

AUSLEY & McMULLEN

ATTORNEYS AND COUNSELORS AT LAW

227 SOUTH CALHOUN STREET
P.O. BOX 391 (ZIP 32302)
TALLAHASSEE, FLORIDA 32301
(850) 224-9115 FAX (850) 222-7560

December 29, 2008

RECEIVED-FPSC
08 DEC 29 PM 3:49
COMMISSION
CLERK

HAND DELIVERED

Ms. Ann Cole, Director
Commission Clerk and Administrative Services
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

Re: Petition for Rate Increase by Tampa Electric Company;
Docket No. 080317-EI

Dear Ms. Cole:

Enclosed are the original and twenty (20) copies of Tampa Electric Company's Supplemental MFR Schedule E-13D (Lighting Incremental Cost Study 2008) – Volume IV marked Revised: December 2008. As Tampa Electric Witness William R. Ashburn stated in his deposition in this proceeding on Monday, December 22, 2008, the original lighting incremental cost study included an older version of a labor loading factor under a different label resulting in essentially a double count for this factor. The revised study reflects the corrected labor costs. Mr. Ashburn indicated to Staff that Tampa Electric would be providing this revised study before the end of the year. We would appreciate your distributing a copy of this filing to each recipient at the Commission of the original Volume IV of the company's MFRs.

Please acknowledge receipt and filing of this document by stamping the duplicate copy of this letter and returning same to this writer.

Thank you for your assistance in connection with this matter.

Sincerely,



James D. Beasley

COM 5+1
ECR
GCL 4
OPC
RCP 1
SSC 1 IDB/bjd
SGA 2 Enclosures
ADM cc: All Parties of Record (w/encls.)
CLK

DOCUMENT NUMBER-DATE

11927 DEC 29 08

FPSC-COMMISSION CLERK

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing Supplemental MFR Schedule D-13D (Lighting Incremental Cost Study 2008), revised December 2008, filed on behalf of Tampa Electric Company, has been served by hand delivery (*) or U. S. Mail on this 29th day of December, 2008 to the following:

Keino Young/Martha Brown*
Jennifer Brubaker/Jean Hartman
Office of General Counsel
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

J. R. Kelly/Patricia A. Christensen
Office of Public Counsel
c/o The Florida Legislature
111 West Madison Street, Room 812
Tallahassee, FL 32399-1400

Robert Scheffel Wright
John T. LaVia, III
Young van Assenderp, P.A.
225 South Adams Street, Suite 200
Tallahassee, FL 32301

Vicki Gordon Kaufman
Jon C. Moyle, Jr.
Anchors Smith Grimsley
118 North Gadsden Street
Tallahassee, FL 32301

John W. McWhirter, Jr.
McWhirter, Reeves & Davidson, P.A.
Post Office Box 3350
Tampa, FL 33601-3350

Michael B. Twomey
Post Office Box 5256
Tallahassee, FL 32314-5256

Cecilia Bradley
Office of the Attorney General
The Capitol – PL 01
Tallahassee, FL 32399-1050



ATTORNEY

**BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION**

DOCKET NO. 080317-EI

**IN RE: TAMPA ELECTRIC COMPANY'S
PETITION FOR AN INCREASE IN BASE RATES
AND MISCELLANEOUS SERVICE CHARGES**



**SUPPLEMENTAL MFR SCHEDULE E-13D
LIGHTING INCREMENTAL COST STUDY 2008**

VOLUME IV

REVISED: DECEMBER 2008

DOCUMENT NUMBER - DATE

11927 DEC 29 08

FPSC - COMMISSION CLERK

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 1 OF 77
FILED: 08/11/2008

TAMPA ELECTRIC COMPANY

SUPPORT FOR CHARGES

LIGHTING

INCREMENTAL COST STUDY

2008

DOCUMENT NUMBER - DATE

11927 DEC 29 08

FPSC-COMMISSION CLERK

TABLE OF CONTENTS

	PAGE NO.
MAINTENANCE COST - SUMMARY	
SL2/OL1 LUMINAIRES	3
OL3 LUMINAIRES	8
SL2/OL1 POLES	14
OL3 POLES	18
INSTALLATION COST - SUMMARY	
<u>LUMINAIRES</u>	
COBRA_NEMA AND MONGOOSE	23
SHOEBOX	26
FLOOD	28
POST TOP	29
DOUBLE BRACKET	33
<u>CONTROL EQUIPMENT</u>	
TIMER	35
RELAY	36
<u>POLES</u>	
POST TOP	40
CONCRETE	45
ALUMINUM AND STEEL	48
WOOD	51
MAINTENANCE AND INSTALLATION LABOR	
<u>MAINTENANCE</u>	
GENERAL	55
LUMINAIRES	56
POLES	58
BRACKET	61
TIMER	62
RELAY	63
<u>INSTALLATION</u>	
GENERAL	65
LUMINAIRES/POLES - SHARED COSTS	66
POLES	70
TIMER, RELAY, DOUBLE BRACKET	72
MISCELLANEOUS SUPPORT	
MAINTENANCE FREQUENCY BY ACTIVITY AND BY FIXTURE TYPE	73
CREW MAKE-UP AND ENGINEERING LABOR	74
LABOR AND EQUIPMENT FACTORS	75
AVERAGE SPAN LENGTH - TYPICAL DESIGNS	76
19-YEAR FIXED CHARGE RATE	77

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Summary

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure	Luminaire Parts Failure	PC	Relay	Total Annual Cost	Total Monthly Charge
Cobra	HPS	50W	50W HPS	4000	\$14.60	\$3.55	\$7.11	\$1.66	\$26.92	\$2.24
Post Top	HPS	50W	50W HPS	4000	\$14.60	\$3.55	\$7.11	\$1.66	\$26.92	\$2.24
Cobra/NEMA	HPS	70W	70W HPS	6300	\$13.42	\$2.45	\$5.31	\$1.66	\$22.83	\$1.90
Coach Post Top	HPS	70W	70W HPS	6300	\$13.42	\$2.45	\$5.31	\$1.66	\$22.83	\$1.90
Cobra	HPS	100W	100W HPS	9500	\$14.96	\$2.59	\$5.98	\$1.68	\$25.22	\$2.10
Cobra	HPS	150W	150W HPS	16000	\$12.83	\$2.20	\$5.06	\$1.78	\$21.88	\$1.82
Cobra	HPS	250W	250W HPS	28500	\$16.39	\$4.03	\$5.97	\$1.86	\$28.26	\$2.35
Flood	HPS	250W	250W HPS	28500	\$16.40	\$4.03	\$5.97	\$1.86	\$28.26	\$2.35
Cobra	HPS	400W	400W HPS	50000	\$16.62	\$6.45	\$7.24	\$2.11	\$32.43	\$2.70
Flood	HPS	400W	400W HPS	50000	\$16.66	\$6.45	\$7.24	\$2.11	\$32.47	\$2.71
Mongoose	HPS	400W	400W HPS	50000	\$16.62	\$6.75	\$7.24	\$2.11	\$32.72	\$2.73
Turnpike	HPS	400W	400W HPS	50000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	No customers.

