



SHARON M. SUZUKI
President

November 26, 2019

FILED

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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: Hawai'i Electric Light Energy Cost Recovery Factor for December 2019

Hawai'i Electric Light Company, Inc.'s ("Hawai'i Electric Light") Energy Cost Recovery factor for December 2019 is 16.288 cents per kilowatt-hour ("kWh"), a decrease of 0.01 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$181.82, an increase of \$0.06 compared to rates effective November 1, 2019. The increase in the residential bill is due to the decrease in the Energy Cost Recovery factor, (-\$0.07) and an increase in purchased Power Clause (+\$0.13).

Hawai'i Electric Light's fuel composite cost of generation decreased 0.66 cents per million BTU to 1,277.43 cents per million BTU. The composite cost of distributed generation decreased 0.09 cents per kWh to 15.628 cents per kWh. The composite cost of purchased energy increased 0.02 cents per kWh to 14.496 cents per kWh.

The attached sheets set forth the energy cost recovery factor in cents per kWh for each rate schedule that is applicable for pro rata use beginning December 1, 2019.

Sincerely,

Attachments

cc: Division of Consumer Advocacy

HAWAII ELECTRIC LIGHT COMPANY, INC.

ENERGY COST RECOVERY FACTOR

	<u>EFFECTIVE DATES</u>		
	<u>11/01/19</u>	<u>12/01/19</u>	<u>Change</u>
<u>Composite Cost</u>			
Generation, ¢/mmbtu	1,278.09	1,277.43	(0.66)
Dispersed Generation Energy, ¢/kWh	15.720	15.628	(0.09)
Purchased Energy, ¢/kWh	14.480	14.496	0.02
<u>Residential Schedule "R"</u>			
Energy Cost Recovery - ¢/kWh	16.302	16.288	(0.01)
<u>Others - "G,J,P,F"</u>			
Energy Cost Recovery - ¢/kWh	16.302	16.288	(0.01)
Residential Customer with:			
500 KWH Consumption - \$/Bill	\$181.76	\$181.82	\$0.06
600 KWH Consumption - \$/Bill	\$217.59	\$217.67	\$0.08

HAWAII ELECTRIC LIGHT COMPANY, INC.
ENERGY COST RECOVERY (ECR) FILING

ENERGY COST RECOVERY (ECR) FILING - December 1, 2019 (Page 1 of 2)

<u>Line</u>		
1	Effective Date	December 1, 2019
2	Supercedes Factors of	November 1, 2019

GENERATION COMPONENT

<u>CENTRAL STATION WITH WIND/HYDRO COMPONENT</u>						
FUEL PRICES, ¢/mmbtu						
3						
4	Hill Industrial		933.43			
5	Puna Industrial		959.06			
6	Keahole Diesel		1,581.36			
6a	Keahole ULSD		1,675.07			
7	Waimea ULSD Diesel		1,668.66			
8	Hilo Diesel		1,549.12			
8a	Hilo (Kanoelehua) ULSD Diesel ¹		1,639.62			
9	Puna Diesel		1,547.06			
10	Wind		0.00			
11	Hydro		0.00			
BTU MIX, %						
12						
13	Hill Industrial		34.739			
14	Puna Industrial		5.416			
15	Keahole Diesel		41.738			
15a	Keahole ULSD		0.268			
16	Waimea ULSD Diesel		0.349			
17	Hilo Diesel		4.124			
17a	Hilo (Kanoelehua) ULSD Diesel ¹		0.263			
18	Puna Diesel		10.516			
19	Wind		0.000			
20	Hydro		2.588			
			100.000			
21	COMPOSITE COST OF GENERATION, CENTRAL STATION + WIND/HYDRO ¢/mmbtu		1,277.43			
22	% Input to System kWh Mix		57.163			
EFFICIENCY FACTOR, mmbtu/kWh						
	(A)	(B)	(C)	(D)		
		Eff Factor	Percent of	Weighted		
	<u>Fuel Type</u>	<u>mmbtu/kwh</u>	<u>Centrl Stn +</u>	<u>Eff Factor</u>		
			<u>Wind/Hydro</u>			
23	Industrial	0.014569	40.155	0.005850		
24	Diesel	0.010480	57.258	0.006001		
25	Other	0.012395	2.588	0.000321		
<small>(Lines 23, 24, 25): Col(B) x Col(C) = Col(D)</small>						
26	Weighted Efficiency Factor, mmbtu/kWh [Lines 23(D) + 24(D) + 25(D)]			0.0121720		
27	WEIGHTED COMPOSITE CENTRAL STATION + WIND/HYDRO GENERATION COST, ¢/kWh (Lines (21 x 22 x 26))			8.88821		
28	BASE CENTRAL STATION + WIND/HYDRO GENERATION COST, ¢/mmbtu			0.00		
29	Base % Input to Sys kWh Mix			0.00		
30	Efficiency Factor, mmbtu/kwh			0.000000		
31	WEIGHTED BASE CENTRAL STATION + WIND/HYDRO GENERATION COST ¢/kWh (Lines (28 x 29 x 30))			0.00000		
32	COST LESS BASE (Line 27 - 31)			8.88821		
33	Revenue Tax Req Multiplier			1.0975		
34	CENTRAL STATION + WIND/HYDRO GENERATION FACTOR, ¢/kWh (Line (32 x 33))			9.75481		
				<u>DG ENERGY COMPONENT</u>		
				35	COMPOSITE COST OF DG ENERGY, ¢/kWh	15.628
				36	% Input to System kWh Mix	0.110
				37	WEIGHTED COMPOSITE DG ENERGY COST, ¢/kWh (Lines 35 x 36)	0.01719
				38	BASE DG ENERGY COMPOSITE COST	0.000
				39	Base % Input to System kWh Mix	0.00
				40	WEIGHTED BASE DG ENERGY COST, ¢/kWh (Line 38 x 39)	0.00000
				41	Cost Less Base (Line 37 - 40)	0.01719
				42	Loss Factor	1.072
				43	Revenue Tax Req Multiplier	1.0975
				44	DG FACTOR, ¢/kWh (Line 41 x 42 x 43)	0.02022
				SUMMARY OF TOTAL GENERATION FACTOR, ¢/kWh		
				45	Cntrl Stn+Wind/Hydro (line 34)	9.75481
				46	DG (line 44)	0.02022
				47	TOTAL GENERATION FACTOR, ¢/kWh (lines 45 + 46)	9.77503

