

February 26, 2020

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PUBLIC UTILITIES COMMISSION

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

Dear Commissioners:

Subject: Maui Electric Energy Cost Recovery Factor for March 2020

Maui Electric Company, Limited's ("Maui Electric" or "Company") March 2020 Energy Cost Recovery factor for our Maui Division is 17.800 cents per kilowatt-hour ("kWh"), an increase of 0.318 cents per kWh from last month. A residential customer consuming 500 kWh of electricity will be paying \$174.41, an increase of \$1.59 compared to rates effective February 1, 2020. The increase in the typical residential bill is due to the increase in the Energy Cost Recovery Factor (+\$1.59).

The Company's Maui Division fuel composite cost of generation, central station and other decreased 44.99 cents per million BTU to 1,426.35 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy decreased 0.510 cents per kWh to 19.747 cents per kWh.

oThe Energy Cost Recovery factor for our Lāna'i Division for March 2020 is 23.379 centsoo per kWh, a decrease of 0.730 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$165.73, a decrease of \$2.92 compared to rates effective February 1, 2020. The decrease in the typical residential bill is due to the decrease of the Energy Cost Recovery Factor (-\$2.92).

The Company's Lāna'i Division fuel composite cost of generation, central station and other decreased 83.71 cents per million BTU to 1,999.84 cents per million BTU. The composite cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 30.00 cents per kWh.

The Energy Cost Recovery factor for our Moloka'i Division for March 2020 is 21.967 cents per kWh, an increase of 0.802 cents per kWh from last month. A residential customer consuming 400 kWh of electricity will be paying \$167.23, an increase of \$3.21 compared to rates effective February 1, 2020. The increase in the typical residential bill is due to the increase of the Energy Cost Recovery Factor (+\$3.21).

The Company's Moloka'i Division fuel composite cost of generation, central station and other increased 67.42 cents per million BTU to 1,761.00 cents per million BTU. The composite

The Honorable Chair and Members of the Hawai'i Public Utilities Commission February 26, 2020 Page 2

cost of DG energy is 0.00 cents per kWh. The composite cost of purchased energy is 22.46 cents per kWh.

The attached sheets set forth the fuel adjustment in cents per kWh for each rate schedule that is applicable for pro rata use beginning March 1, 2020.

Sincerely,

Sharon M. Suzuki

Sham M. Agales

President

Attachments

cc: Division of Consumer Advocacy

ENERGY COST RECOVERY FACTOR

	EFFECTI\	/E DATES	
	<u>02-01-20</u>	03-01-20	<u>Change</u>
COMPOSITE COSTS Generation, Central Station & Other, ¢/mbtu DG Energy, ¢/kWh Purchased Energy, ¢/kWh	2,083.55 0.00 30.00	1,999.84 0.00 30.00	(83.71) 0.00 0.00
Residential Schedule "R"			
Energy Cost Recovery, ¢/kWh	24.109	23.379	(0.730)
Others - "G,P,F"			
Energy Cost Recovery, ¢/kWh	24.109	23.379	(0.730)
Residential Customer with			
400 KWH Consumption, \$/Bill	168.65	165.73	(2.92)
500 KWH Consumption, \$/Bill	209.19	205.54	(3.65)

Supersedes Sheet Effective: February 1, 2020

ENERGY COST RECOVERY (ECR) FILING

ENERGY COST RECOVERY (ECR) FILING - March 1, 2020 (page 1 of 2)