3

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 3 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	5585370	\$11.85	\$2.98	\$62.14	\$76.97	19.0%	\$14.60
Post Top	HPS	50W	50W HPS	4000	5585370	11.85	\$2.98	\$62.14	\$76.97	19.0%	\$14.60
Cobra/NEMA	HPS	70W	70W HPS	6300	5585560	\$10.67	\$2.69	\$62.14	\$75.51	17.8%	\$13.42
Coach Post Top	HPS	70W	70W HPS	6300	5585560	\$10.67	\$2.69	\$62.14	\$75.51	17.8%	\$13.42
Cobra	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$62.14	\$75.56	19.8%	\$14.96
Cobra	HPS	150W	150W HPS	16000	5585590	\$10.68	\$2.69	\$62.14	\$75.51	17.0%	\$12.83
Cobra	HPS	250W	250W HPS	28500	5585530	\$11.13	\$2.80	\$62.14	\$76.08	21.5%	\$16.39
Flood	HPS	250W	250W HPS	28500	5585530	\$11.15	\$2.81	\$62.14	\$76.10	21.5%	\$16.40
Cobra	HPS	400W	400W HPS	50000	5585540	\$11.14	\$2.80	\$62.14	\$76.08	21.8%	\$16.62
Flood	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$62.14	\$76.27	21.8%	\$16.66
Mongoose	HPS	400W	400W HPS	50000	5585540	\$11.14	\$2.80	\$62.14	\$76.08	21.8%	\$16.62
Turnpike	HPS	400W	400W HPS	50000	5585540	0.00	\$0.00	\$62.14	\$62.14	0.0%	\$0.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 4 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Luminaire Parts Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	Selected Parts	\$13.80	\$3.47	\$101.79	\$119.07	3.0%	\$3.55
Post Top	HPS	50W	50W HPS	4000	Selected Parts	\$13.80	\$3.47	\$101.79	\$119.07	3.0%	\$3.55
Cobra/NEMA	HPS	70W	70W HPS	6300	Selected Parts	\$13.80	\$3.47	\$101.79	\$119.06	2.1%	\$2.45
Coach Post Top	HPS	70W	70W HPS	6300	Selected Parts	\$13.80	\$3.47	\$101.79	\$119.06	2.1%	\$2.45
Cobra	HPS	100W	100W HPS	9500	Selected Parts	\$19.30	\$4.86	\$101.79	\$125.95	2.1%	\$2.59
Cobra	HPS	150W	150W HPS	16000	Selected Parts	\$17.34	\$4.36	\$101.79	\$123.49	1.8%	\$2.20
Cobra	HPS	250W	250W HPS	28500	Selected Parts	\$20.27	\$5.10	\$101.79	\$127.16	3.2%	\$4.03
Flood	HPS	250W	250W HPS	28500	Selected Parts	\$20.27	\$5.10	\$101.79	\$127.16	3.2%	\$4.03
Cobra	HPS	400W	400W HPS	50000	Selected Parts	\$31.44	\$7.91	\$101.79	\$141.15	4.6%	\$6.45
Flood	HPS	400W	400W HPS	50000	Selected Parts	\$31.44	\$7.91	\$101.79	\$141.15	4.6%	\$6.45
Mongoose	HPS	400W	400W HPS	50000	Selected Parts	\$36.58	\$9.21	\$101.79	\$147.58	4.6%	\$6.75
Turnpike	HPS	400W	400W HPS	50000	Selected Parts	\$0.00	\$0.00	\$101.79	\$101.79	0.0%	\$0.00

5

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 5 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Photocell						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	9.8%	\$7.11
Post Top	HPS	50W	50W HPS	4000	Multiple	4.25	\$1.07	\$67.25	\$72.57	9.8%	\$7.11
Cobra/NEMA	HPS	70W	70W HPS	6300	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	7.3%	\$5.31
Coach Post Top	HPS	70W	70W HPS	6300	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	7.3%	\$5.31
Cobra	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	8.2%	\$5.98
Cobra	HPS	150W	150W HPS	16000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	7.0%	\$5.06
Cobra	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	8.2%	\$5.97
Flood	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	8.2%	\$5.97
Cobra	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	10.0%	\$7.24
Flood	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	10.0%	\$7.24
Mongoose	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	10.0%	\$7.24
Turnpike	HPS	400W	400W HPS	50000	Multiple	4.25	\$1.07	\$67.25	\$72.57	0.0%	\$0.00

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 6 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
SL2 AND OL1 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Relay						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Cobra	HPS	50W	50W HPS	4000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.22%	\$1.66
Post Top	HPS	50W	50W HPS	4000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.22%	\$1.66
Cobra/NEMA	HPS	70W	70W HPS	6300	various	\$494.71	\$124.52	\$143.73	\$762.96	0.22%	\$1.66
Coach Post Top	HPS	70W	70W HPS	6300	various	\$494.71	\$124.52	\$143.73	\$762.96	0.22%	\$1.66
Cobra	HPS	100W	100W HPS	9500	various	\$494.71	\$124.52	\$143.73	\$762.96	0.22%	\$1.68
Cobra	HPS	150W	150W HPS	16000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.23%	\$1.78
Cobra	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$143.73	\$762.96	0.24%	\$1.86
Flood	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$143.73	\$762.96	0.24%	\$1.86
Cobra	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.28%	\$2.11
Flood	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.28%	\$2.11
Mongoose	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.28%	\$2.11
Tumpike	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$0.00	\$619.23	0.00%	\$0.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 7 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

SUMMARY

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure	PC	Relay	Luminaire Parts Failure	Bracket or Timer Failure	Total Annual Cost	Total Monthly Charge
Classic Post Top	HPS	100W	100W HPS	9500	\$14.66	\$3.66	\$1.14	\$1.08	n/a	\$20.53	\$1.71
Colonial Post Top	HPS	100W	100W HPS	9500	\$14.65	\$3.66	\$1.14	\$1.07	n/a	\$20.53	\$1.71
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	\$16.28	\$3.66	\$1.14	\$2.13	n/a	\$23.22	\$1.93
Salem Post Top	HPS	100W	100W HPS	9500	\$14.65	\$3.66	\$1.14	\$1.08	n/a	\$20.53	\$1.71
Shoebox	HPS	100W	100W HPS	9500	\$14.65	\$3.66	\$1.14	\$1.02	n/a	\$20.48	\$1.71
Shoebox	HPS	250W	250W HPS	28500	\$17.92	\$11.01	\$1.14	\$4.38	n/a	\$34.45	\$2.87
Shoebox	HPS	400W	400W HPS	50000	\$18.21	\$4.13	\$1.14	\$2.95	n/a	\$26.43	\$2.20
Flat Decorative	HPS	400W	400W HPS	50000	\$0.00	\$0.00	\$0.00	\$0.00	n/a	\$0.00	No customers
Salem Post Top	MH	175W	175W MH	14000	\$18.66	\$8.69	\$2.08	\$11.07	n/a	\$40.50	\$3.38
Shoebox	MH	175W	175W MH	12800	\$18.60	\$8.69	\$2.08	\$10.65	n/a	\$40.02	\$3.34
General Post Top	MH	175W	175W MH	14000	\$18.59	\$8.69	\$2.08	\$11.07	n/a	\$40.44	\$3.37
Cobra	MH	400W	400W MH	32000	\$24.02	\$7.39	\$2.10	\$9.91	n/a	\$43.42	\$3.62
Flood	MH	400W	400W MH	32000	\$24.07	\$7.39	\$2.10	\$9.95	n/a	\$43.51	\$3.63
Shoebox	MH	400W	400W MH	32000	\$23.69	\$7.04	\$2.10	\$10.15	n/a	\$42.97	\$3.58
Cube/Decorative	MH	400W	400W MH	36000	\$0.00	\$0.00	\$0.00	\$0.00	n/a	\$0.00	No customers
Flood	MH	1000W	1000W MH	107800	\$38.25	\$8.76	\$2.73	\$38.69	n/a	\$88.43	\$7.37
Shoebox	MH	1000W	1000W MH	107800	\$38.23	\$8.76	\$2.73	\$38.66	n/a	\$88.39	\$7.37
Double Bracket	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$0.59	\$0.59	\$0.05
Timer	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	\$15.46	\$15.46	\$1.29

