



FILED

JAY IGNACIO, P. E.
President

November 28, 2018

2018 NOV 28 P 3: 34

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: Hawai'i Electric Light Energy Cost Adjustment Factor for December 2018

Hawai'i Electric Light Company, Inc.'s ("Hawai'i Electric Light") Energy Cost Adjustment factor for December 2018 is 9.292 cents per kilowatt-hour ("kWh"), an increase of 0.38 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$199.86, an increase of \$1.87 compared to rates effective November 1, 2018. The increase in the typical residential bill is due to the increase in the Energy Cost Adjustment (+\$1.89) and the decrease in the Purchase Power Adjustment Clause rate (-\$0.02).

Hawai'i Electric Light's fuel composite cost of generation increased 94.98 cents per million BTU to 1,625.59 cents per million BTU. The distributed generation increased 0.62 cents per kWh to 17.174 cents per kWh. The composite cost of purchased energy decreased 0.64 cents per kWh to 14.883 cents per kWh.

The attached sheets set forth the energy cost adjustment in cents per kWh for each rate schedule that is applicable for pro rata use beginning December 1, 2018.

Sincerely,

Attachments

cc: Division of Consumer Advocacy

HAWAII ELECTRIC LIGHT COMPANY, INC.

ENERGY COST ADJUSTMENT FACTOR

	<u>EFFECTIVE DATES</u>		
	<u>11/01/18</u>	<u>12/01/18</u>	<u>Change</u>
<u>Composite Cost</u>			
Generation, ¢/mmbtu	1,530.61	1,625.59	94.98
Dispersed Generation Energy, ¢/kWh	16.549	17.174	0.62
Purchased Energy, ¢/kWh	15.525	14.883	(0.64)
<u>Residential Schedule "R"</u>			
Energy Cost Adjustment - ¢/kWh	8.913	9.292	0.38
<u>Others - "G,J,P,F"</u>			
Energy Cost Adjustment - ¢/kWh	8.913	9.292	0.38
Residential Customer with:			
500 KWH Consumption - \$/Bill	\$197.99	\$199.86	\$1.87
600 KWH Consumption - \$/Bill	\$237.04	\$239.29	\$2.25

HAWAII ELECTRIC LIGHT COMPANY, INC.
ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - December 1, 2018 (Page 1 of 2)

<u>Line</u>		
1	Effective Date	December 1, 2018
2	Supercedes Factors of	November 1, 2018

GENERATION COMPONENT

<u>CENTRAL STATION WITH WIND/HYDRO COMPONENT</u>						
FUEL PRICES, ¢/mmbtu						
3						
4	Hill Industrial		1,361.68			
5	Puna Industrial		1,381.42			
6	Keahole Diesel		1,941.61			
6a	Keahole ULSD		1,735.71			
7	Waimea ULSD Diesel		1,727.50			
8	Hilo Diesel		1,909.00			
8a	Hilo (Kanoelehua) ULSD Diesel ¹		1,713.73			
9	Puna Diesel		1,912.64			
10	Wind		0.00			
11	Hydro		0.00			
BTU MIX, %						
12						
13	Hill Industrial		37.162			
14	Puna Industrial		6.530			
15	Keahole Diesel		48.517			
15a	Keahole ULSD		0.830			
16	Waimea ULSD Diesel		0.152			
17	Hilo Diesel		0.000			
17a	Hilo (Kanoelehua) ULSD Diesel ¹		0.019			
18	Puna Diesel		3.659			
19	Wind		0.000			
20	Hydro		3.131			
			100.000			
21	COMPOSITE COST OF GENERATION, CENTRAL STATION + WIND/HYDRO ¢/mmb		1,625.59			
22	% Input to System kWh Mix		53.973			
EFFICIENCY FACTOR, mmbtu/kWh						
	(A)	(B)	(C)	(D)		
			Percent of			
	Fuel Type	Eff Factor	Centrl Stn +	Weighted		
		mmbtu/kwh	Wind/Hydro	Eff Factor		
23	Industrial	0.014437	43.692	0.006308		
24	Diesel	0.010515	53.177	0.005592		
25	Other	0.012351	3.131	0.000387		
	(Lines 23, 2					
26	Weighted Efficiency Factor, mmbtu/kWh [Lines 23(D) + 24(D) + 25(D)]			0.0122870		
27	WEIGHTED COMPOSITE CENTRAL STATION + WIND/HYDRO GENERATION COST, ¢/kWh (Lines (21 x 22 x 26))			10.78036		
28	BASE CENTRAL STATION + WIND/HYDRO GENERATION COST, ¢/mmbtu			661.02		
29	Base % Input to Sys kWh Mix			53.67		
30	Efficiency Factor, mmbtu/kwh			0.012451		
31	WEIGHTED BASE CENTRAL STATION + WIND/HYDRO GENERATION COST ¢/kWh (Lines (28 x 29 x 30))			4.41723		
32	COST LESS BASE (Line 27 - 31)			6.36313		
33	Revenue Tax Req Multiplier			1.0975		
34	CENTRAL STATION + WIND/HYDRO GENERATION FACTOR, ¢/kWh (Line (32 x 33))			6.98354		
				<u>DG ENERGY COMPONENT</u>		
				35	COMPOSITE COST OF DG ENERGY, ¢/kWh	17.174
				36	% Input to System kWh Mix	0.743
				37	WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 35 x 36)	0.12760
				38	BASE DG ENERGY COMPOSITE COS	13.932
				39	Base % Input to System kWh Mix	0.01
				40	WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 38 x 39)	0.00139
				41	Cost Less Base (Line 37 - 40)	0.12621
				42	Loss Factor	1.072
				43	Revenue Tax Req Multiplier	1.0975
				44	DG FACTOR, ¢/kWh (Line 41 x 42 x 43)	0.14849
				SUMMARY OF		
				TOTAL GENERATION FACTOR, ¢/kWh		
				45	Cntrl Stn+Wind/Hydro (line 34)	6.98354
				46	DG (line 44)	0.14849
				47	TOTAL GENERATION FACTOR, ¢/kWh (lines 45 + 46)	7.13203