Line

Effective Date March 1, 2020
 Supercedes Factors of February 1, 2020

GENERATION COMPONENT

		CENTRAI	STATION			
	FUEL PRICES		LOIAIIOI			
3	Industrial	ο, <i>φ</i> /πποτα		0.00		
•	Diesel - Miki E	Basin		1,999.84		
5	Diesel - Mane			2,119.77		
•	Other			0.00		
U	Otrioi			0.00		
	BTU MIX, %				DG ENERGY COMPONENT	
7	Industrial			0.00%	25 COMPOSITE COST OF DG	
8	Diesel - Miki E	Basin		100.00%	ENERGY, ¢/kWh	0.000
9	Diesel - Mane			0.00%	ENEROT, PROVI	0.000
10				0.00%	26 % Input to System kWh Mix	0.00%
10	Otrici		-	100.00%	= 70 input to Gyotom KVVII IVIIX	0.0070
				100.0070	27 WEIGHTED COMPOSITE DG ENERGY	
11	COMPOSITE	COST OF GEN	IERATION		COST, ¢/kWh (Lines 25 x 26)	0.00000
11		TATION + OTH	•	1,999.84	COOT, WINVIII (LINES 20 X 20)	0.00000
		+ (4 x 8) + (5 x		1,999.04		
12	% Input to Sys	, , ,	(3) + (0 x 10))	94.20%	28 BASE DG ENERGY COMP COST	0.000
12	76 Input to Sys	SIGITI KVVIT IVIIA		94.2076	29 Base % Input to System kWh Mix	0.00%
	EEEICIENCV	FACTOR, mmb	tu/k\//h		30 WEIGHTED BASE DG ENERGY COST,	0.0078
	(A)	(B)	(C)	(D)	¢/kWh (Line 28 x 29)	0.00000
	(A)	(D)	Percent of	(D)	C/KVVII (LIIIe 20 X 29)	0.00000
		Eff Factor	Centrl Stn +	Weighted	31 Cost Less Base (Line 27 - 30)	0.00000
	Fuel Type	mmbtu/kwh	Other	Eff Factor	32 Loss Factor	1.0500
13	Industrial	0.000000	0.00	0.000000	33 Revenue Tax Req Multiplier	1.0975
14	Diesel	0.000000	100.00	0.000000	34 DG FACTOR,	1.0373
15	Other	0.010872	0.00	0.000000	¢/kWh (Line 31 x 32 x 33)	0.00000
13			Col(C) = Col(D)	0.000000	¢/KVVII (Line 31 x 32 x 33)	0.00000
16	· ·	ciency Factor, m				
10	•	+ 14(D) + 15(D)]		0.010872		
	[IIIIes 15(D) 1	F 14(D) + 13(D)		0.010072		
17	WEIGHTED C	OMPOSITE CE	ENTRAL STATION	l +		
.,		I COST, ¢/kWh				
	(lines (11 x 1			20.48121		
	(IIIC3 (TTX T	2 X 10))		201.0.2.		
18	BASE CENTR	AL STATION +	OTHER GENERA	ATION		
10	COST, ¢/mn		OTTIER GENERA	-		
19	•	to Sys kWh Mix		0.00%		
	•	tor, mmbtu/kwh		0.010872		
	•	ASE CENTRAL		0.010072		
21		IERATION COS				
	(lines (18 x		οι φπαντι	_		
	(III C3 (10 X	13 X 20))			SUMMARY OF	
22	COSTLESS	BASE (line(17 -	21))	20.48121	TOTAL GENERATION FACTOR, ¢/kWh	
	Revenue Tax	, ,	2 1))	1.0975	35 CNTRL STN + OTHER (line 24)	22.47813
			R GENERATION	1.0373	36 DG (line 34)	-
4		Wh (line (22 x		22.47813	37 TOTAL GENERATION FACTOR,	_
	ι ποιοίτ, ψπ	(IIIIC (ZZ X	20))	22.71010	¢/kWh (lines 35 + 36)	22.47813
					WINNII (IIIIGO OO T OO)	22. 7 1010

ENERGY COST RECOVERY (ECR) FILING

ENERGY COST RECOVERY (ECR) FILING - March 1, 2020 (page 2 of 2)