8

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 8 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Lamp Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 62.14	\$75.56	19.4%	\$14.66
Colonial Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 62.14	\$75.56	19.4%	\$14.65
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 62.14	\$75.56	21.5%	\$16.28
Salem Post Top	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 62.14	\$75.56	19.4%	\$14.65
Shoebox	HPS	100W	100W HPS	9500	5585580	\$10.72	\$2.70	\$ 62.14	\$75.56	19.4%	\$14.65
Shoebox	HPS	250W	250W HPS	28500	5585530	\$11.13	\$2.80	\$ 62.14	\$76.08	23.6%	\$17.92
Shoebox	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$ 62.14	\$76.27	23.9%	\$18.21
Flat Decorative	HPS	400W	400W HPS	50000	5585540	\$11.28	\$2.84	\$ 62.14	\$76.27	0.0%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	5585610	\$10.94	\$2.75	\$ 62.14	\$75.84	24.6%	\$18.66
Shoebox	MH	175W	175W MH	12800	5585610	\$10.94	\$2.75	\$ 62.14	\$75.84	24.5%	\$18.60
General Post Top	MH	175W	175W MH	14000	5585610	\$10.94	\$2.75	\$ 62.14	\$75.84	24.5%	\$18.59
Cobra	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 62.14	\$79.91	30.1%	\$24.02
Flood	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 62.14	\$79.91	30.1%	\$24.07
Shoebox	MH	400W	400W MH	32000	5585640	14.19	\$3.57	\$ 62.14	\$79.91	29.6%	\$23.69
Cube/Decorative	MH	400W	400W MH	36000	5585640	14.19	\$3.57	\$ 62.14	\$79.91	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	5585650	22.00	\$5.54	\$ 62.14	\$89.68	42.7%	\$38.25
Shoebox	MH	1000W	1000W MH	107800	5585650	22.00	\$5.54	\$ 62.14	\$89.68	42.6%	\$38.23
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 9 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Luminaire Parts Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.08
Colonial Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.07
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	1.73%	\$2.13
Salem Post Top	HPS	100W	100W HPS	9500	Selected Parts	\$17.00	\$4.28	\$101.80	\$123.08	0.87%	\$1.08
Shoebox	HPS	100W	100W HPS	9500	Selected Parts	\$12.42	\$3.13	\$101.80	\$117.35	0.87%	\$1.02
Shoebox	HPS	250W	250W HPS	28500	Selected Parts	\$10.52	\$2.65	\$101.80	\$114.98	3.81%	\$4.38
Shoebox	HPS	400W	400W HPS	50000	Selected Parts	\$12.19	\$3.07	\$101.80	\$117.07	2.52%	\$2.95
Flat Decorative	HPS	400W	400W HPS	50000	Selected Parts	\$15.48	\$3.90	\$101.80	\$121.17	0.00%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	Selected Parts	\$16.30	\$4.10	\$101.80	\$122.21	9.06%	\$11.07
Shoebox	MH	175W	175W MH	12800	Selected Parts	\$11.72	\$2.95	\$101.80	\$116.47	9.14%	\$10.65
General Post Top	MH	175W	175W MH	14000	Selected Parts	\$16.30	\$4.10	\$101.80	\$122.21	9.06%	\$11.07
Cobra	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.55%	\$9.91
Flood	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.59%	\$9.95
Shoebox	MH	400W	400W MH	32000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	8.76%	\$10.15
Cube/Decorative	MH	400W	400W MH	36000	Selected Parts	\$11.20	\$2.82	\$101.80	\$115.83	0.00%	\$0.00
Flood	MH	1000W	1000W MH	107800	Selected Parts	\$12.16	\$3.06	\$101.80	\$117.02	33.06%	\$38.69
Shoebox	MH	1000W	1000W MH	107800	Selected Parts	\$12.16	\$3.06	\$101.80	\$117.02	33.04%	\$38.66
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 10 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Photocell						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.0%	\$3.66
Colonial Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.0%	\$3.66
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.0%	\$3.66
Salem Post Top	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.0%	\$3.66
Shoebox	HPS	100W	100W HPS	9500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.0%	\$3.66
Shoebox	HPS	250W	250W HPS	28500	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	15.2%	\$11.01
Shoebox	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	5.7%	\$4.13
Flat Decorative	HPS	400W	400W HPS	50000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	0.0%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	12.0%	\$8.69
Shoebox	MH	175W	175W MH	12800	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	12.0%	\$8.69
General Post Top	MH	175W	175W MH	14000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	12.0%	\$8.69
Cobra	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	10.2%	\$7.39
Flood	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	10.2%	\$7.39
Shoebox	MH	400W	400W MH	32000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	9.7%	\$7.04
Cube/Decorative	MH	400W	400W MH	36000	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	12.1%	\$8.76
Shoebox	MH	1000W	1000W MH	107800	Multiple	\$4.25	\$1.07	\$67.25	\$72.57	12.1%	\$8.76
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Relay						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	143.73	762.96	0.150%	\$1.14
Colonial Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	143.73	762.96	0.150%	\$1.14
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	143.73	762.96	0.150%	\$1.14
Salem Post Top	HPS	100W	100W HPS	9500	various	\$494.71	124.52	143.73	762.96	0.150%	\$1.14
Shoebox	HPS	100W	100W HPS	9500	various	\$494.71	\$124.52	\$143.73	\$762.96	0.150%	\$1.14
Shoebox	HPS	250W	250W HPS	28500	various	\$494.71	\$124.52	\$143.73	\$762.96	0.150%	\$1.14
Shoebox	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.150%	\$1.14
Flat Decorative	HPS	400W	400W HPS	50000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.000%	\$0.00
Salem Post Top	MH	175W	175W MH	14000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.273%	\$2.08
Shoebox	MH	175W	175W MH	12800	various	\$494.71	\$124.52	\$143.73	\$762.96	0.273%	\$2.08
General Post Top	MH	175W	175W MH	14000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.273%	\$2.08
Cobra	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.275%	\$2.10
Flood	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.275%	\$2.10
Shoebox	MH	400W	400W MH	32000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.275%	\$2.10
Cube/Decorative	MH	400W	400W MH	36000	various	\$494.71	\$124.52	\$143.73	\$762.96	0.0%	\$0.00
Flood	MH	1000W	1000W MH	107800	various	\$494.71	\$124.52	\$143.73	\$762.96	0.357%	\$2.73
Shoebox	MH	1000W	1000W MH	107800	various	\$494.71	\$124.52	\$143.73	\$762.96	0.357%	\$2.73
Double Bracket	n/a	n/a	n/a	n/a							
Timer	n/a	n/a	n/a	n/a							

MAINTENANCE COST BY COMPONENT
OL-3 LUMINAIRES

Luminaire Type	Lamp Type	Size	Lamp Size/Type	Initial Lumens	Bracket or Timer Failure						
					Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Classic Post Top	HPS	100W	100W HPS	9500							
Colonial Post Top	HPS	100W	100W HPS	9500							
Contemporary/Cube Post Top	HPS	100W	100W HPS	9500							
Salem Post Top	HPS	100W	100W HPS	9500							
Shoebox	HPS	100W	100W HPS	9500							
Shoebox	HPS	250W	250W HPS	28500							
Shoebox	HPS	400W	400W HPS	50000							
Flat Decorative	HPS	400W	400W HPS	50000							
Salem Post Top	MH	175W	175W MH	14000							
Shoebox	MH	175W	175W MH	12800							
General Post Top	MH	175W	175W MH	14000							
Cobra	MH	400W	400W MH	32000							
Flood	MH	400W	400W MH	32000							
Shoebox	MH	400W	400W MH	32000							
Cube/Decorative	MH	400W	400W MH	36000							
Flood	MH	1000W	1000W MH	107800							
Shoebox	MH	1000W	1000W MH	107800							
Double Bracket	n/a	n/a	n/a	n/a	5580950	\$297.43	\$95.43	\$93.45	\$486.31	0.121%	\$0.59
Timer	n/a	n/a	n/a	n/a	Various	\$253.76	\$63.87	\$167.98	\$485.61	3.183%	\$15.46