¹ Hilo ULSD same location as Kanoelehua ULSD

HAWAII ELECTRIC LIGHT COMPANY, INC.
ENERGY COST ADJUSTMENT (ECA) FILING

ENERGY COST ADJUSTMENT (ECA) FILING - December 1, 2018 (Page 2 of 2)

Line	PURCHASED ENERGY COMPONENT		
	PURCHASED ENERGY PRICE, ¢/kWh		
48	HEP		15.200
49	PGV	On Peak	17.200
50	PGV	Off Peak	16.824
51	PGV - Add'l 5 MW	On Peak	12.860
52	PGV - Add'l 5 MW	Off Peak	12.860
53	PGV - Add'l 8 MW	On Peak	6.540
54	PGV - Add'l 8 MW	Off Peak	6.540
55	Wailuku Hydro	On Peak	17.200
56	Wailuku Hydro	Off Peak	16.824
57	Hawi Renewable Dev.	On Peak	17.200
58	Hawi Renewable Dev.	Off Peak	16.824
59	Tawhiri (Pakini Nui)	On Peak	11.510
60	Tawhiri (Pakini Nui)	Off Peak	11.630
61			
62	Small Hydro (>100 KW)	On Peak	17.200
63	Small Hydro (>100 KW)	Off Peak	16.824
64	Sch Q Hydro (<100 KW)		16.630
65	FIT		23.800
	PURCHASED ENERGY KWH MIX, %		
66	HEP		60.980
67	PGV	On Peak	0.000
68	PGV	Off Peak	0.000
69	PGV - Add'l	On Peak	0.000
70	PGV - Add'l	Off Peak	0.000
71	PGV - Add'l 8 MW	On Peak	0.000
72	PGV - Add'l 8 MW	Off Peak	0.000
73	Wailuku Hydro	On Peak	4.218
74	Wailuku Hydro	Off Peak	2.923
75	Hawi Renewable Dev.	On Peak	4.229
76	Hawi Renewable Dev.	Off Peak	2.543
77	Tawhiri (Pakini Nui)	On Peak	13.047
78	Tawhiri (Pakini Nui)	Off Peak	9.152
79			
80	Small Hydro (>100 KW)	On Peak	0.000
81	Small Hydro (>100 KW)	Off Peak	0.000
82	Sch Q Hydro (<100 KW)		0.226
83	FIT		2.682
			100.000
84	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh		14.883
85	% Input to System kWh Mix		45.284
86	WEIGHTED COMPOSITE PURCHASED ENERGY COST, ¢/kWh (Lines (84 x 85))		6.73962
87	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh		9.895
88	Base % Input to Sys kWh Mix		46.32
89	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (Lines (87 x 88))		4.58336
90	COST LESS BASE (Lines (86 - 89))		2.15626
91	Loss Factor		1.072
92	Revenue Tax *		1.0975
93	PURCHASED ENERGY FACTOR, ¢/kWh (Lines (90 x 91 x 92))		2.53688

Line	SYSTEM COMPOSITE	
94	GENERATION AND PURCHASED ENERGY FACTOR, ¢/kWh (Lines (47 + 93))	9.66891
95	Not Used	0.000
96	Not Used	0.000
97	ECA Reconciliation Adjustment	(0.377)
98	ECA FACTOR, ¢/kWh (Lines (94 + 95+ 96 + 97))	9.292

Hawaii Electric Light Company, Inc.
FUEL OIL INVENTORY PRICES FOR December 1, 2018

INDUSTRIAL FUEL COSTS:

	<u>HILO</u>	<u>PUNA</u>
Average Industrial Fuel Cost - \$/BBL	85.7858	85.7858
Land Transportation Cost - \$/BBL	--	1.2434
Industrial Costs For Filing - \$/BBL	85.7858	87.0292
Conversion Factors - mmbtu/BBL	6.30	6.30
Industrial Costs For Filing - ¢/mmbtu	1,361.68	1,381.42

DIESEL FUEL COSTS:

	<u>KEAHOLE</u>	<u>PUNA CT-3</u>	<u>HILO</u>
Average Diesel Fuel Cost - \$/BBL	110.9500	110.9500	110.9500
Land Transportation Cost - \$/BBL	2.8285	1.1305	0.9172
Diesel Costs For Filing - \$/BBL	113.7785	112.0805	111.8672
Conversion Factors - mmbtu/BBL	5.86	5.86	5.86
Diesel Costs For Filing - ¢/mmbtu	1,941.61	1,912.64	1,909.00

ULSD FUEL COSTS:

	<u>KEAHOLE</u>	<u>WAIMEA</u>	<u>HILO</u>	<u>DISPERSED GENERATION</u>
Average ULSD Fuel Cost - \$/BBL	96.6391	96.6391	96.6391	96.6391
Land Transportation Cost - \$/BBL	2.8170	2.3468	1.5577	-
ULSD Costs For Filing - \$/BBL	99.4560	98.9858	98.1968	96.6391
Conversion Factors - mmbtu/BBL	5.73	5.73	5.73	5.73
ULSD Costs For Filing - ¢/mmbtu	1,735.71	1,727.50	1,713.73	1,686.55

Dispersed Generation, cents per kWh

	<u>COMPOSITE COST OF DISP. GEN.</u>
BBIs Fuel:	1263.5159
\$/BBI Inv Cost:	96.6391
Fuel \$ (Prod Sim Consumption x Unit Cost)	122,105.00
Net kWh (from Prod Sim)	711,000
cents/kWh:	17.174

