	5,339,677.73	31.550638
	5,339,678	32,115	166.27	DOLLARS / BBL
KAHE FUEL ADDITIVE *				
Additional	-	-	-	0.003194
Forecast Amt	-	-	-	0.003194
\$ / BBL =		-	0.02	DOLLARS / BBL
HONOLULU TRUCKING COST				
Per FOAC run	2,832	17,987.15	14,946.05	0.830929
Additional				
Forecast Amt	2,832	17,987.15	14,946.05	0.830929
\$ / BBL =	14,946	2,832	5.28	DOLLARS / BBL

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

Hawaiian Electric Company, Inc.

CONTRACT PRICES EFFECTIVE 10-1-15

<u>TYPE OF OIL BURNED</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>
LOW SULFUR FUEL OIL		
Tax *	3.1941	51.52
Ocean Transportation	0.0000	0.00
Land Transportation	0.0000	0.00
Storage	0.0000	0.00
Wharfage	0.0000	0.00
DIESEL		
Tax *	5.2872	90.22
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

Line No.		
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 (November 2015)	2,300
L5 = L3 x L4	Estimated Distributed Generation Total Fuel Cost (\$)	\$16,874
L6	Estimated Distributed Generation kWh Produced (November 2015)	222,000
L7 = (L5 ÷ L6) x 100	Distributed Generation Fuel Prices Used for Filing, (¢/kWh)	7.6000

Hawaiian Electric Company, Inc.
ECA RECONCILIATION ADJUSTMENT
November 2015

1.	Amount to be collected	\$	13,548,200
2.	Monthly Amount (Line 1 x 1/3)	\$	4,516,067
3.	Revenue Tax Divisor		0.91115
4.	Total (Line 2 / Line 3)	\$	4,956,447
5.	Estimated MWh Sales (November 2015)		567,900
6.	ECA Reconciliation Adjustment, ¢/kWh (Line 4 ÷ Line 5)		<u><u>0.873</u></u>

Hawaiian Electric Company, Inc.
2015 FUEL OIL ADJUSTMENT RECONCILIATION SUMMARY
(Thousand \$)

<u>Line</u>	<u>Description</u>	Info Only		Basis for Recon	
		W/O DeadBand September 2015 Cumulative <u>YTD Total</u>	collection by <u>company*</u>	W/ DeadBand September 2015 Cumulative <u>YTD Total</u>	collectn by <u>company*</u>
ACTUAL COSTS:					
1	Generation	\$358,251.4		\$358,251.4	
2	Distributed Generation	\$5.4		\$5.4	
3	Purch Power	\$213,836.3		\$213,836.3	
4	TOTAL	\$572,093.1		\$572,093.1	
FUEL FILING COST					
5	Generation	\$360,459.0		\$360,263.5	
6	Distributed Generation	\$5.4		\$5.4	
7	Purch Power	\$213,836.3		\$213,836.3	
8	TOTAL	\$574,300.7		\$574,105.2	
BASE FUEL COST					
9	Generation	\$331,087.6		\$331,087.6	
10	Distributed Generation	\$0.0		\$0.0	
11	Purch Power	\$290,704.2		\$290,704.2	
12	TOTAL	\$621,791.7		\$621,791.7	
13	FUEL-BASE COST (Line 8-12)	-\$47,491.1		-\$47,686.5	
14	ACTUAL FOA LESS TAX	-\$53,620.4		-\$53,620.4	
15	Less: FOA reconciliation adj for prior year	\$9,272.1		\$9,272.1	
16	ADJUSTED FOA LESS TAX	-\$62,892.5		-\$62,892.5	
17	FOA-(FUEL-BASE) (Line 16-13)	-\$15,401.4	under	-\$15,206.0	under
ADJUSTMENTS:					
18	Current year FOA accrual reversal	-\$7,089.1		-\$7,089.1	
19	Other prior year FOA	\$0.0		\$0.0	
20	Other	\$0.0		\$0.0	
21	QUARTERLY FOA RECONCILIATION (Line 17+18+19+20)	-\$22,490.5	under	-\$22,295.1	under
22	2nd Quarter Reconciliation YTD			-\$8,746.9	under
23	Amount to be collected			-\$13,548.2	