13

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 13 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

SUMMARY

Pole Type	SVC Type	Pole Material	OH Cable Failures & Parts	UG Cable Failures & Parts	Paint Pole	Total Annual Cost	Total Monthly Charge
Post Top* - 10ft, DB Alum	UG	Aluminum	\$0.00	\$3.77	\$10.30	\$14.07	\$1.17
Post Top** - 16ft, DB Fiber	UG	Fiber	\$0.00	\$3.77	\$10.30	\$14.07	\$1.17
Wood ** - 30ft, (Inaccessible)	OH	Wood	\$1.84	\$0.00	\$0.00	\$1.84	\$0.15
Wood - 30ft	OH	Wood	\$1.84	\$0.00	\$0.00	\$1.84	\$0.15
Wood - 35ft	OH	Wood	\$1.84	\$0.00	\$0.00	\$1.84	\$0.15
Standard - Set Conc	OH	Concrete	\$1.84	\$0.00	\$0.00	\$1.84	\$0.15
Existing Pole -	UG	Existing	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Aluminum - 37ft, AB Alum	UG	Aluminum	\$0.00	\$3.77	\$0.00	\$3.77	\$0.31
Post Top* - Post Top, DB Fiber	UG	Fiber	\$0.00	\$3.77	\$10.30	\$14.07	\$1.17

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	OH Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.7%	\$0.00
Post Top** - 16ft, DB Fiber	UG	Fiber	Group	\$0.00	0.00	0.00	0.00	0.7%	\$0.00
Wood ** - 30ft, (Inaccessible)	OH	Wood	Group	\$74.65	18.79	155.75	249.18	0.7%	\$1.84
Wood - 30ft	OH	Wood	Group	\$74.65	18.79	155.75	249.18	0.7%	\$1.84
Wood - 35ft	OH	Wood	Group	\$74.65	18.79	155.75	249.18	0.7%	\$1.84
Standard - Set Conc	OH	Concrete	Group	\$74.65	18.79	155.75	249.18	0.7%	\$1.84
Existing Pole -	UG	Existing	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Aluminum - 37ft, AB Alum	UG	Aluminum	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00
Post Top* - Post Top, DB Fiber	UG	Fiber	Group	\$0.00	0.00	0.00	0.00	0.0%	\$0.00

15

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 15 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	UG Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Post Top** - 16ft, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Wood ** - 30ft, (Inaccessible)	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	1.2%	\$0.00
Wood - 30ft	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 35ft	OH	Wood	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard - Set Conc	OH	Concrete	Group	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Existing Pole -	UG	Existing	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Aluminum - 37ft, AB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77
Post Top* - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$118.68	\$311.35	1.2%	\$3.77

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - SL2 AND OL1

Pole Type	SVC Type	Pole Material	Paint Pole						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Post Top* - 10ft, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.0%	\$10.30
Post Top** - 16ft, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.0%	\$10.30
Wood ** - 30ft, (Inaccessible)	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 30ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Wood - 35ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard - Set Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$0.00	\$0.00	10.0%	\$0.00
Standard (< 100ft Span) - 35ft, Set Conc, for 70/100 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard (100ft-150ft Span) - 35ft, Set Conc, for 150 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Standard (> 150ft Span length) - 35ft, Set Conc, for 250/400 W	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.0%	\$0.00
Aluminum - 28ft, Set Alum, for 70/100 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 150 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	0.0%	\$0.00
Aluminum - 27ft, Set Alum, for 250/400 W	UG	Aluminum	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	0.0%	\$0.00
Aluminum - 37ft, AB Alum	UG	Aluminum	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	0.0%	\$0.00
Post Top* - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.0%	\$10.30

17

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 17 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

SUMMARY

Pole Type	Svc Type	Pole Material	OH Cable Failures & Parts	UG Cable Failures & Parts	Paint Pole	Total Annual Cost	Total Monthly Charge
Round - 23 ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Franklin - Post Top, DB Fiber	UG	Fiber	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Heritage* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Capitol* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Winston - Post Top, DB Fiber	UG	Fiber	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Waterford - Post Top, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Aluminum* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Charleston Banner - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Arlington* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$0.00	\$0.00	\$0.00	No customer
Charleston - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Riviera* - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Standard - 35ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Steel* - 30ft, AB Steel	UG	Steel	\$0.00	\$1.56	\$16.72	\$18.28	\$1.52
Charleston HD - Post Top, DB Alum	UG	Aluminum	\$0.00	\$1.56	\$10.30	\$11.86	\$0.99
Aluminum* - 30ft, AB Alum	UG	Aluminum	\$0.00	\$0.00	\$0.00	\$0.00	No customer
Tall Waterford - 35ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Victorian - Post Top, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Standard - < 45ft, DB Conc	OH	Concrete	\$3.36	\$0.00	\$0.00	\$3.36	\$0.28
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Standard - 45ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Wood - < 45ft	OH	Wood	\$3.36	\$0.00	\$0.00	\$3.36	\$0.28
Existing Pole -	UG	Existing	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13
Standard - 16ft, DB Conc	UG	Concrete	\$0.00	\$1.56	\$0.00	\$1.56	\$0.13

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	OH Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Franklin - Post Top, DB Fiber	UG	Fiber	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Heritage* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Capitol* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Winston - Post Top, DB Fiber	UG	Fiber	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Waterford - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Aluminum* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Charleston Banner - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Arlington* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Riviera* - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Standard - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Steel* - 30ft, AB Steel	UG	Steel	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Charleston HD - Post Top, DB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Aluminum* - 30ft, AB Alum	UG	Aluminum	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Victorian - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Standard - < 45ft, DB Conc	OH	Concrete	Group	\$74.65	\$18.79	\$155.75	\$249.18	1.35%	\$3.36
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Standard - 45ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Wood - < 45ft	OH	Wood	Group	\$74.65	\$18.79	\$155.75	\$249.18	1.35%	\$3.36
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00
Standard - 16ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$155.75	\$155.75	0.00%	\$0.00

19

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 19 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	UG Cable Failures/Parts						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Franklin - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Heritage* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Capitol* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Winston - Post Top, DB Fiber	UG	Fiber	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Waterford - Post Top, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Aluminum* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Charleston Banner - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Arlington* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Riviera* - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Standard - 35ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Steel* - 30ft, AB Steel	UG	Steel	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Charleston HD - Post Top, DB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Aluminum* - 30ft, AB Alum	UG	Aluminum	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Victorian - Post Top, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Standard - < 45ft, DB Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$118.68	\$118.68	0.00%	\$0.00
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Standard - 45ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Wood - < 45ft	OH	Wood	N/A	\$0.00	\$0.00	\$118.68	\$118.68	0.00%	\$0.00
Existing Pole -	UG	Existing	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56
Standard - 16ft, DB Conc	UG	Concrete	Group	\$153.93	\$38.74	\$118.68	\$311.35	0.50%	\$1.56