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

	SHIPMAN INDUSTRIAL		HILL INDUSTRIAL		COST PER BARREL		
	BBL	COST	BBL	COST	EXCL LT	LT Total	
Balance at 10/31/2018	0	0.00	32,691	2,475,240.32			
Less: Est'd Inventory Addn			0	0.00			
Purchases: Estimate	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Actual	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfers out: Estimate	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Actual	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfers in: Estimate	0	0.00	(32,972)	(2,467,819.69)			
Actual	0	0.00	38,429	3,088,487.49			
Consumed: Estimate	0	0.00	34,633	2,637,819.59			
Actual	0	0.00	(31,155)	(2,372,918.01)			
Balance Per G/L 10/31/2018	0	0.00	41,626	3,360,809.70			
Purchases	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfer out	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfer in	0	0.00	23,641	1,934,506.14			
Consumed	0	0.00	(30,845)	(2,359,508.88)	106.5901	0.0000	106.5901
Balance @ 11/30/2018	0	0.00	34,422	2,935,806.97			
Inv From Offsite/Transfers	0	0.00	0	0.00			
Est'd Inventory Addition	0	0.00	0	0.00			
Fuel Balance @ 11/30/2018	0	0.00	34,422	2,935,806.97			
Reverse Fuel Balance	xxxxxx	0.00	xxxxxx	(2,935,806.97)			
Fuel Bal @ Avg Price	xxxxxx	0.00	xxxxxx	2,952,917.43			
Total @ 12/01/2018 Avg Price	0	0.00	34,422	2,952,917.43			

Weighted Avg Cost/BBL by Location #DIV/0! 85.2887

Weighted Avg Cost/BBL @ Avg Cost #DIV/0! 85.7858

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

PUNA INDUSTRIAL

	BBL	COST	LAND TRANSP	COST PER BARREL		TOTAL
				EXCLUDE LT	LT	
Balance at 10/31/2018	7,124	584,552.32	9,220.29			
Less: Est'd Inventory Addition	0	0.00	0.00			
Purchases: Estimate	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers out: Estimate	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers in: Estimate	(1,309)	(103,225.59)	(1,565.22)			
Actual	1,959	166,070.13	2,481.16			
Consumed: Estimate	706	53,772.43	852.30			
Actual	(1,982)	(150,958.87)	(2,392.72)			
Balance Per G/L 10/31/2018	6,498	550,210.43	8,595.81			
Purchases	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer out	XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer in	4,742	400,813	5,670.20			
Consumed	(5,705)	(436,407.79)	(7,383.74)	76.4957	1.2943	77.7899
Balance @ 11/30/2018	5,535	514,615.33	6,882.27			
Inventory From Offsite/Transfers	0	0.00	0.00			
Est'd Inventory Addition	0	0.00	0.00			
Fuel Bal @ Avg Price	5,535	514,615.33	6,882.27		1.2434	
Reverse Fuel Balance	XXXXXXXXXXXX	(514,615.33)	XXXXXXXXXXXX			
Fuel Balance @ Avg Price	XXXXXXXXXXXX	474,824.18	XXXXXXXXXXXX			
Total @ 12/01/2018 Avg Price	5,535	474,824.18	6,882.27			

Weighted Avg Cost/BBL by Location

92.9748

1.2434

Weighted Avg Cost/BBL @ Avg Cost

85.7858

1.2434

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

PUNA CT-3

HS Diesel	BBL	GALLONS	COST EXCLUD LT	LAND TRANSP	COST PER EXCL LT	BARREL LT	TOTAL
Balance at 10/312018	3,577.1	150,240.0	434,287.7	3,636.0			
Less: Est'd Inven Addition	0.0	0.0	0.0	0.0			
Purchases: Estimate			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Actual			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Transfers out: Estimate			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Actual			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Transfers in: Estimate	(6,528.5)	(274,197.0)	(681,163.5)	(7,238.8)			
Actual	8,574.1	360,113.0	939,138.6	9,592.6			
Consumed: Estimate	7,199.7	302,387.0	746,877.3	8,471.5			
Actual	(8,983.8)	(377,321.0)	(931,959.7)	(10,570.8)			
Balance Per G/L 10/31/2018	3,838.6	161,222	507,180.45	3,890.46			
Purchases			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Transfer out			XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX		
Transfer in	6,075.7	255,181.0	645,086.8	6,736.8	106.1742		
Consumed	(5,091.6)	(213,849)	(552,588.36)	(5,175.15)	108.5285	1.0164	109.5449
Balance @ 11/30/2018	4,822.7	202,554	599,678.92	5,452.09	124.3447		
Inven From Offsite/Transfers	0.0	0	0.00	0.00			
Est'd Inventory Addition	0.0	0	0.00	0.00			
Fuel Balance @ 11/30/2018	4,822.7	202,554	599,678.92	5,452.09	124.3447		
Reverse Fuel Balance			XXXXXXXXXXXXXXXXXXXX (599,678.92)	XXXXXXXXXXXXXXXXXXXX			
Fuel Balance @ Avg Price			XXXXXXXXXXXXXXXXXXXX 535,080.32	XXXXXXXXXXXXXXXXXXXX			
Total @ 12/01/2018 Avg Price	4,822.7	202,554	535,080.32	5,452.09	110.9500		

Weighted Avg Cost/BBL by Location 124.3447 1.1305
Weighted Avg Cost/BBL @ Avg Cost 110.9500 1.1305