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

Hawaiian Electric Company, Inc.
DEADBAND CALCULATION
2015

	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	2,618,519,831
Industrial Consumption (Recorded), MMBTU	b	28,996,385
Industrial Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	11,074
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	11,074
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	11,657,808
Diesel Consumption (Recorded), MMBTU	b	302,639
Diesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	25,960
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	19,771
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	40,643,602
Biodiesel Consumption (Recorded), MMBTU	b	682,167
Biodiesel Efficiency Factor (Recorded), BTU/kWh	c = (b/a)*1000	16,784
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,
September 2015 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	2,618,519,831	2,618,519,831
LSFO Sales Efficiency Factor (mmbtu/kwh)	0.011079	0.011074
Mmbtu adjusted for Sales Efficiency Factor	29,010,581,208	28,997,488,608
\$/mmbtu	<u>\$11.5391</u>	<u>\$11.5391</u>
TOTAL LSFO \$ TO BE RECOVERED	\$334,754,564	\$334,603,488
<u>DIESEL FUEL FILING COST</u>		
Diesel Portion of Recorded Sales, MWH	11,657,808	11,657,808
Diesel Sales Efficiency Factor (mmbtu/kwh)	0.019721	0.019771
Mmbtu adjusted for Sales Efficiency Factor	229,903,632	230,486,522
\$/mmbtu	<u>\$16.7841</u>	<u>\$16.7841</u>
TOTAL DIESEL \$ TO BE RECOVERED	\$3,858,729	\$3,868,512
<u>BIODIESEL FUEL FILING COST</u>		
Biodiesel Portion of Recorded Sales , MWH	40,643,602	40,643,602
Biodiesel Sales Efficiency Factor (mmbtu/kwh)	0.020169	0.020119
Mmbtu adjusted for Sales Efficiency Factor	819,740,809	817,708,629
\$/mmbtu	<u>\$26.6495</u>	<u>\$26.6495</u>
TOTAL BIODIESEL \$ TO BE RECOVERED	\$21,845,680	\$21,791,523
<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 \$	\$360,458,973	\$360,263,523
<u>GENERATION BASE FUEL COST</u>		
TOTAL GENERATION BASE FUEL COST	\$331,087,554	\$331,087,554
TOTAL GENERATION FUEL FILING COST \$ YTD	\$360,458,973	\$360,263,523
TOTAL GENERATION BASE FUEL COST YTD	\$331,087,554	\$331,087,554

HAWAIIAN ELECTRIC COMPANY, INC.
2015 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 '14					1,544,441	1,608,085	(1,335,668)
January '15					1,544,441	1,409,471	73,803
February	(7,727,500)	(4)	208,767	(7,936,267)	2,575,833	2,444,436	(5,418,028)
March					2,575,833	2,384,363	(3,033,665)
April					2,575,833	2,515,163	(518,502)
May	(3,773,048)	(1)	(457,838)	(3,315,210)	1,257,683	1,168,222	(2,665,490)
June					1,257,683	1,211,890	(1,453,600)
July					1,257,683	1,294,671	(158,929)
August	(4,973,852)	(2)	(195,924)	(4,777,928)	1,657,951	1,756,932	(3,179,926)
September					1,657,951	1,761,129	(1,418,797)
October					1,657,951		
November	(13,548,200)	(3)	239,148	(13,787,348)	4,516,067		