MAINTENANCE COST BY COMPONENT
POLES AND WIRE - OL3

Pole Type	Svc Type	Pole Material	Paint Pole						
			Material TSN	Average Material Cost	Material Handling	Labor & Vehicle	Total Activity Cost	Frequency	Annual Cost
Round - 23 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Franklin - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Heritage* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Capitol* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Winston - Post Top, DB Fiber	UG	Fiber	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Waterford - Post Top, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Aluminum* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Charleston Banner - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Arlington* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	0.00%	\$0.00
Charleston - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Riviera* - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Standard - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Steel* - 30ft, AB Steel	UG	Steel	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	10.00%	\$16.72
Charleston HD - Post Top, DB Alum	UG	Aluminum	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	10.00%	\$10.30
Aluminum* - 30ft, AB Alum	UG	Aluminum	Multiple	\$36.47	\$9.18	\$121.55	\$167.21	0.00%	\$0.00
Tall Waterford - 35ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Victorian - Post Top, DB Conc	UG	Concrete	Multiple	\$18.24	\$4.59	\$80.15	\$102.98	0.00%	\$0.00
Standard - < 45ft, DB Conc	OH	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 25ft or 30 ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 45ft, DB Conc	UG	Concrete	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Wood - < 45ft	OH	Wood	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Existing Pole -	UG	Existing	N/A	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00
Standard - 16ft, DB Conc	UG	Concrete	Multiple	\$0.00	\$0.00	\$0.00	\$0.00	0.00%	\$0.00

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 21 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 22 OF 77
FILED: 08/11/2008

INSTALLATION COST

LUMINAIRES

INSTALLATION COST - LUMINAIRES
COBRA, NEMA, AND MONGOOSE

MATERIAL	COBRA				COBRANEMA				COBRANEMA			
	Wattage:		50 W HPS		Wattage:		70 W HPS		Wattage:		100 W HPS	
	Initial Lumens:	4,000	Avg OH Span:	144.5	Initial Lumens:	6,300	Avg OH Span:	146.0	Initial Lumens:	9,500	Avg OH Span:	144.5
Monthly KWH:	20	Avg UG Span:	60.0	Monthly KWH:	29	Avg UG Span:	77.6	Monthly KWH:	44	Avg UG Span:	144.5	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE weighted avg				\$61.75				\$55.75				\$76.01
	5586230	\$61.75	113	\$6,993	5586210	\$63.53	48	\$3,049	5586220	\$73.58	1,683	\$123,839
					5586222	\$35.30	18	\$644	5586290	\$91.81	385	\$36,300
									5586221	\$36.40	50.0	\$1,820
LAMP	5585370	\$11.85	1	\$11.85	5585560	\$10.67	1	\$10.67	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY weighted avg				\$20.10				\$20.10				\$20.10
bracket, 20 IN	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889
bracket, 4 FT	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188
bracket, 6 FT	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701
bracket, 8 FT												
bracket, 10 FT												
bracket, 12 FT												
bracket, 12 FT 5 JU												
bracket, 12 FT 10 JU												
bracket, Streetlight, GALV, 9"Radius												
bracket, 12 FT accessories												
anchor compound conduit screw strap												
PHOTO CONTROL weighted avg PC = 0 if Control Eq used				\$4.25				\$4.25				\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	0	\$0.00	5581500	\$3.00	0	\$0.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used				\$0.00				\$0.00				\$20.26
Oil Switch	5589120	\$21.77	0.0	\$0	5589120	\$17.11	0.0	\$0	5589120	\$14.21	0.0	\$0
OH Installation	Varies	\$18.17	47	\$854	Varies	\$14.28	47	\$671	Varies	\$11.86	47	\$557
UG Installation	Varies	\$33.99	27	\$918	Varies	\$26.71	27	\$721	Varies	\$22.19	27	\$599
CABLE, POLE & BRACKET, UG, Cu, Triplex, 600V 2/C, 10AWG weighted avg	5322230	\$0.72		\$3.85	5322230	\$0.72		\$3.85	5322230	\$0.72		\$3.85
20 IN			3	\$1,508			3	\$1,508			3	\$1,508
4 FT			6	\$5,620			6	\$5,620			6	\$5,620
6 FT							8	\$1,638			8	\$1,638
8 FT												
10 FT												
12 FT												
12 FT 5 JU												
12 FT 10 JU												
bracket, Streetlight, GALV, 9"Radius												
FIXTURE HARDWARE avg				\$4.54				\$4.54				\$4.54
Wood & Conc:												
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH ratio OH/UG				19%				19%				19%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 die 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				81%				81%				81%
Bolt, Machine GALV 5/8x8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$106.34				\$99.17				\$138.49
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10
ENGINEERING LIGHT FIXTURE		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used				\$0.00				\$0.00				\$13.60
Oil Switch	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$4.37	47	\$206	Varies	\$3.44	47	\$161	Varies	\$2.85	47	\$134
UG Installation	Varies	\$24.62	27	\$665	Varies	\$19.34	27	\$522	Varies	\$16.07	27	\$434
MATERIAL HANDLING				\$0.00				\$24.96				\$34.86
TOTAL LABOR/VEHICLE				\$212.25				\$237.21				\$280.71
TOTAL COST				\$318.59				\$336.38				\$399.18

23

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 23 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - LUMINAIRES
COBRA, NEMA, AND MONGOOSE