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

TOTAL HILO HS-DIESEL

HS Diesel	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER EXCL LT	BARREL LT	TOTAL
Balance at 10/312018	1542.8	64,796	162,098	1,265			
Less: Est'd Inven Addition	0.0	0	0	0			
Purchases: Estimate		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers out: Estimate		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers in: Estimate	-185.4	-7786.0	-19573.6	-181.4			
Actual	185.4	7786.0	20341.0	183.4			
Consumed: Estimate	74.8	3140.0	7755.6	63.6			
Actual	-108.4	-4553.0	-11245.6	-92.2			
Balance Per G/L 10/31/2018	1509.1	63,383	159,375.68	1,238.65	105.6084		
Purchases		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer out		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer in	933.2	39193.0	100745.1	913.2	#DIV/0!		
Consumed	-908.8	-38169.0	-98629.2	-745.4	108.5285	0.8202	109.3487
Balance @ 11/30/2018	1,533.5	64,407	161,491.61	1,406.46	105.3092		
Inven From Offsite/Transfers	0.0	0.0	0.0	0.0			
Est'd Inventory Addition	0.0	0.0	0.0	0.0			
Fuel Balance @ Avg Price	1,533.5	64,407	161,491.61	1,406.46	105.3092		
Reverse Fuel Balance		XXXXXXXXXXXX	XXXXXXXXXXXX -161,491.61	XXXXXXXXXXXX			
Fuel Balance @ Avg Price		XXXXXXXXXXXX	XXXXXXXXXXXX 170,141.88	XXXXXXXXXXXX			
Total @ 12/01/2018 Avg Price	1,533.5	64,407	170,141.88	1,406.46	110.9500		
Weighted Avg Cost/BBL by Location			105.3092	0.9172			
Weighted Avg Cost/BBL @ Avg Cost			110.9500	0.9172			

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

KEAHOLE DIESEL

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER BARREL EXCLUD LT	LT	TOTAL
Balance at 10/312018	2,071.1	86,986	189,863.63	5,842.02			
Less: Est'd Inventory Addition	0.0						
Purchases: Estimate	(375.9)	(15,789)	(39,981.69)	(1,068.92)			
Actual	375.0	15,748	41,487.31	0.00			
Transfers out: Estimate		xxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx			
Actual		xxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx			
Transfers in: Estimate		(176)	0.00	(11.92)			
Actual		176	0.00	1,066.14			
Consumed: Estimate	222.7	9,352	20,547.31	625.91			
Actual	(256.1)	(10,755)	(23,629.84)	(719.81)	92.2783		
Balance Per G/L 10/31/2018	2,036.7	85,542	188,286.72	5,733.42	92.4463		
Purchases	0.0	0	0.00	0.00	0.0000		
Estimated Purchases	190.0	7,980	20,189.40	540.25			
Transfer in	1.7	72	0.00	4.87	0.00		
Consumed	(304.1)	(12,771)	(28,349.04)	(857.69)	93.2315	2.8207	96.0522
Balance @ 11/30/2018	1,924.4	80,823	180,127.08	5,420.85	93.6038		
Inventory From Offsite/Transfers	0.0	0	0.00	0.00			
Est'd Inventory Addition	0.0	0	0.00	0.00			
Fuel Balance @ Avg Price	1,924.4	80,823	180,127.08	5,420.85	93.6038		
Reverse Fuel Balance	xxxxxxxxxxxx	xxxxxxxxxxxx	(180,127.08)	xxxxxxxxxxxx			
Fuel Balance @ Avg Price	xxxxxxxxxxxx	xxxxxxxxxxxx	185,968.09	xxxxxxxxxxxx			
Total @ 12/01/2018 Avg Price	1,924.4	80,823	185,968.09	5,420.85	96.6391		

Weighted Avg Cost/BBL by Location

93.6038 2.8170

Weighted Avg Cost/BBL @ Avg Cost

96.6391 2.8170

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

WAIMEA DIESEL

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER BARREL	LT	TOTAL
Balance at 10/312018	1,500.5	63,023.0	136,429.0	3,507.01			
Less: Est'd Inven Addition	0.0	0.0	0.00	0.00			
Purchases: Estimate		(7,980)	(20,189.40)	(450.07)			
Actual		7,936.0	20,907.8	0.00			
Transfers out: Estimate		xxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx			
Actual		xxxxxxxxxxxx	xxxxxxxxxxxx	xxxxxxxxxxxx			
Transfers in: Estimate	1.5	63	0.00	0.00			
Actual	0.0	0	0.00	447.59			
Consumed: Estimate	228.9	9,614	21,122.95	536.14			
Actual	(256.2)	(10,759)	(23,638.63)	(599.99)			
Balance Per G/L 10/31/2018	1,473.7	61,897	134,631.75	3,440.68	91.3539		
ULSD Purchases	0.0	0	0.00	0.00	#DIV/0!		
Estimated Purchases	190.0	7,980	20,189.40	450.07			
Transfer in	xxxxxxxxxxxx	(188)	0.00	0.00	#DIV/0!		
Consumed	(327.9)	(13,773)	(30,573.28)	(766.43)	93.2315	2.3372	95.5687
Balance @ 11/30/2018	1,331.3	55,916	124,247.87	3,124.32	93.3259		
Inven From Offsite/Transfers	0.0	0	0.00	0.00			
Est'd Inventory Addition	0.0	0	0.00	0.00			
Fuel Balance @ Avg Price	1,331.3	55,916	124,247.87	3,124.32	93.3259		
Reverse Fuel Balance	xxxxxxxxxxxx	xxxxxxxxxxxx	(124,247.87)	xxxxxxxxxxxx			
Fuel Balance @ Avg Price	xxxxxxxxxxxx	xxxxxxxxxxxx	128,658.82	xxxxxxxxxxxx			
Total @ 12/01/2018 Avg Price	1,331.3	55,916	128,658.82	3,124.32	96.6391		