¹ Hilo ULSD same location as Kanoelehua ULSD

HAWAII ELECTRIC LIGHT COMPANY, INC.
ENERGY COST RECOVERY (ECR) FILING

ENERGY COST RECOVERY (ECR) FILING - December 1, 2019 (Page 2 of 2)

<u>Line</u>	<u>PURCHASED ENERGY COMPONENT</u>			
	PURCHASED ENERGY PRICE, ¢/kWh -- Fossil			
48	HEP		14.899	
	PURCHASED ENERGY PRICE, ¢/kWh -- Renewable			
49	PGV	On Peak	15.401	
50	PGV	Off Peak	14.064	
51	PGV - Add'l 5 MW	On Peak	13.050	
52	PGV - Add'l 5 MW	Off Peak	13.050	
53	PGV - Add'l 8 MW	On Peak	9.950	
54	PGV - Add'l 8 MW	Off Peak	6.640	
55	Wailuku Hydro	On Peak	15.401	
56	Wailuku Hydro	Off Peak	14.064	
57	Hawi Renewable Dev.	On Peak	15.401	
58	Hawi Renewable Dev.	Off Peak	14.064	
59	Tawhiri (Pakini Nui)	On Peak	12.540	
60	Tawhiri (Pakini Nui)	Off Peak	12.530	
61				
62	Small Hydro (>100 KW)	On Peak	15.401	
63	Small Hydro (>100 KW)	Off Peak	14.064	
64	Sch Q Hydro (<100 KW)		14.480	
65	FIT		23.800	
	PURCHASED ENERGY KWH MIX, %, Fossil			
66	HEP		66.268	
	PURCHASED ENERGY KWH MIX, %, Renewable			
67	PGV	On Peak	0.000	
68	PGV	Off Peak	0.000	
69	PGV - Addt'l	On Peak	0.000	
70	PGV - Addt'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	4.095	
74	Wailuku Hydro	Off Peak	2.962	
75	Hawi Renewable Dev.	On Peak	3.885	
76	Hawi Renewable Dev.	Off Peak	2.588	
77	Tawhiri (Pakini Nui)	On Peak	12.938	
78	Tawhiri (Pakini Nui)	Off Peak	6.387	
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)		0.196	
83	FIT		0.680	
			100.000	
83a	Comp. Cost Purchased Energy Fossil, ¢/kWh		14.8990	
83b	Comp. Cost Purchased Energy Renewable, ¢/kWh		13.7038	
84	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh		14.496	
85	% Input to System kWh Mix		42.727	
86	WEIGHTED COMPOSITE PURCHASED ENERGY COST, ¢/kWh (Lines (84 x 85))		6.19371	
87	BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh		0.000	
88	Base % Input to Sys kWh Mix		0.00	
89	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (Lines (87 x 88))		0.00000	
90	COST LESS BASE (Lines (86 - 89))		6.19371	
91	Loss Factor		1.072	
92	Revenue Tax *		1.0975	
93	PURCHASED ENERGY FACTOR, ¢/kWh (Lines (90 x 91 x 92))		7.28702	
	Derivation of Non-Adjustable Component:			
	93A	Ocean Cargo Insurance Exp, \$000		\$8.2
		HELCO-R-503, page 1, line 4		
	93B	Revenue Tax Adjustment		1.097514
	93C	Non-Adj Revenues, \$000		\$9.0
	93D	2016 TY Sales, MWh		1,040,692
		HELCO-WP-302z		
	93E	Non-Adj Revenues, ¢/kWh		0.00086
	<u>Line</u>	<u>SYSTEM COMPOSITE</u>		
	94	GENERATION AND PURCHASED ENERGY FACTOR, ¢/kWh (Lines (47 + 93))		17.06205
	95	Not Used		0.000
	96	Non-Adjustable Component		0.00086
	97	ECA Reconciliation Adjustment		(0.775)
	98	ECA FACTOR, ¢/kWh (Lines (94 + 95+ 96 + 97))		16.288

Hawaii Electric Light Company, Inc.
FUEL OIL INVENTORY PRICES FOR December 1, 2019