	COBRA				COBRA				COBRA			
	150 W HPS				250 W HPS				400 W HPS			
	Initial Lumens	Avg OH Span	141.4	141.4	Initial Lumens	Avg OH Span	153.1	153.1	Initial Lumens	Avg OH Span	154.0	154.0
	Monthly KWH	66	Avg UG Span	141.4	Monthly KWH	105	Avg UG Span	161.1	Monthly KWH	163	Avg UG Span	192.1
MATERIAL	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE weighted avg			1	\$79.66			1	\$83.96			1	\$124.59
5586050	\$75.97	483		\$36,710	5586200	\$79.67	497	\$39,554	5586280	\$124.16	344	\$42,709
5586310	\$90.51	3		\$226	5586250	\$90.38	29	\$2,576	5586320	\$125.80	45	\$5,598
5586020	\$93.61	124.3		\$11,632	5586140	\$121.43	6.3	\$759	5586130	\$133.92	42.3	\$5,658
5586300	\$112.49	1		\$84	5586190	\$94.63	150	\$14,171	5586160	\$122.25	128	\$15,618
					5586010	\$129.54	3	\$324				
LAMP	5585590	\$10.68	1	\$10.68	5585530	\$11.15	1	\$11.15	5585540	\$11.28	1	\$11.28
BRACKET & ACCESSORY weighted avg			1	\$20.10			1	\$24.19			1	\$24.19
bracket, 20 IN	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889	5580710	\$15.64	696	\$10,889
bracket, 4 FT	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188	5580740	\$20.19	1,297	\$26,188
bracket, 6 FT	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701	5580750	\$30.69	284	\$8,701
bracket, 8 FT	5580780	\$65.24	68.25	\$4,452	5580780	\$65.24	68.25	\$4,452	5580780	\$65.24	68.25	\$4,452
bracket, 10 FT	5580800	\$76.83	3	\$230	5580800	\$76.83	3	\$230	5580800	\$76.83	3	\$230
bracket, 12 FT	5580820	\$78.95	18.5	\$1,460	5580820	\$78.95	18.5	\$1,460	5580820	\$78.95	18.5	\$1,460
bracket, 12 FT 5 JU	5580850	\$146.7362	27.75	\$4,415	5580850	\$146.7362	27.75	\$4,415	5580850	\$146.7362	27.75	\$4,415
bracket, 12 FT 10 JU	5580830	\$138.3671	7.25	\$1,092.727395	5580830	\$138.3671	7.25	\$1,092.727395	5580830	\$138.3671	7.25	\$1,092.727395
bracket, Streetlight, GALV, 9"Radius												
bracket, 12 FT accessories												
anchor compound					1901543	0.09946	8	\$1	1901543	0.09946	8	\$1
conduit					5851980	2.4098	1	\$2	5851980	2.4098	1	\$2
screw					5521030	0.7298	8	\$6	5521030	0.7298	8	\$6
strap					5290800	0.1447	8	\$1	5290800	0.1447	8	\$1
					5511210	0.5381	4	\$2	5511210	0.5381	4	\$2
PHOTO CONTROL weighted avg PC = 0 if Control Eq used			0	\$0.00			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT Control Eq = 0 if PC used			1 LOT	\$13.45			1 LOT	\$29.06			1 LOT	\$45.83
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$29.79	0.0	\$0	5589120	\$46.98	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$24.86	47	\$1,169	Varies	\$39.21	47	\$1,843
UG Installation	Varies	\$21.47	27	\$580	Varies	\$46.51	27	\$1,256	Varies	\$73.35	27	\$1,980
CABLE, POLE & BRACKET, UG, Cu, Triplex, 600V 2/C, 10AWG weighted avg	5322230	\$0.72		\$3.85	5322230	\$0.72		\$4.17	5322230	\$0.72		\$4.17
20 IN			3	\$1,508			3	\$1,508			3	\$1,508
4 FT			6	\$5,620			6	\$5,620			6	\$5,620
6 FT			8	\$1,638			8	\$1,638			8	\$1,638
8 FT							10	\$493			10	\$493
10 FT							12	\$26			12	\$26
12 FT							14	\$187			14	\$187
12 FT 5 JU							21	\$421			21	\$421
12 FT 10 JU							24	\$126			24	\$126
bracket, Streetlight, GALV, 9"Radius												
FIXTURE HARDWARE avg				\$5.45				\$5.45				\$5.45
Wood & Conc												
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH ratio OH/UG				80%				81%				81%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 die 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG ratio OH/UG				20%				19%				19%
Bolt, Machine GALV 5/8x8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$136.19				\$160.97				\$218.51
LABOR/VEHICLE												
INSTALL LIGHT FIXTURE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING LIGHT FIXTURE		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10
INSTALL CONTROL EQUIPMENT Control Eq = 0 if PC used		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
Oil Switch	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$2.76	47	\$130	Varies	\$5.98	47	\$281	Varies	\$9.44	47	\$444
UG Installation	Varies	\$15.55	27	\$420	Varies	\$33.68	27	\$909	Varies	\$53.12	27	\$1,434
MATERIAL HANDLING		\$34.28	1	\$34.28		\$40.52	1	\$40.52		\$55.00	1	\$55.00
TOTAL LABOR/VEHICLE				\$251.82				\$284.12				\$285.16
TOTAL COST				\$388.01				\$445.09				\$503.67

24

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 24 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - LUMINAIRES
COBRA, NEMA, AND MONGOOSE

MATERIAL	COBRA				MONGOOSE			
	400 W MH				400 W HPS			
	Initial Lumens:	Avg OH Span:	Avg UG Span:	Cost	Initial Lumens:	Avg OH Span:	Avg UG Span:	Cost
	32,000	150.0	115.0		50,000	163	178.0	
Monthly KWH:	159			Monthly KWH:	163			
Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
LUMINAIRE weighted avg								
		1	\$119.35			1	\$400.25	
	5587000	\$119.35	149	\$17,812	5586663	\$400.25	27	\$10,807
LAMP								
BRACKET & ACCESSORY weighted avg								
		1	\$14.19			1	\$11.28	
	5585640	\$14.19	1	\$24.19	5585540	\$11.28	1	\$24.51
bracket, 20 IN	5580710	\$15.64	696	\$10,889				
bracket, 4 FT	5580740	\$20.19	1,297	\$26,188				
bracket, 6 FT	5580750	\$30.69	284	\$8,701				
bracket, 8 FT	5580780	\$65.24	68.25	\$4,452				
bracket, 10 FT	5580800	\$76.83	3	\$230				
bracket, 12 FT	5580820	\$78.95	18.5	\$1,460				
bracket, 12 FT 5 JU	5580850	146.7362	27.75	\$4,415				
bracket, 12 FT 10 JU	5580830	138.3671	7.25	1092.7274				
bracket, Streetlight, GALV, 9"Radius					5581060	24.50774	149	3651.65263
bracket, 12 FT accessories			0.27518792					
anchor	1901543	0.09946	8	\$1				
compound	5851980	2.4098	1	\$2				
conduit	5521030	0.7298	8	\$6				
screw	5290800	0.1447	8	\$1				
strap	5511210	0.5381	4	\$2				
PHOTO CONTROL weighted avg								
1000W, 277V		0	\$0.00				\$0.00	
1000W GRAY Cover 120V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
SHORTING CAP	5581100	\$3.79	16,801	\$63,648	5581100	\$3.79	16,801	\$63,648
CONTROL EQUIPMENT	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
Oil Switch			1 LOT	\$64.04			1 LOT	\$45.83
OH Installation	5589120	\$46.98	0.0	\$0	5589120	\$46.98	0.0	\$0
UG Installation	Varies	\$39.21	47	\$1,843	Varies	\$39.21	47	\$1,843
CABLE, POLE & BRACKET, UG, Cu, Triplex, 600V 2/C, 10AWG weighted at	Varies	\$73.35	27	\$1,980	Varies	\$73.35	27	\$1,980
20 IN	5322230	\$0.72		\$4.17	5322230	\$0.72		\$2.17
4 FT			3	\$1,508				
6 FT			6	\$5,620				
8 FT			8	\$1,638				
10 FT			10	\$493				
12 FT			12	\$26				
12 FT 5 JU			14	\$187				
12 FT 10 JU			21	\$421				
bracket, Streetlight, GALV, 9"Radius			24	\$126				
bracket, Streetlight, GALV, 9"Radius							3	\$323
bracket, Streetlight, GALV, 9"Radius								\$5.45
bracket, Streetlight, GALV, 9"Radius								\$323
bracket, Streetlight, GALV, 9"Radius								\$5.45
WOOD & CONC								
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 13/16" Hole Dia	9296750	\$0.15	2	\$0.30	9296750	\$0.15	2	\$0.30
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
OH				27%				81%
Bolt, Machine GALV 5/8x12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
Cover, Snap-On Service Entrance Sleeve 5/8 die 2in	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
Connector, Compression H-Block AL #6 str ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
UG				73%				19%
Bolt, Machine GALV 5/8x6	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
TOTAL MATERIAL				\$233.60				\$492.49
LABOR/VEHICLE								
INSTALL LIGHT FIXTURE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING LIGHT FIXTURE		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10
INSTALL CONTROL EQUIPMENT		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
Oil Switch	5589120	\$12.65	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$9.44	47	\$444	Varies	\$9.44	47	\$444
UG Installation	Varies	\$53.12	27	\$1,434	Varies	\$53.12	27	\$1,434
MATERIAL HANDLING		\$58.80	1	\$58.80		\$123.96	1	\$123.96
TOTAL LABOR/VEHICLE				\$312.26				\$354.12
TOTAL COST				\$545.86				\$846.60

25

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 25 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST-LUMINAIRES
 SHOEBOX