Weighted Avg Cost/BBL by Location

93.3259 2.3468

Weighted Avg Cost/BBL @ Avg Cost

96.6391 2.3468

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

KANOELEHUA DIESEL

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP		
Balance at 10/31/2018	1,492.8	62,697.0	144,163.8	2,134.4		
Less: Est'd Inventory Addition	0.0	0	0.00	0.00		
Purchases: Estimate	(190.0)	(7,980)	(20,189.40)	(185.93)		
Actua	12.0	502	1,322.12	0.00		
Transfers out: Estimate		x	x	x		
Actua		x	x	x		
Transfers in: Estimate		0	0.00	0.00		
Actua		(45)	0.00	11.70		
Consumed: Estimate	90.6	3,807	967.04	26.58		
Actua	(90.6)	(3,806)	(8,362.16)	(131.41)		
Balance Per G/L 10/31/2018	1,313.7	55,175	117,901.41	1,855.34		
ULSD Purchases	0	0	0.00	0.00	#DIV/0!	
Estimated Purchases	190	-	-	-		
Transfer in	0	0	0.00	0.00		
Consumed	(210.3)	(8,834)	(967.04)	(26.58)	93.23150978	1.4298
Balance @ 11/30/2018	1,293.4	54,321	137,123.77	2,014.69		
Inventory From Offsite/Transfers	0.0	0	0.00	0.00		
Est'd Inventory Addition	0.0	0	0.00	0.00		
Fuel Balance @ Avg Price	1,293.4	54,321	137,123.77	2,014.69		
Reverse Fuel Balance	x	x	(137,123.77)	x		
Fuel Balance @ Avg Price	x	x	124,988.83	x		
Total @ 12/01/2018 Avg Price	1,293.4	54,321	124,988.83	2,014.69		

Weighted Avg Cost/BBL by Location

106.0216 1.5577

Weighted Avg Cost/BBL @ Avg Cost

96.6391 1.5577

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2018

DISPERSED GENERATION

	BBL	GALLONS	COST	COST/BBL
Balance at 10/31/2018	87.5	3,675	9,865.61	
Less: Est'd Inven Addition	0.0	XXXXXXXXXX	XXXXXXXXXX	
Purchases: Estimate	(28.3)	(1,188)	(3,008.70)	
Actual	86.4	3,630	5,208.18	
Consumed: Estimate	4.5	189	415.25	
Actual	(6.4)	(268)	(517.21)	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Balance Per G/L 10/31/2018	143.76	6,038	11,963.13	83.2149
Purchases	0.0	0	0.00	0.0000
Transfer out	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Transfer in	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Consumed	(13.8)	(578)	(1,283.04)	93.2315
Balance @ 11/30/2018	130.0	5,460	10,680.09	82.1545
Est'd Inventory Addition	0.0	0	0.00	
Fuel Balance @ 11/30/2018	130.0	5,460	10,680.09	
Reverse Fuel Balance	XXXXXXXXXX	XXXXXXXXXX	(10,680.09)	xxxx
Fuel Balance @ Avg Price	XXXXXXXXXX	XXXXXXXXXX	12,563.08	xxxx
Total @ 12/01/2018 Avg Price	130.0	5,460	12,563.08	96.6391

Hawaii Electric Light Company, Inc.
PURCHASED POWER PRICES FOR December 1, 2018

		December 1, 2018 <u>(¢/kWh)</u>	Floor Rates <u>(¢/kWh)</u>
PGV (25 MW)	- on peak	17.200	6.560
PGV (22 MW)	- off peak	16.824	5.430
WAILUKU HYDRO	- on peak	17.200	7.240
	off peak	16.824	5.970
Other: (<100 KW)	Sch Q Rate	16.630	
		December 1, 2018 <u>(¢/kWh)</u>	Floor Rates <u>(¢/kWh)</u>
HEP		15.200	
PGV Addtl 5 MW	- on peak	12.8600	0.0000
	- off peak	12.8600	0.0000
PGV Addtl 8 MW	- on peak	6.5400	0.0000
	- off peak	6.5400	0.0000

Hawaii Electric Light Company, Inc.
Energy Cost Reconciliation Adjustment
December 1, 2018

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Amount to be (returned) or collected	(\$917,000)
2	Monthly Amount ($\frac{1}{3}$ x Line 1)	(\$305,667)
3	Revenue Tax Divisor	0.91115
4	Total (Line 2 / Line 3)	(\$335,473)
5	Estimated MWh Sales (December 1, 2018)	88,880 mwh
6	Adjustment (Line 4 / Line 5)	(0.377) ¢/kwh