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>	<u>@ 700 KWH</u>
January 1, 2012	11.428	-	204.17	237.32
February 1, 2012	10.924	-	200.11	232.57
March 1, 2012	11.530	-	203.74	236.81
April 1, 2012	11.600	-	203.79	236.87
May 1, 2012	13.122	-	215.69	250.76
June 1, 2012	13.274	-	218.60	254.16
July 1, 2012	12.917	-	216.85	252.11
August 1, 2012	12.332	-	215.65	250.71
September 1, 2012	7.083	-	209.82	243.96
October 1, 2012	7.023	-	210.37	244.60
November 1, 2012	5.828	-	200.18	232.71
December 1, 2012	5.029	-	195.38	227.11
January 1, 2013	5.885	-	200.91	233.57
February 1, 2013	7.674	-	216.11	251.31
March 1, 2013	8.113	-	218.75	254.38
April 1, 2013	5.602	-	203.11	236.15
May 1, 2013	5.631	-	199.59	232.03
June 1, 2013	5.502	-	204.47	237.72
July 1, 2013	5.422	-	204.27	237.48
August 1, 2013	5.844	-	210.14	244.33
September 1, 2013	4.640	-	203.06	236.08
October 1, 2013	5.521	-	208.32	242.21
November 1, 2013	5.406	-	208.15	242.01
December 1, 2013	5.087	-	206.20	239.74
January 1, 2014	5.946	-	211.22	245.58
February 1, 2014	7.338	-	217.36	252.75
March 1, 2014	5.978	-	210.70	244.99
April 1, 2014	6.057	-	212.05	246.58
May 1, 2014	5.541	-	210.28	244.50
June 1, 2014	5.685	-	216.08	251.28
July 1, 2014	5.721	-	217.24	252.62
August 1, 2014	5.901	-	218.17	253.73
September 1, 2014	5.988	-	218.96	254.65
October 1, 2014	5.155	-	213.91	248.76
November 1, 2014	3.694	-	203.79	236.96
December 1, 2014	2.659	-	197.32	229.18
January 1, 2015	1.065	-	187.22	217.40
February 1, 2015	-0.755	-	177.45	205.99
March 1, 2015	-1.863	-	170.25	197.60
April 1, 2015	-1.151	140.96	167.91	194.86
May 1, 2015	-1.931	140.48	167.34	0.00
June 8, 2015	-1.624	144.54	172.20	0.00
July 1, 2015	-0.997	146.21	174.20	0.00
August 1, 2015	-1.673	142.51	169.75	0.00
September 1, 2015	-1.343	144.33	171.94	0.00
October 1, 2015	-2.793	136.95	163.07	0.00
November 1, 2015	-3.179	132.36	157.57	-

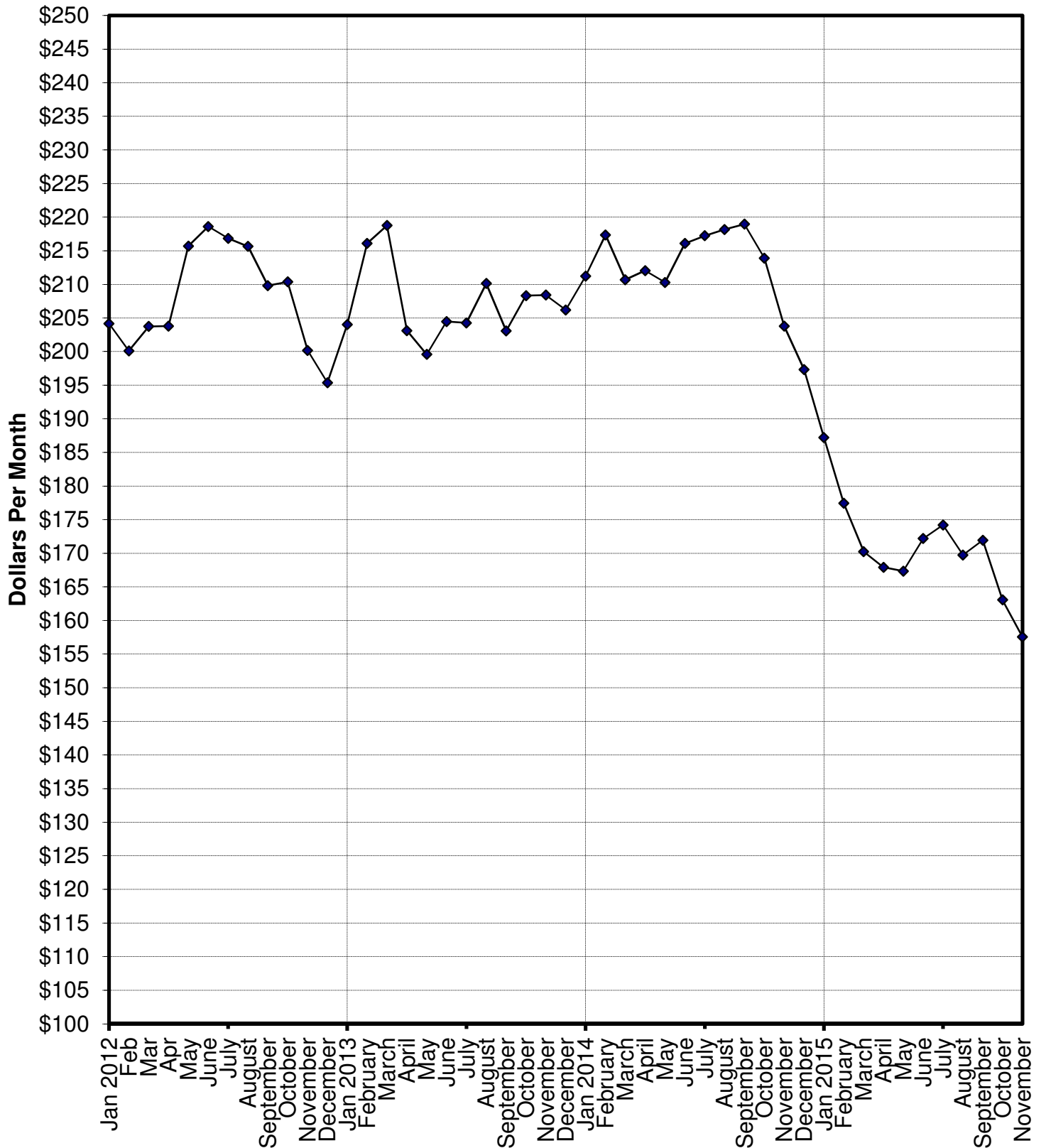
Hawaiian Electric Company, Inc.
RESIDENTIAL SURCHARGE DATA