MATERIAL	SHOEBOX 100 W.HPS				SHOEBOX 250 W.HPS				SHOEBOX 400 W.HPS			
	Wattage Label Lumens Monthly kWh	153.5 153.5	28,500 105	Avg. Ch. Spd. Avg. Ltg. Spd.	153.5 153.5	28,500 105	187.5 187.5	50,000 163	153.5 153.5	28,500 105	187.5 187.5	50,000 163
	Unit Cost	Unit Cost	# of Units	Cost	Unit Cost	Unit Cost	# of Units	Cost	Unit Cost	Unit Cost	# of Units	Cost
LUMINAIRE avg	5580263	\$241.13	0	\$0	5580170	\$220.38	17	\$3,741.46	5580150	\$231.16	6	\$1,386.96
	5586265	\$279.46	81	\$22,636	5586261	\$211.93	77	\$16,265	5580510	\$249.26	1	\$1,785
	5587550	\$196.24	26	\$5,151	5586262	\$288.01	0	\$0	5586258	\$264.48	7	\$1,851.36
				\$258.05				\$213.48				\$225.93
BRACKET & ACCESSORY avg	5585580	\$10.72	1	\$10.72	5585530	\$11.15	1	\$11.15	5585540	\$11.28	1	\$11.28
	Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248
	Bracket, Shoebox, Dual Mount, 90 Degree, Prem Lig			\$591	Various	\$88.67	6.7	\$591	Various	\$88.67	6.7	\$591
	Bracket, Shoebox, Dual Mount, 180 Degree, Prem Lig			\$2,062	Various	\$93.74	22.0	\$2,062	Various	\$93.74	22.0	\$2,062
	Bracket, Shoebox, Twin Parallel Mount, Prem Lig			\$157.13	Various	\$157.13	16.3	\$2,567	Various	\$157.13	16.3	\$2,567
	Bracket, Shoebox, Triple Mount, Prem Lig			\$121.34	Various	\$121.34	2.3	\$283	Various	\$121.34	2.3	\$283
	Bracket, Shoebox, Quad Mount, Prem Lig			\$219.57	Various	\$219.57	8.7	\$1,903	Various	\$219.57	8.7	\$1,903
	Bracket, Shoebox, Single Mount, Galv 6" Bracket											
	Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270											
PHOTO CONTROL avg	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
	1000W, ZTVV			\$63,648	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
	1000W GRAY Cover, 120V			\$3.00	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
	SHORTING CAP			\$31.24	5589120	\$28.79	0.0	\$0	5589120	\$46.98	0.0	\$0
	CONTROL EQUIPMENT			\$899	Varies	\$24.86	47	\$1,169	Varies	\$39.21	47	\$1,843
	OH Switch			\$19.13	Varies	\$46.51	27	\$1,256	Varies	\$73.35	27	\$1,980
	UG Installation			\$0.72	5322230	\$1.57	2	\$3.14	5322230	\$0.72	2	\$1.44
	CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG			\$951.14				\$951.14				\$951.14
	Bracket, Shoebox, Single Mount, Prem Lig			\$14.44				\$14.44				\$14.44
	Bracket, Shoebox, Dual Mount, 90 Degree, Prem Lig			\$47.65				\$47.65				\$47.65
	Bracket, Shoebox, Dual Mount, 180 Degree, Prem Lig			\$47.17				\$47.17				\$47.17
	Bracket, Shoebox, Twin Parallel Mount, Prem Lig			\$10.11				\$10.11				\$10.11
	Bracket, Shoebox, Triple Mount, Prem Lig			\$50.06				\$50.06				\$50.06
	Bracket, Shoebox, Quad Mount, Prem Lig											
	Bracket, Shoebox, Single Mount, Galv 6" Bracket											
	Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270											
FIXTURE HARDWARE avg	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88
	OH - Wood & Conc			\$1.02	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02
	Cover, Snap-On Service Entrance Sleeve 5/8 DIEZ IN.			\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
	Connector, Compression H-Block ACSR #4 STR AL #4 STR 6			\$0.41	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41
	Nut, Eye 1-1/2 GALV for 5/8 Bolt			\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74
	Washer, Flat, 2-1/4 X 2-1/4 X 3/16 w/13/16" Hole Dia			\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43
	WOOD - OH			73%								
	Bolt, Machine GALV, rolled threads 5/8 X 12			\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57
	UG			\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40
	WOOD											
	Bolt, Machine GALV, rolled threads 5/8 X 6											
	Nut, Eye 1-1/2 GALV for 5/8 Bolt											
	TOTAL MATERIAL			\$348.87				\$313.10				\$349.11
LABORVEHICLE												
INSTALL LIGHT FIXTURE				\$115.10				\$115.10				\$115.10
ENGINEERING LIGHT FIXTURE				\$97.15				\$97.15				\$97.15
INSTALL CONTROL EQUIPMENT				\$20.10				\$20.10				\$20.10
OH Switch				\$0				\$0				\$0
OH Installation				\$6.17				\$6.17				\$6.17
UG Installation				\$4.60				\$4.60				\$4.60
MATERIAL HANDLING				\$25.91				\$25.91				\$25.91
				\$0.00				\$0.00				\$0.00
TOTAL LABORVEHICLE				\$232.35				\$317.19				\$341.33
TOTAL COST				\$581.22				\$630.29				\$690.45