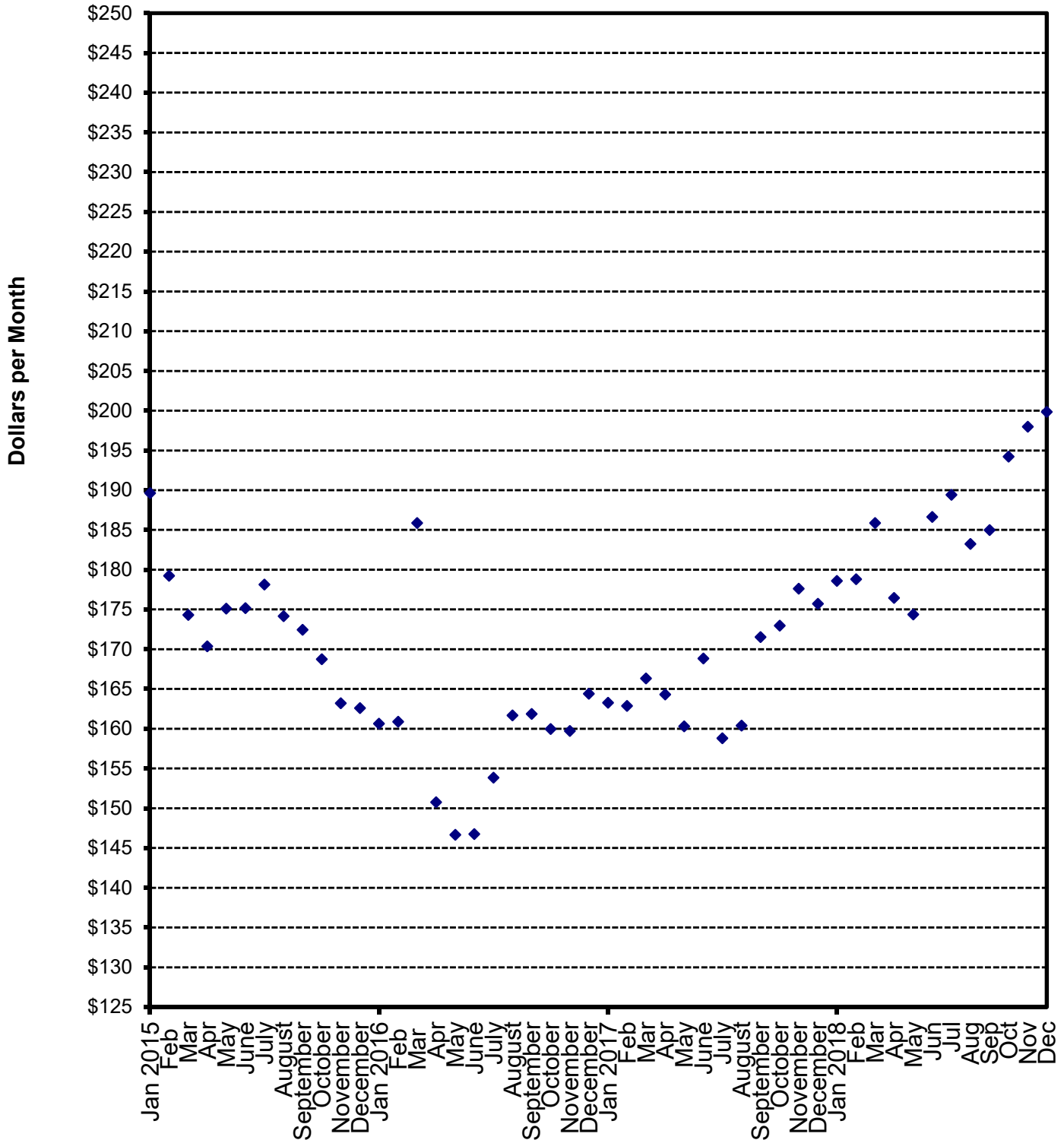
HAWAII ELECTRIC LIGHT COMPANY, INC.
2018 Cumulative Reconciliation Balance

<u>Month</u>	<u>(1)</u> YTD FOA Reconciliation	<u>Qtr</u>	<u>(2)</u> FOA Rec Adjust Variance	<u>(3)</u> FOA Rec Less Variance	<u>(4)</u> Try to Collect	<u>(5)</u> Actual Collect	<u>(6)</u> Month-end Cumulative Balance
November	785,400	[3]	(82,548)	867,948	(261,800)	(268,646)	534,241
December 16					(261,800)	(283,626)	250,615
January 17					(261,800)	(265,764)	(15,149)
February	1,366,400	[4]	(46,589)	1,412,989	(455,467)	(473,124)	924,716
March					(455,467)	(479,559)	445,157
April					(455,467)	(478,693)	(33,536)
May	445,100	(1)	(45,713)	490,813	(148,367)	(154,562)	302,715
June					(148,367)	(151,295)	151,420
July					(148,367)	(157,548)	(6,128)
August	500,800	[2]	(32,349)	533,149	(166,933)	(180,924)	346,097
September					(166,933)	(178,788)	167,309
October					(166,933)	(178,629)	(11,320)
November	714,200	[3]	(35,027)	749,227	(238,067)	(250,818)	487,089
December					(238,067)	(243,403)	243,686
January 18					(238,067)	(242,224)	1,462
February	825,100	[4]	(29,783)	854,883	(275,033)	(279,869)	576,476
March					(275,033)	(283,895)	292,581
April					(275,033)	(291,829)	752
May	1,153,900	(1)	(17,855)	1,171,755	(384,633)	(398,709)	773,798
June					(384,633)	(387,715)	386,083
July					(384,633)	(399,033)	(12,950)
August	699,900	[2]	(33,954)	733,854	(233,300)	(244,658)	476,246
September					(233,300)	(240,110)	236,136
October					(233,300)	(241,346)	(5,210)
November	917,000	[3]	(32,568)	949,568	(305,667)		
December					(305,667)		

NOTES:

- Col(1): Quarterly FOA reconciliation amounts. (Refer to Attachment 6)
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))