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	RESIDENTIAL DSM ADJUSTMENT	0.0348 CENTS/KWH
05/1/2015 - 05/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	2.9760 CENTS/KWH
5/1/2015	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	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	RESID. PBF SURCHARGE ADJUSTMENT	0.4749 CENTS/KWH
7/1/2015	GREEN INFRASTRUCTURE FEE	1.4200 DOLLARS/MONTH
08/1/2015 - 08/31/2015	PURCHASED POWER ADJUSTMENT CLAUSE	3.4002 CENTS/KWH
8/17/2015	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

~ 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 600 KWH/Month Consumption



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

	Rate		Charge (\$) at 500 kWh			
	10/1/2015	11/1/2015	10/1/2015	11/1/2015	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	3.3971	2.8651	16.99	14.33	-2.66
RBA Rate Adjustment	¢/kWh	2.1078	2.1078	10.54	10.54	0.00
DSM Adjustment	¢/kWh	0.0348	0.0348	0.17	0.17	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	0.4749	0.4749	2.37	2.37	0.00
Renewable Energy Infrastructure Cost						
Recovery Provision	¢/kWh	0.0304	0.0304	0.15	0.15	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
Energy Cost Adjustment	¢/kWh	-2.793	-3.179	-13.97	-15.90	-1.93
Green Infrastructure Fee	\$	1.42	1.42	1.42	1.42	0.00
Avg Residential Bill at 500 kWh				136.95	132.36	

Increase / (Decrease -)	-4.59
% Change	-3.35%

	Rate		Charge (\$) at 600 kWh			
	10/1/2015	11/1/2015	10/1/2015	11/1/2015	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	3.3971	2.8651	20.38	17.19	-3.19
RBA Rate Adjustment	¢/kWh	2.1078	2.1078	12.65	12.65	0.00
DSM Adjustment	¢/kWh	0.0348	0.0348	0.21	0.21	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	0.4749	0.4749	2.85	2.85	0.00
Renewable Energy Infrastructure Cost						
Recovery Provision	¢/kWh	0.0304	0.0304	0.18	0.18	0.00
SolarSaver Adjustment	¢/kWh	0.0000	0.0000	0.00	0.00	0.00
Energy Cost Adjustment	¢/kWh	-2.793	-3.179	-16.76	-19.07	-2.31
Green Infrastructure Fee	\$	1.42	1.42	1.42	1.42	0.00
Avg Residential Bill at 600 kWh				163.07	157.57	

Increase / (Decrease -)	-5.50
% Change	-3.37%