Line

1 Effective Date March 1, 2020
2 Supercedes Factors of February 1, 2020

Line	PURCHASED ENERGY COMPON	ENT
	PURCHASED ENERGY PRICE, ¢/kWh - FOSSI PURCHASED ENERGY PRICE, ¢/kWh - RENE	
38 39	LANAI SOLAR RESEARCH PVOn Peak - Off Peak	30.000 30.000
40	Sch Q	0.000
41 42	PURCHASED ENERGY KWH MIX, %, FOSSIL PURCHASED ENERGY KWH MIX, %, RENEW LANAI SOLAR RESEARCH P\@n Peak - Off Peak	ABLE 100.00% 0.00%
43A 43B 43C	Sch Q Total Fossil % Total Renewable % Comp. cost of purch. energy, fossil ¢/kWh Comp. cost of purch. energy, renewable ¢/kWh	0.00% 0.00% 100.00% N/A 30.00
45	COMPOSITE COST OF PURCHASED ENERGY, ¢/kWh (Lines (38 x 41) + (39 x 42) + (40 x 43)) % Input to System kWh Mix WEIGHTED COMP. PURCH. ENERGY	30.000 5.80%
	COST, ¢/kWh (lines (44 x 45)) BASE PURCHASED ENERGY COMPOSITE COST, ¢/kWh Base % Input to Sys kWh Mix	0.000 0.00
	WEIGHTED BASE PURCHASED ENERGY COST, ¢/kWh (lines (47 x 48))	0.00000
51 52	COST LESS BASE(lines (46 - 49)) Loss Factor Revenue Tax Req Multiplier PURCHASED ENERGY FACTOR, ¢/kWh (lines (50 x 51 x 52))	1.74000 1.050 1.0975 2.00513

Calculation	on of Monthly Fossil Fuel Cost Risk Sharing Component	
	Baseline Diesel	
54	Diesel \$, baseline month	\$616,461
55	Diesel mmbtu, baseline	30,215
56	Baseline Diesel, c/mmbtu	2,040.28
	Month Diesel	
57	Diesel mmbtu, budget	28,539
58	Diesel Cost, ¢/mmbtu	1,999.84
59	Diesel ECRC Fossil Cost	\$570,744
60	Diesel Base ECRC Recovery Target	\$582,286
61	Diesel differential	-\$11,542
62	Total Fossil	-\$11,542
63	2% of above	-\$231
64	Total Monthly Fossil Fuel Cost Risk Sharing, Prior Months in Year	\$222
65	Maximum Annual Cap (bi-directional)	\$31,500
66	Number of Days in year from implementation	366
67	Fossil Risk % Proration (based on 366 day year)	100.00%
68	Maximum Annual Cap (bi-directional) prorated	\$31,500
69	Applicable Monthly Fossil Fuel Cost Risk Sharing	-\$231
70	Total Monthly Fossil Fuel Cost Risk Sharing, Including This Month	-\$9
71	Fossil Cost Risk Sharing before taxes	-\$231
72	Revenue Tax Adjustment	1.097514
73	Fossil Cost Risk Sharing w/revenue tax	-\$253
74	Forecasted Month MWh Sales	2,757
75	Fossil Fuel Cost Risk Sharing Component, ¢/kWh	0.0092

Line		SYSTEM COMPOSITE CALCULATIONS	
	76	GENERATION AND PURCHASED ENERGY	
		FACTOR, ¢/kWh	24.48326
		(lines (37 + 53))	
	77	Adjustment, ¢/kWh	0.000
	78	Fossil Fuel Cost Risk Sharing Component	0.009
	79	ECR Reconciliation Adjustment	(1.113)
	80	ECR FACTOR, ¢/kWh	23.379
		(lines (76 + 77 + 78 + 79))	

Maui Electric Company, Ltd. Lanai Division

MONTH END FUEL OIL ESTIMATE

<u> Miki Basin - ULSD</u>	Barrels	MBTU	\$
2/19/2020	4,363.02	25,000.10	520,683.15
Estimated Use	1,652.95	9,471.40	197,299.75
Estimated Received	571.43	3,274.29	62,913.13
Estimated Additional	1,536.65	8,805.01	165,818.59
Estimated End	4,818.15	27,608.00	552,115.12