INDUSTRIAL FUEL COSTS:

	<u>HILO</u>	<u>PUNA</u>
Average Industrial Fuel Cost - \$/BBL	58.8059	58.8059
Land Transportation Cost - \$/BBL	--	1.6150
Industrial Costs For Filing - \$/BBL	58.8059	60.4209
Conversion Factors - mmbtu/BBL	6.30	6.30
Industrial Costs For Filing - ¢/mmbtu	933.43	959.06

DIESEL FUEL COSTS:

	<u>KEAHOLE</u>	<u>PUNA CT-3</u>	<u>HILO</u>
Average Diesel Fuel Cost - \$/BBL	89.6343	89.6343	89.6343
Land Transportation Cost - \$/BBL	3.0332	1.0232	1.1440
Diesel Costs For Filing - \$/BBL	92.6675	90.6575	90.7783
Conversion Factors - mmbtu/BBL	5.86	5.86	5.86
Diesel Costs For Filing - ¢/mmbtu	1,581.36	1,547.06	1,549.12

ULSD FUEL COSTS:

	<u>KEAHOLE</u>	<u>WAIMEA</u>	<u>HILO</u>	<u>DISPERSED GENERATION</u>
Average ULSD Fuel Cost - \$/BBL	92.7502	92.7502	92.7502	92.7502
Land Transportation Cost - \$/BBL	3.2313	2.8643	1.2000	-
ULSD Costs For Filing - \$/BBL	95.9815	95.6144	93.9502	92.7502
Conversion Factors - mmbtu/BBL	5.73	5.73	5.73	5.73
ULSD Costs For Filing - ¢/mmbtu	1,675.07	1,668.66	1,639.62	1,618.68

Dispersed Generation, cents per kWh

	<u>COMPOSITE COST OF DISP. GEN.</u>
BBIs Fuel:	174.3877
\$/BBI Inv Cost:	92.7502
Fuel \$ (Prod Sim Consumption x Unit Cost)	16,174.49
Net kWh (from Prod Sim)	103,500
cents/kWh:	15.628

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

	SHIPMAN INDUSTRIAL		HILL INDUSTRIAL		COST PER BARREL		
	BBL	COST	BBL	COST	EXCL LT	LT Total	
Balance at 10/31/2019	0	0.00	39,240	2,315,066.01			
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	(20,086)	(1,189,249.10)			
Actual	0	0.00	20,679	1,232,068.75			
Consumed: Estimate	0	0.00	22,298	1,321,365.08			
Actual	0	0.00	(27,962)	(1,657,010.06)			
Balance Per G/L 10/31/2019	<u>0</u>	<u>0.00</u>	<u>34,169</u>	<u>2,022,240.67</u>			
Purchases	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfer out	xxxxxx	xxxxxxxxxxxxxxxxxxxx	xxxxxxxxxx	xxxxxxxxxxxxxxxxxxxx			
Transfer in	0	0.00	49,559	2,901,733.49			
Consumed	<u>0</u>	<u>0.00</u>	<u>(43,962)</u>	<u>(2,620,475.04)</u>	106.5901	0.0000	106.5901
Balance @ 11/30/2019	0	0.00	39,766	2,303,499.12			
Inv From Offsite/Transfers	0	0.00	0	0.00			
Est'd Inventory Addition	0	0.00	0	0.00			
Fuel Balance @ 11/30/2019	<u>0</u>	<u>0.00</u>	<u>39,766</u>	<u>2,303,499.12</u>			
Reverse Fuel Balance	xxxxxx	0.00	xxxxxx	(2,303,499.12)			
Fuel Bal @ Avg Price	xxxxxx	0.00	xxxxxx	2,338,475.79			
Total @ 12/01/2019 Avg Price	<u>0</u>	<u>0.00</u>	<u>39,766</u>	<u>2,338,475.79</u>			

Weighted Avg Cost/BBL by Location #DIV/0! 57.9263

Weighted Avg Cost/BBL @ Avg Cost #DIV/0! 58.8059

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

PUNA INDUSTRIAL

	BBL	COST	LAND TRANSP	COST PER BARREL		TOTAL
				EXCLUDE LT	LT	
Balance at 10/31/2019	5,649	351,288.99	9,596.90			
Less: Est'd Inventory Addition	0	0.00	0.00			
Purchases: Estimate	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Actual	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfers out: Estimate	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Actual	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfers in: Estimate	(8,605)	(528,399.83)	(11,318.24)			
Actual	8,426	530,699.66	11,654.96			
Consumed: Estimate	11,663	691,141.85	15,892.27			
Actual	<u>(10,548)</u>	<u>(625,067.67)</u>	<u>(14,832.99)</u>			
Balance Per G/L 10/31/2019	<u>6,585</u>	<u>419,663.00</u>	<u>10,992.90</u>			
Purchases	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfer out	XXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfer in	654	42,080	860.21			
Consumed	(1,935)	<u>(115,340.96)</u>	(3,287.31)	59.6077	1.6989	61.3066
Balance @ 11/30/2019	<u>5,304</u>	<u>346,402.07</u>	<u>8,565.80</u>			
Inventory From Offsite/Transfers	0	0.00	0.00			
Est'd Inventory Addition	0	0.00	0.00			
Fuel Bal @ Avg Price	<u>5,304</u>	<u>346,402.07</u>	<u>8,565.80</u>		<u>1.6150</u>	
Reverse Fuel Balance	XXXXXXXXXXXX	(346,402.07)	XXXXXXXXXXXXXXXXXXXX			
Fuel Balance @ Avg Price	XXXXXXXXXXXX	311,906.54	XXXXXXXXXXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	<u>5,304</u>	<u>311,906.54</u>	<u>8,565.80</u>			
Weighted Avg Cost/BBL by Location		65.3096	1.6150			
Weighted Avg Cost/BBL @ Avg Cost		58.8059	1.6150			

