

RULE 20:10:13:98
STATEMENT O WORKPAPER - Tab CLS1-3 (Lighting COS)
Lighting Cost of Service
Test Year Ending December 31, 2013
Utility: MidAmerican Energy Company
Docket No. EL14-XXX

Individual Responsible: Charles Rea

Lighting Cost of Service

Line	Lighting Cost of Service (a)	Total (b)	Usage Based (c)	Maintenance Based (d)	Installation Based (e)	Source
1	Generation	\$ 61,851	\$ 61,851	\$ -	\$ -	Tab CLS1-2, Line 1, Column (l)
2	Transmission	\$ 3,969	\$ 3,969	\$ -	\$ -	Tab CLS1-2, Line 2, Column (l)
3	Substations	\$ 5,177	\$ 5,177	\$ -	\$ -	Tab CLS1-2, Line 3, Column (l)
5	3-Phase Lines	\$ 9,675	\$ 9,675	\$ -	\$ -	Tab CLS1-2, Line 4, Column (l)
6	1-Phase Lines	\$ 7,744	\$ 7,744	\$ -	\$ -	Tab CLS1-2, Line 5, Column (l)
4	Transformers	\$ -	\$ -	\$ -	\$ -	Tab CLS1-2, Line 6, Column (l)
7	Services	\$ -	\$ -	\$ -	\$ -	Tab CLS1-2, Line 7, Column (l)
8	Meters	\$ -	\$ -	\$ -	\$ -	Tab CLS1-2, Line 8, Column (l)
9	Customer Accounts	\$ 1,363	\$ -	\$ -	\$ 1,363	Tab CLS1-2, Line 9, Column (l)
10	Lighting *	\$ 97,245	\$ -	\$ 18,714	\$ 78,530	Tab CLS1-2, Line 10, Column (l)
11	Cost of Service Adjustment	\$ 4,946	\$ 4,946	\$ -	\$ -	Exhibit CBR 1.1, Schedule C, Line 25
12	Sales Growth Adjustment	\$ (392)	\$ -	\$ -	\$ (392)	Tab SRC-3, Line 50, Column (i)
	Other					
13	Lighting Revenue Requirement	\$ 191,577	\$ 93,361	\$ 18,714	\$ 79,501	Sum of Lines 1-12
* Maintenance based component of lighting revenue requirements is Line 19, Column (d) plus Line 20, Column (b).						
14	Payroll Taxes - PCOR Fees	\$ 0	\$ -	\$ 0	\$ -	Tab FUN-4, Line 171, Column (n)
15	Payroll Taxes - FICA	\$ 685	\$ -	\$ 685	\$ -	Tab FUN-4, Line 172, Column (n)
16	Payroll Taxes - FUTA	\$ 6	\$ -	\$ 6	\$ -	Tab FUN-4, Line 173, Column (n)
17	Payroll Taxes - SUTA	\$ 12	\$ -	\$ 12	\$ -	Tab FUN-4, Line 174, Column (n)
18	R&P Property Taxes	\$ (0)	\$ -	\$ -	\$ (0)	Tab FUN-4, Line 175, Column (n)
19	Illinois Real Estate Tax	\$ (0)	\$ -	\$ -	\$ -	Tab FUN-4, Line 176, Column (n)
20	South Dakota Property Tax	\$ 9,051	\$ -	\$ -	\$ -	Tab FUN-4, Line 177, Column (n)
21	Missouri Property Taxes	\$ -	\$ -	\$ -	\$ -	Tab FUN-4, Line 178, Column (n)
22	Other	\$ 0	\$ -	\$ 0	\$ -	Tab FUN-4, Line 179, Column (n)
23	Total Taxes Other Than Income Taxes	\$ 9,754	\$ -	\$ 704	\$ (0)	Sum of Lines 14-22
23	Total O&M for Lighting from Cost of Service	18,011				Tab FUN-4, Line 156, Column (n)
24	Lighting Taxes Other than Income	9,754				Tab FUN-4, Line 180, Column (n)
25	Installation on Customer Premises	267,055				Tab FUN-4, Line 16, Column (n)
26	Street Light and Signal Systems	605,330				Tab FUN-4, Line 17, Column (n)
27	Total Sales	1,798,643				Tab CLS1-2, Line 17, Column (l)
28	Rates based on energy usage	\$ 0.05191				Line 13, Column (c) divided by Line 27
29	Lights billed with maintenance	15,059				Company Books and Records
30	Maintenance Rate per Light	\$ 1.24				Line 13, Column (d) divided by Line 29
31	HPS life expectancy, hours	24,000				Company Maintenance Bulletins
32	LED life expectancy, hours	50,000				Company Maintenance Bulletins
33	LED maintenance factor	0.48				Line 31 / Line 32
34	Dollars per light per LED light	\$ 0.60				Line 30 multiplied by Line 33