Next Month's Combined Miki Expense (\$/bbl) = \$ 114.5907 /bbl

Manele CHP	Barrels	MBTU	\$
2/19/2020	160.67	920.64	19,525.71
Estimated Use	(0.02)	(0.11)	(2.39)
Estimated Received	-	-	-
Estimated Additional	1.79_	10.25	207.02
Estimated End	162.48	931.00	19,735.13

Next Month's Manele Expense (\$/bbl) = \$ 121.4628 /bbl

FUEL OIL INVENTORY PRICE USED FOR FILING

Type of Oil Burned	<u>Price</u>	Conversion Factor	Prices ¢/MBTU
Diesel - Miki Basin	\$ 114.5907	5.73 BTU/BBL	1,999.84
Diesel - Manele Bay	\$ 121.4628	5.73 BTU/BBL	2,119.77

Contract Prices effective February 1, 2020

TYPE OF OIL BURNED	\$/BBL	¢/MBTU
MIKI BASIN - ULTRA LOV Tax * Ocean Transportation Storage Wharfage	1.6020 0.0000 0.0000 0.0000 0.0000	EL (DYED) 27.95 0.00 0.00 0.00
MIKI BASIN - ULTRA LOV Tax * Ocean Transportation Storage Wharfage	V SULFUR DIESE 16.4635 0.0000 0.0000 0.0000	287.32 0.00 0.00 0.00
MANELE BAY - ULTRA Le Tax * Ocean Transportation Storage Wharfage	OW SULFUR DIE 16.4635 0.0000 0.0000 0.0000	287.32 0.00 0.00 0.00

^{*} Tax includes HGET, Hawaii Use Tax, Liquid Fuel Tax, LUST tax, Environmental Response Tax, Customs Duty Fee, Fed Oil Spill Recovery Fee, Federal Oil Spill Liability Tax, and Federal Excise 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.

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

MAUI ELECTRIC COMPANY, LTD. Lanai Division ECR Reconciliation Adjustment

March 2020

Amount to be refunded	(\$83,900)
2. Monthly amount (1/3 X Line 1)	(\$27,967)
3. Revenue Tax Divisor	0.91115
4. Total (Line 2 / Line 3)	(\$30,694)
5. Estimated Sales (March 2020)	2,757 mwh
6. Adjustment (Line 4 ÷ Line 5)	-1.113 ¢/kwh

2020 Cumulative Reconciliation Balance

	(1)		(2)	(3)	(4)	(5)	(6)
			FOA Rec	FOA Rec			Month-end
	YTD FOA		Adjust	Less	Try to	Actual	Cumulative
<u>Month</u>	Reconciliation	<u>Qtr</u>	<u>Variance</u>	<u>Variance</u>	<u>Collect</u>	<u>Collect</u>	<u>Balance</u>
December '18					(11,867)	(11,797)	11,475
January '19					(11,867)	(11,150)	325
February	8,600	(4)	(386)	8,986	(2,867)	(2,721)	6,590
March					(2,867)	(2,728)	3,862
April					(2,867)	(2,599)	1,263
May	91,900	(1)	1,002	90,898	(30,633)	(28,551)	63,610
June					(30,633)	(30,812)	32,798
July					(30,633)	(30,931)	1,867
August	(13,000)	(2)	2,171	(15,171)	4,333	4,372	(8,932)
September					4,333	4,343	(4,589)
October					4,333	4,291	(298)
November	(23,800)	(3)	(249)	(23,551)	7,933	8,219	(15,630)
December '19					7,933	8,627	(7,003)
January '20					7,933	8,106	1,103
February	83,900	(4)	938	82,962	(27,967)		
March					(27,967)		
NOTES:							
Col(1):	Quarterly FOA			·		•	r collection
Col(2):	A positive num FOA reconcilia				_		

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))

Maui Electric Company, Ltd. Lanai Division Calculations of the Average Residential Customer Bill