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

KEAHOLE DIESEL

HS Diesel	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER EXCLUD LT	BARREL LT	TOTAL
Balance at 10/31/2019	43,204.3	1,814,582.0	3,865,904.6	134,527.2			
Less: Est'd Inventory Addition	0.0	0.0	0.0	0.0			
Purchases: Estimate	0.0	0.0	0.0	0.0			
Actual	0.0	0.0	0.0	0.0			
Transfers out: Estimate		XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX			
Actual		XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX			
Transfers in: Estimate	(37,859.1)	(1,590,084.0)	(3,385,107.6)	(107,648.7)			
Actual	38,569.2	1,619,908.0	3,615,021.8	113,241.93			
Consumed: Estimate	39,127.9	1,643,370.0	3,480,407.7	118,112.38			
Actual	(40,386.4)	(1,696,229.0)	(3,714,089.8)	(114,889.9)	91.9639		
Balance Per G/L 10/31/2019	42,655.9	1,791,547	3,862,136.73	143,343.00	90.5417		
Purchases	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX			
Transfer out	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX			
Transfer in	38,147.7	1,602,203.0	3,410,388.4	108,469.1	89.3996		
Consumed	(55,997.6)	(2,351,900.0)	(5,065,602.3)	(174,362.24)	90.4610	3.1137	93.5748
Balance @ 11/30/2019	24,806.0	1,041,850	2,206,922.83	77,449.90	88.9675		
Inventory From Offsite/Transfers	5,820.6	244,465.2	530,632.1	16,881.49			
Est'd Inventory Addition	10,806.0	453,854	972,323.8	31,340.78			
Fuel Balance @ Avg Price	41,432.6	1,740,169	3,709,878.79	125,672.17	89.5401		
Reverse Fuel Balance	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	(3,709,878.8)	XXXXXXXXXXXXXXXXXX			
Fuel Balance @ Avg Price	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	3,713,782.8	XXXXXXXXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	41,432.6	1,740,169	3,713,782.85	125,672.17	89.6343		

Weighted Avg Cost/BBL by Location

89.5401 3.0332

Weighted Avg Cost/BBL @ Avg Cost

89.6343 3.0332

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

PUNA CT-3

HS Diesel	BBL	GALLONS	COST EXCLUD LT	LAND TRANSP	COST PER EXCL LT	BARREL LT	TOTAL
Balance at 10/31/2019	3,153.3	132,440.0	293,888.4	4,289.9			
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	(5,841.3)	(245,333.0)	(532,435.1)	(6,476.8)			
Actual	5,594.8	234,982.0	520,906.0	6,264.9			
Consumed: Estimate	7,211.2	302,870.0	641,432.6	7,515.7			
Actual	(5,774.4)	(242,525.0)	(530,508.9)	(5,038.2)			
Balance Per G/L 10/31/2019	4,343.7	182,434	393,283.04	6,555.51			
Purchases		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfer out		XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX			
Transfer in	6,309.8	265,011.0	567,253.8	6,996.3	89.9006		
Consumed	(7,861.8)	(330,195)	(711,185.24)	(10,695.34)	90.4610	1.3604	91.8215
Balance @ 11/30/2019	2,791.7	117,250	249,351.57	2,856.46	89.3200		
Inven From Offsite/Transfers	0.0	0	0.00	0.00			
Est'd Inventory Addition	0.0	0	0.00	0.00			
Fuel Balance @ 11/30/2019	2,791.7	117,250	249,351.57	2,856.46	89.3200		
Reverse Fuel Balance		XXXXXXXXXXXXXXXXXXXX	(249,351.57)	XXXXXXXXXXXXXXXXXXXX			
Fuel Balance @ Avg Price		XXXXXXXXXXXXXXXXXXXX	250,229.14	XXXXXXXXXXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	2,791.7	117,250	250,229.14	2,856.46	89.6343		

Weighted Avg Cost/BBL by Location

89.3200 1.0232

Weighted Avg Cost/BBL @ Avg Cost

89.6343 1.0232

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

TOTAL HILO HS-DIESEL

HS Diesel	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER EXCL LT	BARREL LT	TOTAL
Balance at 10/31/2019	1505.9	63,246	136,578	1,599			
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	-752.9	-31620.0	-69414.2	-736.7			
Actual	752.9	31620.0	69430.4	737.0			
Consumed: Estimate	787.0	33053.0	70001.2	880.8			
Actual	-656.6	-27577.0	-58448.0	-656.1			
Balance Per G/L 10/31/2019	1636.2	68,722	148,147.81	1,823.79	90.5417		
Purchases		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer out		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfer in	187.8	7886.0	17117.2	183.7	#DIV/0!		
Consumed	-961.4	-40377.0	-86965.4	-1020.7	90.4610	1.0617	91.5228
Balance @ 11/30/2019	862.6	36,231	78,299.67	986.84	90.7672		
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	862.6	36,231	78,299.67	986.84	90.7672		
Reverse Fuel Balance		XXXXXXXXXXXX	-78,299.67	XXXXXXXXXXXX			
Fuel Balance @ Avg Price		XXXXXXXXXXXX	77,322.40	XXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	862.6	36,231	77,322.40	986.84	89.6343		