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



**HAWAII ELECTRIC LIGHT COMPANY, INC.
FUEL OIL ADJUSTMENT FACTOR DATA**

<u>EFFECTIVE DATE</u>	<u>FUEL FACTOR</u>		
	<u>CENTS / KWH</u>	<u>RESIDENTIAL & COMMERCIAL @ 500 KWH</u>	<u>RESIDENTIAL BILL (\$) @ 600 KWH</u>
January 1, 2015	2.369	189.62	227.20
February 1, 2015	0.485	179.22	214.71
March 1, 2015	-0.519	174.32	208.85
April 1, 2015	-0.990	170.37	204.10
May 1, 2015	-0.420	175.10	209.79
June 8, 2015	-0.579	175.16	209.85
July 1, 2015	0.264	178.14	213.38
August 1, 2015	-0.586	174.16	208.61
September 1, 2015	-0.927	172.43	206.54
October 1, 2015	-1.671	168.73	202.10
November 1, 2015	-2.727	163.20	195.47
December 1, 2015	-2.859	162.59	194.74
January 1, 2016	-3.223	160.63	192.41
February 1, 2016	-2.962	160.87	192.69
March 1, 2016	-4.311	154.26	184.76
April 1, 2016	-4.715	150.76	180.57
May 1, 2016	-5.554	146.66	175.64
June 1, 2016	-5.546	146.74	175.74
July 1, 2016	-4.248	153.85	184.31
August 1, 2016	-3.094	161.67	193.69
September 1, 2016	-3.040	161.85	193.90
October 1, 2016	-3.427	159.97	191.65
November 1, 2016	-3.514	159.72	191.35
December 1, 2016	-2.584	164.41	196.97
January 1, 2017	-2.842	163.27	195.58
February 1, 2017	-2.956	162.87	195.09
March 1, 2017	-2.274	166.31	199.24
April 1, 2017	-2.425	164.31	196.83
May 1, 2017	-3.035	160.30	192.02
June 1, 2017	-1.343	168.82	202.25
July 1, 2017	-3.220	158.79	190.22
August 1, 2017	-3.643	160.39	192.15
September 1, 2017	-2.447	171.52	205.50
October 1, 2017	-2.131	172.97	207.23
November 1, 2017	-0.885	177.60	212.80
December 1, 2017	-1.405	175.02	209.69
January 1, 2018	-0.723	178.59	213.95
February 1, 2018	-0.579	178.81	214.22
March 1, 2018	0.816	185.87	222.68
April 1, 2018	-0.912	176.46	211.39
May 1, 2018	-0.452	174.38	208.90
June 1, 2018	2.301	186.65	223.63
July 1, 2018	2.831	189.43	226.97
August 1, 2018	1.665	183.25	219.55
September 1, 2018	2.027	184.98	221.62
October 1, 2018	8.359	194.21	232.50
November 1, 2018	8.913	197.99	237.04
December 1, 2018	9.292	199.86	239.29

**HAWAII ELECTRIC LIGHT COMPANY, INC.
RESIDENTIAL SURCHARGE DATA**

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE	RATE
04/09/12	FINAL RATE INCREASE (1.28%), DOCKET NO. 2009-0164 (2010 TEST YEAR)	
1/1/2016-1/31/2016	PURCHASED POWER ADJUSTMENT CLAUSE	2.3260 CENTS/KWH
1/1/2016-06/30/16	GREEN INFRASTRUCTURE FEE	1.3000 DOLLARS/MONTH
2/1/2016 - 2/29/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.1114 CENTS/KWH
3/1/2016 - 3/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.1401 CENTS/KWH
4/1/2016 - 4/30/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.1228 CENTS/KWH
4/1/2016 - 4/30/16	SOLARSAVER ADJUSTMENT	-0.2779 CENTS/KWH
5/1/2016 - 5/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	1.8623 CENTS/KWH
5/1/2016	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
6/1/2016 - 6/30/16	PURCHASED POWER ADJUSTMENT CLAUSE	1.8442 CENTS/KWH
6/1/2016	RBA RATE ADJUSTMENT	1.4241 CENTS/KWH
7/1/2016-7/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	1.8909 CENTS/KWH
7/1/2016	GREEN INFRASTRUCTURE FEE	1.1300 DOLLARS/MONTH
7/1/2016	RESIDENTIAL PBF SURCHARGE ADJUSTMENT	0.5865 CENTS/KWH
8/1/2016-8/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.3000 CENTS/KWH
9/1/2016-9/30/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.2824 CENTS/KWH
10/1/2016-10/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.2930 CENTS/KWH
11/1/2016-11/30/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.3298 CENTS/KWH
12/1/2016-12/31/16	PURCHASED POWER ADJUSTMENT CLAUSE	2.3371 CENTS/KWH
1/1/2017-1/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	2.3400 CENTS/KWH
1/1/2017	GREEN INFRASTRUCTURE FEE	1.2700 DOLLARS/MONTH
2/1/2017 - 2/28/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.3737 CENTS/KWH
3/1/2017 - 3/31/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.3809 CENTS/KWH
4/1/2017-4/30/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.3781 CENTS/KWH
4/1/2017-4/30/17	SOLARSAVER ADJUSTMENT	-0.2462 CENTS/KWH
5/1/2017-5/31/17	PURCHASED POWER ADJUSTMENT CLAUSE	1.9396 CENTS/KWH
5/1/2017	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
6/1/2017-6/30/17	PURCHASED POWER ADJUSTMENT CLAUSE	1.9225 CENTS/KWH
6/1/2017	RBA RATE ADJUSTMENT	1.4533 CENTS/KWH
7/1/2017 - 7/31/2017	PURCHASED POWER ADJUSTMENT CLAUSE	1.9710 CENTS/KWH
7/1/2017- 12/31/17	GREEN INFRASTRUCTURE FEE	1.1800 DOLLARS/MONTH
7/1/2017	RESIDENTIAL PBF SURCHARGE ADJUSTMENT	0.4244 CENTS/KWH
8/1/2017-8/31/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.7161 CENTS/KWH
9/1/2017-9/30/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.7515 CENTS/KWH
8/31/2017-4/30/18	INTERIM RATE INCREASE 2016	5.8800 PERCENT ON BASE
8/31/2017	RBA RATE ADJUSTMENT	0.6313 CENTS/KWH
10/1/2017 - 10/31/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.7257 CENTS/KWH
11/1/2017 - 11/30/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.4067 CENTS/KWH
12/1/2017 - 12/31/17	PURCHASED POWER ADJUSTMENT CLAUSE	2.4090 CENTS/KWH
1/1/2018 - 1/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.4105 CENTS/KWH
1/1/18-6/30/18	GREEN INFRASTRUCTURE FEE	1.3400 DOLLARS/MONTH
2/1/18-2/28/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.3101 CENTS/KWH
3/1/18 - 3/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.3258 CENTS/KWH
04/1/18-04/30/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.3184 CENTS/KWH
04/1/18-04/30/18	SOLARSAVER ADJUSTMENT	-0.1464 CENTS/KWH
05/1/18-05/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.3395 CENTS/KWH
05/1/18-05/31/18	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
5/1/2018	INTERIM RATE INCREASE 2016	2.5000 PERCENT ON BASE
06/01/18-06/30/18	PURCHASED POWER ADJUSTMENT CLAUSE	1.6729 CENTS/KWH
6/1/2018	RBA RATE ADJUSTMENT	1.0006 CENTS/KWH
07/01/18-07/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	1.6811 CENTS/KWH
7/1/2018- 12/31/18	GREEN INFRASTRUCTURE FEE	1.2100 DOLLARS/MONTH
7/1/2018	RESIDENTIAL PBF SURCHARGE ADJUSTMENT	0.4658 CENTS/KWH
08/01/18-08/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	1.6110 CENTS/KWH
09/01/18-09/30/18	PURCHASED POWER ADJUSTMENT CLAUSE	1.5950 CENTS/KWH
10/01/18-10/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	1.8602 CENTS/KWH
10/1/2018	INTERIM RATE INCREASE 2016	0.0000 PERCENT ON BASE
10/1/2018	FINAL RATE INCREASE (TY 2016) 0.53% EFFECTIVE 10/01/18, DOCKET NO. 2015-0170	
11/1/2018-11/30/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.0617 CENTS/KWH
12/1/2018-12/31/18	PURCHASED POWER ADJUSTMENT CLAUSE	2.0577 CENTS/KWH