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Lighting Component Costs

Line	Lighting Component Costs	Materials	Non-Materials	Total
	(a)	(b)	(c)	(d)
35	Area Lighting - 70W	\$ 56	169 \$	225
36	Area Lighting - 100W	\$ 76	155 \$	231
37	Area Lighting - 100W Open Refractor	\$ 35	155 \$	190
38	Area Lighting - 100W Cobra Head	\$ 67	155 \$	222
39	Area Lighting - 100W Ornamental	\$ 108	155 \$	263
40	Area Lighting - 100W Flood	\$ 145	155 \$	300
41	Area Lighting - 100W Victorian	\$ 279	155 \$	434
42	Area Lighting - 150W	\$ 81	168 \$	249
43	Area Lighting - 250W	\$ 123	137 \$	260
44	Area Lighting - 250W Cobra Head	\$ 93	137 \$	230
45	Area Lighting - 250W Flood	\$ 153	137 \$	290
46	Area Lighting - 400W	\$ 149	140 \$	289
47	Area Lighting - 400W Cobra Head	\$ 134	140 \$	274
48	Area Lighting - 400W Flood	\$ 164	140 \$	304
49	Area Lighting - 1000W	\$ 343	171 \$	514
50	LED Lights - 46W	\$ 329	357 \$	686
51	LED Lights - 90W	\$ 422	357 \$	779
52	LED Lights - 121W	\$ 515	357 \$	872
53	Mast	\$ 45	45 \$	90
54	Poles - Wood	\$ 236	302 \$	538
55	Poles - Non Wood	\$ 1,446	849 \$	2,295
56	Overhead Single-Phase Spans	\$ 71	444 \$	515
57	Underground Single-Phase Spans	\$ 7	556 \$	563

Source for lighting component costs is Company books and records.

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Pricing Worksheet

Line	Type	Wattage	Installed Cost	Units	Installed Cost	Price
	(a)	(b)	(c)	(d)	(e)	(f)
58	MV	175 \$	255	1,428 \$	363,441 \$	1.38
59	MV	400 \$	289	86 \$	24,970 \$	1.57
60	MV	1000 \$	514	12 \$	5,947 \$	2.79
61	HPS	100 \$	231	- \$	- \$	1.26
62	HPS-Open	100 \$	190	5,159 \$	980,187 \$	1.03
63	HPS-Cobra	100 \$	222	241 \$	53,502 \$	1.21
64	HPS-Orn	100 \$	263	880 \$	231,414 \$	1.43
65	HPS-Flood	100 \$	300	11 \$	3,360 \$	1.63
66	HPS-Vic	100 \$	434	828 \$	359,352 \$	2.36
67	HPS	250 \$	260	- \$	- \$	1.41
68	HPS-Cobra	250 \$	230	1,006 \$	231,341 \$	1.25
69	HPS-Flood	250 \$	290	1,271 \$	368,686 \$	1.58
70	HPS	400 \$	289	- \$	- \$	1.57
71	HPS-Cobra	400 \$	274	1,207 \$	330,644 \$	1.49
72	HPS-Flood	400 \$	304	1,946 \$	591,575 \$	1.65
73	HPS	1000 \$	514	144 \$	74,016 \$	2.79
74	LED	46 \$	686	- \$	- \$	3.73
75	LED	90 \$	779	- \$	- \$	4.23
76	LED	121 \$	872	- \$	- \$	4.74
77	Mast	\$	90	1,272 \$	114,480 \$	0.49
78	Wood Poles Billed Separately	\$	538	3,164 \$	1,702,318 \$	2.92
79	Non-Wood Poles	\$	2,295	3,047 \$	6,991,993 \$	12.48
80	OH Spans	\$	515	- \$	- \$	2.80 no additional charge
81	UG Spans	\$	563	3,905 \$	2,198,335 \$	3.06
82				\$	14,625,560	Sum of Lines 58-81, Column (e)
83				\$	79,501	Line 13, Column (h)
84					0.00544	Line 83 / Line 82

Sources:

Column (c) is taken from Lines 38-57, Column (d)
Column (d) is are billing determinants taken from Tab RD1-7, Lines 1-44, Column (n).
Column (e) is Column (c) multiplied by Column (d)
Column (f) is Column (c) multiplied by Line 84

LED RATES		energy \$		0.05191		
Installation (f)	Maint. (g)	kWh/mo	Usage (h)	Bulb & Energy	WP OH	NWP UG
\$3.73	\$0.60	19	\$0.99	\$5.31	\$5.31	\$20.85
\$4.23	\$0.60	37	\$1.92	\$6.75	\$6.75	\$22.29
\$4.74	\$0.60	47	\$2.44	\$7.78	\$7.78	\$23.31