Weighted Avg Cost/BBL by Location

90.7672 1.1440

Weighted Avg Cost/BBL @ Avg Cost

89.6343 1.1440

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

KEAHOLE ULSD

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER BARREL EXCLUD LT	LT	TOTAL
Balance at 10/31/2019	2,027.2	85,144	184,439.83	8,034.26			
Less: Est'd Inventory Addition	0.0						
Purchases: Estimate	(188.4)	(7,912)	(17,694.52)	(535.64)			
Actual	188.4	7,912	17,694.52	0.00			
Transfers out: Estimate		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers in: Estimate		(286)	0.00	(19.36)			
Actual		(217)	0.00	535.64			
Consumed: Estimate	167.2	7,023	15,196.56	500.70			
Actual	(186.8)	(7,845)	(16,975.23)	(1,809.17)	90.8808		
Balance Per G/L 10/31/2019	1,995.7	83,819	182,661.17	6,706.42	91.5278		
Purchases	188.3	7,910	17,505.02	535.51	0.0000		
Estimated Purchases	0.0	0	0.00	0.00			
Transfer in	0.4	16	0.00	1.08	0.00		
Consumed	(252.1)	(10,587)	(23,518.14)	(999.00)	93.2995	3.9632	97.2627
Balance @ 11/30/2019	1,932.3	81,158	176,648.05	6,244.02	91.4170		
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	1,932.3	81,158	176,648.05	6,244.02	91.4170		
Reverse Fuel Balance	XXXXXXXXXXXX	XXXXXXXXXXXX	(176,648.05)	XXXXXXXXXXXX			
Fuel Balance @ Avg Price	XXXXXXXXXXXX	XXXXXXXXXXXX	179,224.25	XXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	1,932.3	81,158	179,224.25	6,244.02	92.7502		

Weighted Avg Cost/BBL by Location

91.4170 3.2313

Weighted Avg Cost/BBL @ Avg Cost

92.7502 3.2313

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

WAIMEA DIESEL

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP	COST PER BARREL	LT	TOTAL
Balance at 10/31/2019	1,433.0	60,188.0	130,791.0	3,947.73			
Less: Est'd Inven Addition	0.0	0.0	0.00	0.00			
Purchases: Estimate		(7,918)	(17,707.95)	(446.58)			
Actual		7,918.0	17,708.0	0.00			
Transfers out: Estimate		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Actual		XXXXXXXXXXXX	XXXXXXXXXXXX	XXXXXXXXXXXX			
Transfers in: Estimate	(0.2)	(7)	0.00	0.00			
Actual	1.3	53	0.00	446.58			
Consumed: Estimate	157.1	6,600	14,281.26	442.09			
Actual	(125.3)	(5,263)	(11,388.23)	(219.66)			
Balance Per G/L 10/31/2019	1,466.0	61,571	133,684.06	4,170.16	91.1912		
ULSD Purchases	0.0	0	0.00	0.00	#DIV/0!		
Estimated Purchases	-	0	0.00	0.00			
Transfer in	XXXXXXXXXXXX	(4)	0.00	0.00	#DIV/0!		
Consumed	(260.3)	(10,932)	(24,284.53)	(717.03)	93.2995	2.7548	96.0543
Balance @ 11/30/2019	1,205.6	50,635	109,399.53	3,453.14	90.7432		
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	1,205.6	50,635	109,399.53	3,453.14	90.7432		
Reverse Fuel Balance	XXXXXXXXXXXX	XXXXXXXXXXXX	(109,399.53)	XXXXXXXXXXXX			
Fuel Balance @ Avg Price	XXXXXXXXXXXX	XXXXXXXXXXXX	111,819.17	XXXXXXXXXXXX			
Total @ 12/01/2019 Avg Price	1,205.6	50,635	111,819.17	3,453.14	92.7502		

Weighted Avg Cost/BBL by Location

90.7432 2.8643

Weighted Avg Cost/BBL @ Avg Cost

92.7502 2.8643

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

KANOELEHUA DIESEL

ULSD	BBL	GALLONS	COST EXCLUDE LT	LAND TRANSP		
Balance at 10/31/2019	836.5	35,134.0	85,972.1	1,056.1		
Less: Est'd Inventory Addition	0.0	0	0.00	0.00		
Purchases: Estimate	0.0	0	0.00	0.00		
Actual	0.0	0	0.00	0.00		
Transfers out: Estimate		x	x	x		
Actual		x	x	x		
Transfers in: Estimate		0	0.00	0.00		
Actual		0	0.00	0.00		
Consumed: Estimate	120.1	5,046	967.04	26.58		
Actual	(81.5)	(3,425)	(7,411.11)	(107.47)		
Balance Per G/L 10/31/2019	875.1	36,755	79,528.04	975.23		
ULSD Purchases	0	0	0.00	0.00	#DIV/0!	
Estimated Purchases	0	-	-	-		
Transfer in	0	0	0.00	0.00		
Consumed	(84.6)	(3,552)	(967.04)	(26.58)	93.29950985	1.2625
Balance @ 11/30/2019	790.5	33,203	78,561.00	948.65		
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	790.5	33,203	78,561.00	948.65		
Reverse Fuel Balance	x	x	(78,561.00)	x		
Fuel Balance @ Avg Price	x	x	73,323.43	x		
Total @ 12/01/2019 Avg Price	790.5	33,203	73,323.43	948.65		