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

Hawaii Electric Light Company, Inc.
Calculations of the Average Residential Customer Bill

	Rate		Charge (\$) at 500 Kwh			
	11/01/18	12/01/18	11/01/18	12/01/18	Difference	
Base Rates	effective date:	10/1/2018	10/1/2018			
Base Fuel Energy Charge	¢/kwh	10.244	10.2440	\$51.22	\$51.22	\$0.00
Non-fuel Fuel Energy Charge	¢/kwh			\$71.85	\$71.85	\$0.00
First 300 kWh per month	¢/kwh	13.0289	13.0289	\$39.09	\$39.09	\$0.00
Next 700 kWh per month	¢/kwh	16.3807	16.3807	\$32.76	\$32.76	\$0.00
Customer Charge	\$	11.50	11.50	\$11.50	\$11.50	\$0.00
Total Base Charges				\$134.57	\$134.57	\$0.00
Interim Rate Increase 2016 TY	% on base	0.0000%	0.0000%	\$0.00	\$0.00	\$0.00
RBA Rate Adjustment	¢/kwh	1.0006	1.0006	\$5.00	\$5.00	\$0.00
Purchased Power Adj. Clause	¢/kwh	2.0617	2.0577	\$10.31	\$10.29	-\$0.02
PBF Surcharge	¢/kwh	0.4658	0.4658	\$2.33	\$2.33	\$0.00
DSM Adjustment	¢/kwh	0.0000	0.0000	\$0.00	\$0.00	\$0.00
SolarSaver Adjustment	¢/kwh	0.0000	0.0000	\$0.00	\$0.00	\$0.00
Energy Cost Adjustment	¢/kwh	8.9130	9.2920	\$44.57	\$46.46	\$1.89
Green Infrastructure Fee	\$	1.2100	1.2100	\$1.21	\$1.21	\$0.00
Avg Residential Bill at 500 kwh				\$197.99	\$199.86	

Increase (Decrease -)	\$1.87
% Change	0.94%

	Rate		Charge (\$) at 600 Kwh			
	11/01/18	12/01/18	11/01/18	12/01/18	Difference	
Base Rates	effective date:	10/1/2018	10/1/2018			
Base Fuel/Energy Charge	¢/kwh	10.244	10.2440	\$61.46	\$61.46	\$0.00
Non-fuel Fuel Energy Charge	¢/kwh			\$88.23	\$88.23	\$0.00
First 300 kWh per month	¢/kwh	13.0289	13.0289	\$39.09	\$39.09	\$0.00
Next 700 kWh per month	¢/kwh	16.3807	16.3807	\$49.14	\$49.14	\$0.00
Customer Charge	\$	11.50	11.50	\$11.50	\$11.50	\$0.00
Total Base Charges				\$161.19	\$161.19	\$0.00
Interim Rate Increase 2016 TY	% on base	0.0000%	0.0000%	\$0.00	\$0.00	\$0.00
RBA Rate Adjustment	¢/kwh	1.0006	1.0006	\$6.00	\$6.00	\$0.00
Purchased Power Adj. Clause	¢/kwh	2.0617	2.0577	\$12.37	\$12.35	-\$0.02
PBF Surcharge	¢/kwh	0.4658	0.4658	\$2.79	\$2.79	\$0.00
DSM Adjustment	¢/kwh	0.0000	0.0000	\$0.00	\$0.00	\$0.00
SolarSaver Adjustment	¢/kwh	0.0000	0.0000	\$0.00	\$0.00	\$0.00
Energy Cost Adjustment	¢/kwh	8.9130	9.2920	\$53.48	\$55.75	\$2.27
Green Infrastructure Fee	\$	1.2100	1.2100	\$1.21	\$1.21	\$0.00
Avg Residential Bill at 600 kwh				\$237.04	\$239.29	

Increase (Decrease -)	\$2.25
% Change	0.95%