Base Rates
Base Fuel/Energy Charge
Non-fuel Energy Charge
First 250 kWhr per month
Next 500 kWhr per month
·
Customer Charge
Total Base Charges
IRP Refund
Revenue Balancing Rate Adjustment
Revenue Balancing Rate Adjustment PBF Surcharge
PBF Surcharge
PBF Surcharge Renewable Energy Infrastructure Cost
PBF Surcharge Renewable Energy Infrastructure Cost Recovery Provision
PBF Surcharge Renewable Energy Infrastructure Cost Recovery Provision SolarSaver Adjustment
PBF Surcharge Renewable Energy Infrastructure Cost Recovery Provision SolarSaver Adjustment Refund of 2018 Interim
PBF Surcharge Renewable Energy Infrastructure Cost Recovery Provision SolarSaver Adjustment

Avg Residential Bill at 400 kwh

Rate			
	02-01-20	03-01-20	
effective date:	09/01/19	09/01/19	
¢/kWh	0.0000	0.0000	
¢/kWh	12.3123	12.3123	
¢/kWh	14.8123	14.8123	
\$	11.50	11.50	
% on base	0.0000	0.0000	
¢/kWh	0.8716	0.8716	
¢/kWh	0.7437	0.7437	
¢/kWh	0.0000	0.0000	
¢/kWh	0.0000	0.0000	
% on Base	0.00	0.00	
¢/kWh	24.109	23.379	
\$	1.25	1.25	

Charge (\$) at 400 Kwh			
02-01-20	03-01-20	Difference	
0.00	0.00	0.00	
30.78	30.78	0.00	
22.22	22.22	0.00	
11.50	11.50	0.00	
64.50	64.50	0.00	
0.00	0.00	0.00	
3.49	3.49	0.00	
2.97	2.97	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
96.44	93.52	-2.92	
1.25	1.25	0.00	
168.65	165.73		

Increase (Decre

Rate

03-01-20

09/01/19 0.0000

12.3123 14.8123 11.50

0.0000

0.8716 0.7437

0.0000 0.000 0.00 23.379 1.25 Increase (Decrease -) -2.92 % Change -1.73%

Base Rates Base Fuel/Energy Charge Non-fuel Energy Charge First 250 kWhr per month Next 500 kWhr per month Customer Charge
Total Base Charges
IRP Refund Revenue Balancing Rate Adjustment
•
Recovery Provision SolarSaver Adjustment Refund of 2018 Interim Energy Cost Recovery Green Infrastructure Fee
Revenue Balancing Rate Adjustment PBF Surcharge Renewable Energy Infrastructure Cost Recovery Provision SolarSaver Adjustment Refund of 2018 Interim Energy Cost Recovery

	02-01-20	
effective date:	09/01/19	
¢/kWh	0.0000	
¢/kWh	12.3123	
¢/kWh	14.8123	
\$	11.50	
% on base	0.0000	
¢/kWh	0.8716	
¢/kWh	0.7437	
¢/kWh	0.0000	
¢/kWh	0.0000	
% on Base	0.00	
¢/kWh	24.109	
\$	1.25	

Charge (\$) at 500 Kwh			
02-01-20	03-01-20	Difference	
0.00	0.00	0.00	
20.70	20.70	0.00	
30.78	30.78	0.00	
37.03	37.03	0.00	
11.50	11.50	0.00	
79.31	79.31	0.00	
0.00	0.00	0.00	
4.36	4.36	0.00	
3.72	3.72	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
0.00	0.00	0.00	
120.55	116.90	-3.65	
1.25	1.25	0.00	
209.19	205.54		