Weighted Avg Cost/BBL by Location

99.3754 1.2000

Weighted Avg Cost/BBL @ Avg Cost

92.7502 1.2000

HAWAII ELECTRIC LIGHT CO., INC.
Estimated Weighted Average
November 2019

DISPERSED GENERATION

	BBL	GALLONS	COST	COST/BBL
Balance at 10/31/2019	129.1	5,422	11,731.77	
Less: Est'd Inven Addition	0.0	XXXXXXXXXX	XXXXXXXXXX	
Purchases: Estimate	0.0	0	0.00	
Actual	0.0	0	0.00	
Consumed: Estimate	9.5	401	867.70	
Actual	(10.0)	(422)	(913.14)	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Balance Per G/L 10/31/2019	128.60	5,401	11,686.33	90.8768
Purchases	0.0	0	0.00	0.0000
Transfer out	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Transfer in	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXXXX	
Consumed	(1.5)	(63)	(139.95)	93.2995
Balance @ 11/30/2019	127.1	5,338	11,546.38	90.8483
Est'd Inventory Addition	0.0	0	0.00	
Fuel Balance @ 11/30/2019	127.1	5,338	11,546.38	
Reverse Fuel Balance	XXXXXXXXXX	XXXXXXXXXX	(11,546.38)	xxxx
Fuel Balance @ Avg Price	XXXXXXXXXX	XXXXXXXXXX	11,788.11	xxxx
Total @ 12/01/2019 Avg Price	127.1	5,338	11,788.11	92.7502

HAWAII ELECTRIC LIGHT COMPANY, INC.
CONTRACT PRICES EFFECTIVE November 1, 2019

TYPE OF OIL BURNED

INDUSTRIAL *	<u>Hill Industrial</u>		<u>Puna Industrial</u>	
	<u>¢/MBTU</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>	<u>\$/BBL</u>
Tax ¹	50.93	3.2086	50.93	3.2086
Ocean Transportation	56.29	3.5464	56.29	3.5464
Storage	33.98	2.1410	33.98	2.1410
Wharfage	6.35	0.4000	6.35	0.4000
Fees ²	0.00	0.0000	0.00	0.0000
DIESEL *	<u>Hilo Diesel</u>		<u>Waimea Diesel</u>	
	<u>¢/MBTU</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>	<u>\$/BBL</u>
Tax ¹	87.25	5.1123	87.25	5.1123
Ocean Transportation	60.52	3.5464	60.52	3.5464
Storage	28.34	1.6606	28.34	1.6606
Wharfage	6.83	0.4000	6.83	0.4000
Fees ²	0.00	0.0000	0.00	0.0000
	<u>Kona Diesel</u>		<u>CT3 Diesel</u>	
	<u>¢/MBTU</u>	<u>\$/BBL</u>	<u>¢/MBTU</u>	<u>\$/BBL</u>
Tax ¹	87.25	5.1123	87.25	5.1123
Ocean Transportation	60.52	3.5464	60.52	3.5464
Storage	28.34	1.6606	28.34	1.6606
Wharfage	6.83	0.4000	6.83	0.4000
Fees ²	0.00	0.0000	0.00	0.0000
ULSD **	<u>ULSD</u>			
	<u>¢/MBTU</u>	<u>\$/BBL</u>		
Tax ¹	94.20	5.3981		
Ocean Transportation	0.00	0.0000		
Storage	0.00	0.0000		
Wharfage	0.00	0.0000		
Fees ²	0.00	0.0000		

¹ Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST Tax and Environmental Response Tax.

² With the change in supplier to PAR some fees have been taken off the pricing sheet.

inventory, contract prices for the current month are being provided.
 Contract prices are considered accurate pending actual delivery of fuel.

* Land Transportation Costs are shown in Attachment 3, Sheet 1.

** ULSD includes Waimea, Kanoelehua, and Keahole.

Reference: Decision and Order No. 16134, Docket No. 96-0040.