Avg Residential Bill at 500 kwh

Increase (Decrease -) % Change

	-3	.65
-1	.7	4%

MAUI ELECTRIC COMPANY, LTD. -- Lanai Division FUEL OIL ADJUSTMENT FACTOR DATA

FUEL FACTOR CENTS / KWH

	CENTS / KWH			
RESIDENTIAL & RESIDENTIAL BILL (\$)				
EFFECTIVE DATE	COMMERCIAL	@ 400 KWH	@ 500 KWH	
January 1, 2018	-8.358	153.69	191.20	
February 1, 2018	-8.395	153.54	191.01	
March 1, 2018	-7.868	155.65	193.65	
April 1, 2018	-9.141	150.05	186.64	
May 1, 2018	-7.716	156.26	194.41	
June 1, 2018	-6.144	163.86	203.92	
July 1, 2018	-5.753	165.46	205.95	
August 1, 2018	-7.005	160.45	199.69	
September 1, 2018	-6.735	166.53	207.25	
October 1, 2018	-6.372	167.98	209.07	
November 1, 2018	-6.037	169.32	210.74	
December 1, 2018	-5.396	171.89	213.95	
January 1, 2019	-6.950	165.81	206.32	
February 1, 2019	-8.789	158.45	197.12	
March 1, 2019	-6.041	169.45	210.86	
April 1, 2019	-6.801	166.07	206.63	
May 1, 2019	-7.864	162.15	201.75	
June 1, 2019	4.196	172.73	214.30	
July 1, 2019	3.088	171.26	212.48	
August 1, 2019	3.232	171.84	213.20	
September 1, 2019	24.278	168.18	208.62	
October 1, 2019	24.957	170.90	212.02	
November 1, 2019	26.088	175.42	217.67	
December 1, 2019	26.449	176.87	219.48	
January 1, 2020	25.369	173.69	215.49	
February 1, 2020	24.109	168.65	209.19	
March 1, 2020	23.379	165.73	205.54	

MAUI ELECTRIC COMPANY, LTD. -- Lanai Division RESIDENTIAL SURCHARGE DATA

EFFECTIVE DATE	DESCRIPTION OF SURCHARGE		RATE
06/01/11	IRP RECOVERY REFUND	0.000	PERCENT ON BASE
08/17/17	RENEWABLE ENERGY INFRASTRUCTURE COST	0.0000	CENTS/KWH
	RECOVERY PROVISION		
01/01/18 - 06/30/18	GREEN INFRASTRUCTURE FEE	1.34	DOLLARS/MONTH
04/01/18 - 04/30/18	SOLARSAVER ADJUSTMENT	1.3400	CENTS/KWH
05/01/18 - 03/31/19	SOLARSAVER ADJUSTMENT	0.0000	CENTS/KWH
06/01/18 - 08/22/18	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	1.8954	CENTS/KWH
07/01/18 - 06/30/19	RESID. PBF SURCHARGE ADJUSTMENT	0.4658	CENTS/KWH
07/01/18 - 12/31/18	GREEN INFRASTRUCTURE FEE	1.21	DOLLARS/MONTH
08/23/18 - 05/31/19	INTERIM RATE INCREASE 2018 TEST YEAR	6.36	PERCENT ON BASE
08/23/18 - 05/31/19	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.3183	CENTS/KWH
01/01/19 - 06/30/19	GREEN INFRASTRUCTURE FEE	1.35	DOLLARS/MONTH
04/01/19 - 04/30/19	SOLARSAVER ADJUSTMENT	-0.0855	CENTS/KWH
05/01/19	SOLARSAVER ADJUSTMENT	0.0000	CENTS/KWH
06/01/19	FINAL RATE INCREASE (3.74%), DOCKET NO. 2017-0150 (20	18 TEST YE	EAR)
06/01/19 - 06/30/19	REFUND OF INTERIM RATE INCREASE 2018 TEST YEAR	-2.03	PERCENT ON BASE
06/01/19	REVENUE BALANCING ACCOUNT RATE ADJUSTMENT	0.8716	CENTS/KWH
07/01/19 - 12/31/19	RESID. PBF SURCHARGE ADJUSTMENT	0.4775	CENTS/KWH
07/01/19 - 12/31/19	GREEN INFRASTRUCTURE FEE	1.17	DOLLARS/MONTH
01/01/20	RESID. PBF SURCHARGE ADJUSTMENT	0.7437	CENTS/KWH
01/01/20	GREEN INFRASTRUCTURE FEE	1.25	DOLLARS/MONTH

[~] Surcharges currently in effect are in bold.

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