Hawaii Electric Light Company, Inc.
PURCHASED POWER PRICES FOR December 1, 2019

		December 1, 2019 <u>(¢/kWh)</u>	Floor Rates <u>(¢/kWh)</u>
PGV (25 MW)	- on peak	15.401	6.560
PGV (22 MW)	- off peak	14.064	5.430
WAILUKU HYDRO	- on peak	15.401	7.240
	off peak	14.064	5.970
Other: (<100 KW)	Sch Q Rate	14.480	
		December 1, 2019 <u>(¢/kWh)</u>	Floor Rates <u>(¢/kWh)</u>
HEP		14.899	
PGV Addtl 5 MW	- on peak	13.0500	0.0000
	- off peak	13.0500	0.0000
PGV Addtl 8 MW	- on peak	9.9500	0.0000
	- off peak	6.6400	0.0000

Hawaii Electric Light Company, Inc.
Energy Cost Reconciliation Adjustment
December 1, 2019

<u>Line No.</u>	<u>Description</u>	<u>Amount</u>
1	Amount to be (returned) or collected	(\$1,927,900)
2	Monthly Amount ($\frac{1}{3}$ x Line 1)	(\$642,633)
3	Revenue Tax Divisor	0.91115
4	Total (Line 2 / Line 3)	(\$705,299)
5	Estimated MWh Sales (December 1, 2019)	90,993 mwh
6	Adjustment (Line 4 / Line 5)	(0.775) ¢/kwh

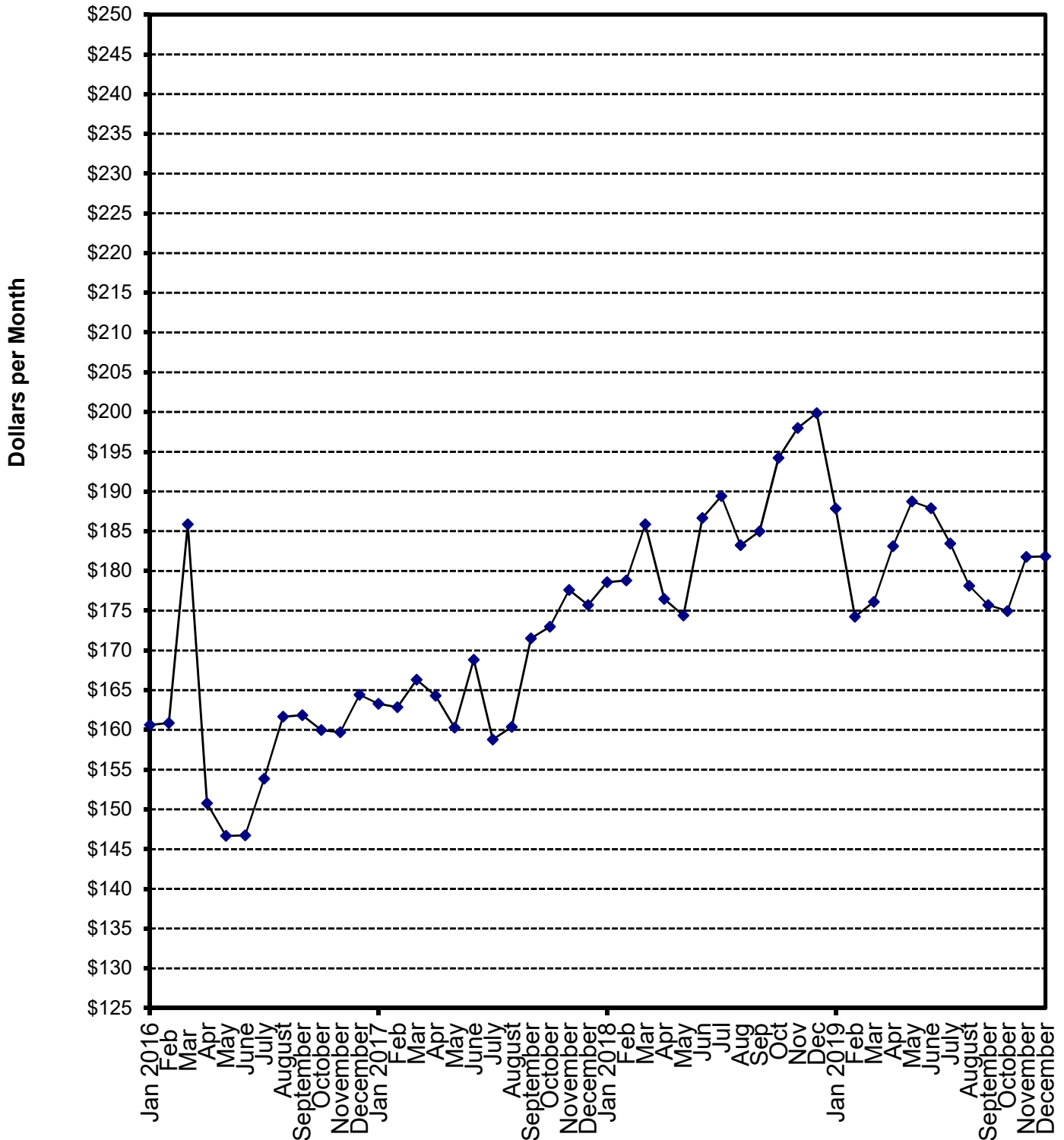
HAWAII ELECTRIC LIGHT COMPANY, INC.
2019 Cumulative Reconciliation Balance

<u>Month</u>	(1) <u>YTD FOA Reconciliation</u>	<u>Qtr</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</u>
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)	(309,251)	635,107
December 18					(305,667)	(302,091)	333,016
January 19					(305,667)	(300,243)	32,773
February	2,598,900	[4]	(8,054)	2,606,954	(866,300)	(800,636)	1,839,091
March					(866,300)	(825,091)	1,014,000
April					(866,300)	(829,484)	184,516
May	1,745,900	(1)	112,297	1,633,603	(581,967)	(565,304)	1,252,815
June					(581,967)	(585,631)	667,184
July					(581,967)	(586,240)	80,944
August	3,027,900	[2]	49,815	2,978,085	(1,009,300)	(1,025,775)	2,033,254
September					(1,009,300)	(1,026,151)	1,007,103
October					(1,009,300)	(1,007,209)	(106)
November	1,927,900	[3]	(37,599)	1,965,499	(642,633)		
December					(642,633)		

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</u>	<u>RESIDENTIAL BILL (\$)</u> <u>@ 500 KWH</u>	<u>@ 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
January 1, 2019	6.867	187.86	224.86
February 1, 2019	14.631	174.25	208.53
March 1, 2019	14.976	176.1	210.75
April 1, 2019	16.469	183.12	219.17
May 1, 2019	17.396	188.74	225.93
June 1, 2019	17.318	187.89	224.90
July 1, 2019	16.450	183.46	219.63
August 1, 2019	15.331	178.14	213.25
September 1, 2019	14.845	175.70	210.32
October 1, 2019	14.692	174.93	209.40
November 1, 2019	16.302	181.76	217.59
December 1, 2019	16.288	181.82	217.67

**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
1/1/2019-1/31/19	PURCHASED POWER ADJUSTMENT CLAUSE	2.0548 CENTS/KWH
1/1/2019- 06/30/19	GREEN INFRASTRUCTURE FEE	1.3500 DOLLARS/MONTH
2/1/2019-2/28/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.8113 CENTS/KWH
3/1/2019-3/31/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.8372 CENTS/KWH
04/1/2019-4/30/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.8247 CENTS/KWH
04/1/19-04/30/19	SOLARSAVER ADJUSTMENT	-0.0768 CENTS/KWH
05/01/2019-5/31/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.9460 CENTS/KWH
05/01/2019	SOLARSAVER ADJUSTMENT	0.0000 CENTS/KWH
06/01/2019-6/30/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.9474 CENTS/KWH
6/1/2019	RBA RATE ADJUSTMENT	0.9069 CENTS/KWH
7/01/2019-7/31/19	PURCHASED POWER ADJUSTMENT CLAUSE	1.9539 CENTS/KWH
7/1/2019	GREEN INFRASTRUCTURE FEE	1.1700 DOLLARS/MONTH
7/1/2019	RESIDENTIAL PBF SURCHARGE ADJUSTMENT	0.4775 CENTS/KWH
8/1/2019-8/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.0075 CENTS/KWH
9/1/2019-9/30/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.0060 CENTS/KWH
10/1/2019-10/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	2.0069 CENTS/KWH
11/1/2019-11/30/2019	PURCHASED POWER ADJUSTMENT CLAUSE	1.7616 CENTS/KWH
12/1/2019-12/31/2019	PURCHASED POWER ADJUSTMENT CLAUSE	1.7884 CENTS/KWH

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

Calculations of the Average Residential Customer Bill

	Rate		Charge (\$) at 500 Kwh			
	11/01/19	12/01/19	11/01/19	12/01/19	Difference	
Base Rates	effective date:	2/1/2019	2/1/2019			
Base Fuel Energy Charge	¢/kwh	-	-	\$0.00	\$0.00	\$0.00
Non-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				\$83.35	\$83.35	\$0.00
Interim Rate Increase 2016 TY	% on base	0.0000%	0.0000%	\$0.00	\$0.00	\$0.00
RBA Rate Adjustment	¢/kwh	0.9069	0.9069	\$4.53	\$4.53	\$0.00
Purchased Power Adj. Clause	¢/kwh	1.7616	1.7884	\$8.81	\$8.94	\$0.13
PBF Surcharge	¢/kwh	0.4775	0.4775	\$2.39	\$2.39	\$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 Recovery	¢/kwh	16.3020	16.2880	\$81.51	\$81.44	-\$0.07
Green Infrastructure Fee	\$	1.1700	1.1700	\$1.17	\$1.17	\$0.00
Avg Residential Bill at 500 kwh				\$181.76	\$181.82	

Increase (Decrease -)	\$0.06
% Change	0.03%

	Rate		Charge (\$) at 600 Kwh			
	11/01/19	12/01/19	11/01/19	12/01/19	Difference	
Base Rates	effective date:	2/1/2019	2/1/2019			
Base Fuel/Energy Charge	¢/kwh	-	-	\$0.00	\$0.00	\$0.00
Non-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				\$99.73	\$99.73	\$0.00
Interim Rate Increase 2016 TY	% on base	0.0000%	0.0000%	\$0.00	\$0.00	\$0.00
RBA Rate Adjustment	¢/kwh	0.9069	0.9069	\$5.44	\$5.44	\$0.00
Purchased Power Adj. Clause	¢/kwh	1.7616	1.7884	\$10.57	\$10.73	\$0.16
PBF Surcharge	¢/kwh	0.4775	0.4775	\$2.87	\$2.87	\$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 Recovery	¢/kwh	16.3020	16.2880	\$97.81	\$97.73	-\$0.08
Green Infrastructure Fee	\$	1.1700	1.1700	\$1.17	\$1.17	\$0.00
Avg Residential Bill at 600 kwh				\$217.59	\$217.67	

Increase (Decrease -)	\$0.08
% Change	0.04%