INSTALLATION COST- LUMINAIRES
SHOEBOX

MATERIAL	SHOEBOX				SHOEBOX				SHOEBOX				
	Wattage: 175 W MH				Wattage: 400 W MH				Wattage: 1000 W MH				
	Initial Lumens	Avg OH Span	Monthly kWh	Avg UG Span	Initial Lumens	Avg OH Span	Monthly kWh	Avg UG Span	Initial Lumens	Avg OH Span	Monthly kWh	Avg UG Span	
	12,800	111.4	74	111.4	32,000	159	128.9	128.9	107,900	363	140.0	140.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
LUMINAIRE avg			1	\$216.30			1	\$252.00			1	\$483.33	
5580260	\$214.40	0		\$0	5586454	\$219.01	0	\$0	5580210	\$491.10	122	\$59,782	
5580270	\$216.30	1		\$108	5586380	\$262.71	5	\$1,379	5580215	\$465.91	75	\$35,050	
					5586450	\$248.51	79	\$19,632	5580216	\$460.43	51	\$23,367	
					5586455	\$261.895	66	\$17,154	5580250	\$492.182	162	\$79,487	
					5586460	\$254.02	99	\$25,021	5586267	\$38.8295	2	\$943	
					5586531	\$299.1489	2	\$449					
					5586532	\$244.9371	4	\$980					
					5586534	\$239.9917	64	\$15,419					
					5586540	\$297.55	2	\$669					
LAMP	5585610	\$10.94	1	\$10.94	5585640	\$14.19	1	\$14.19	5585650	\$22.00	1	\$22.00	
BRACKET & ACCESSORY avg			1	\$16.58			1	\$41.49			1	\$41.49	
Bracket, Shoebox, Single Mount, Prem Ltg					Various	\$33.78	658.7	\$22,248	Various	\$33.78	658.7	\$22,248	
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg					Various	\$88.67	6.7	\$591	Various	\$88.67	6.7	\$591	
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg					Various	\$93.74	22.0	\$2,062	Various	\$93.74	22.0	\$2,062	
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg					Various	\$157.13	16.3	\$2,567	Various	\$157.13	16.3	\$2,567	
Bracket, Shoebox, Triple Mount, Prem Ltg					Various	\$121.34	2.3	\$283	Various	\$121.34	2.3	\$283	
Bracket, Shoebox, Quad Mount, Prem Ltg					Various	\$219.57	8.7	\$1,903	Various	\$219.57	8.7	\$1,903	
Bracket, Shoebox, Single Mount, Galv 6" Bracket	5581070	\$16.21	318.7	\$5,166			0	\$0.00			0	\$0.00	
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270	5580340	\$104.00	1.3	\$139	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749	
PHOTO CONTROL avg			0	\$0.00	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648	
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00	
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648			1 LOT	\$64.04			1 LOT	\$154.42	
SHORTING CAP	5581500	\$3.00	1	\$3.00	5589120	\$46.98	0.0	\$0	5589120	\$113.44	0.0	\$0	
CONTROL EQUIPMENT			1 LOT	\$27.54	Varies	\$17.21	47	\$809	Varies	\$94.67	47	\$4,450	
Oil Switch	5589120	\$20.63	0.0	\$0	UG Installation	Varies	\$32.20	27	\$869	Varies	\$177.10	27	\$4,782
OH Installation	Varies	\$17.21	47	\$809	5322230	\$0.72		\$1.57	5322230	\$0.72		\$1.57	
UG Installation	Varies	\$32.20	27	\$869			2	\$951.14			2	\$951.14	
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG							3	\$14.44			3	\$14.44	
Bracket, Shoebox, Single Mount, Prem Ltg							3	\$47.65			3	\$47.65	
Bracket, Shoebox, Dual Mount, 90 Degree, Prem Ltg							4	\$47.17			4	\$47.17	
Bracket, Shoebox, Dual Mount, 180 Degree, Prem Ltg							6	\$10.11			6	\$10.11	
Bracket, Shoebox, Twin Parallel Mount, Prem Ltg							8	\$50.06			8	\$50.06	
Bracket, Shoebox, Triple Mount, Prem Ltg													
Bracket, Shoebox, Quad Mount, Prem Ltg													
Bracket, Shoebox, Single Mount, Galv 6" Bracket			2	\$460.17									
Bracket, Shoebox, Dual Mount, 180 Deg for TEC #5580270			3	\$2.89									
FIXTURE HARDWARE avg				\$2.04				\$1.80				\$1.82	
OH - Wood & Conc				31%				27%				28%	
Cover, Snap-On Service Entrance Sleeve 5/8 DIEZ IN.	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	5261930	\$0.44	2	\$0.88	
Connector, Compression H-Block ACSR #4 STR AL #4 STR 6	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02	9261730	\$0.34	3	\$1.02	
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	
WOOD			18%				16%				16%		
Washer, Flat, 2-1/4 X 2-1/4 X 3/16 w/13/16" Hole Dia	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41	9296800	\$0.20	2	\$0.41	
WOOD - OH													
Bolt, Machine GALV rolled threads 5/8 X 12	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	9233550	\$0.87	2	\$1.74	
Connector, Compression H-Block AL #6 STR ACSR #10	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	9261530	\$0.21	2	\$0.43	
UG				69%				73%				72%	
WOOD - UG													
Bolt, Machine GALV rolled threads 5/8 X 8	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	9233450	\$0.78	2	\$1.57	
Nut, Eye 1-1/2" GALV for 5/8" Bolt	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	9237650	\$1.20	2	\$2.40	
TOTAL MATERIAL				\$277.84				\$378.09				\$707.63	
LABOR/VEHICLE													
INSTALL LIGHT FIXTURE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost	
ENGINEERING LIGHT FIXTURE		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10		\$ 115.10	1	\$115.10	
INSTALL CONTROL EQUIPMENT		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15	
Oil Switch	5589120	\$5.55	0.0	\$0	5589120	\$12.65	0.0	\$0	5589120	\$3.70	0.0	\$0	
OH Installation	Varies	\$4.14	47	\$195	Varies	\$9.44	47	\$444	Varies	\$22.79	47	\$1,071	
UG Installation	Varies	\$23.32	27	\$630	Varies	\$53.12	27	\$1,434	Varies	\$128.26	27	\$3,463	
MATERIAL HANDLING		\$69.93	1	\$69.93		\$95.17	1	\$95.17		\$178.11	1	\$178.11	
TOTAL LABOR/VEHICLE				\$299.54				\$348.63				\$489.59	
TOTAL COST				\$577.38				\$726.72				\$1,197.22	

27

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 27 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - NIGHT TORCH				PT - COACH			
	Wattage:		50 W HPS		Wattage:		70 W HPS	
	Initial Lumens:	4,000	Avg OH Span:	N/A	Initial Lumens:	6,300	Avg OH Span:	N/A
	Monthly KWH:	20	Avg UG Span:	65.0	Monthly KWH:	29	Avg UG Span:	65.0
Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
LUMINAIRE avg			\$83.98				\$131.20	
	5583610	\$83.98	0	\$0	5586170	\$131.20	90	\$11,808
					5586180	\$135.24	0	\$0
LAMP			\$11.85					\$10.67
BRACKET & ACCESSORY avg	5585370	\$11.85	1	\$11.85	5585560	\$10.67	1	\$10.67
N/A			\$0.00					\$0.00
PHOTO CONTROL avg			\$4.25					\$4.25
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	0	\$0.00	5581500	\$3.00	0	\$0.00
CONTROL EQUIPMENT			\$0.00					\$0.00
Oil Switch	5589120	\$21.77	0.0	\$0	5589120	\$10.31	0.0	\$0
OH Installation	Varies	\$18.17	47	\$854	Varies	\$8.61	47	\$405
UG Installation	Varies	\$33.99	27	\$918	Varies	\$16.10	27	\$435
FIXTURE HARDWARE avg			\$0.00					\$0.00
OH		ratio OH/UG	0%					0%
UG		ratio OH/UG	100%					100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL			\$100.07					\$146.12
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 93.98	1	\$93.98		\$ 93.98	1	\$93.98
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			0	\$0.00			0	\$0.00
Oil Switch	5589120	\$5.86	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$4.37	47	\$206	Varies	\$2.07	47	\$97
UG Installation	Varies	\$24.62	27	\$665	Varies	\$11.66	27	\$315
MATERIAL HANDLING		\$25.19	1	\$25.19		\$36.78	1	\$36.78
TOTAL LABOR/VEHICLE				\$218.32				\$227.91
TOTAL COST				\$316.39				\$374.03

29

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 29 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - CLASSIC/ENHANCED/PROMNADE				PT - CONTEMPORARY/CUBE			
	Wattage:		100 W HPS		Wattage:		100 W HPS	
	Initial Lumens:	Avg OH Span:		N/A	Initial Lumens:	Avg OH Span:		N/A
	Monthly KWH:	Avg UG Span:	100.0		Monthly KWH:	Avg UG Span:	100.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$487.03				\$280.45
	5583330	\$453.09	3	\$1,473	5586000	\$0.00	0	\$0
	5586253	\$457.19	0	\$114	5586248	\$841.35	0	\$0
	5586268	\$467.24	639	\$298,332	5586264	\$0.00	0	\$0
	5582120	548.1195	205	\$112,227				
	5582140	536.79	2	\$1,074				
	5582160	551.0578	2	\$1,240				
LAMP	5585580	\$10.72	1	\$10.72	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT			1 LOT	\$21.47			1 LOT	\$21.47
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$13.75	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$11.48	47	\$539
UG Installation	Varies	\$21.47	27	\$580	Varies	\$21.47	27	\$580
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH				0%				0%
UG				100%				100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL				\$522.21				\$315.64
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 93.98	1	\$93.98		\$ 93.98	1	\$93.98
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
INSTALL CONTROL EQUIPMENT			1	\$15.55			1	\$15.55
Oil Switch	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$2.76	47	\$130	Varies	\$2.76	47	\$130
UG Installation	Varies	\$15.55	27	\$420	Varies	\$15.55	27	\$420
MATERIAL HANDLING		\$131.44	1	\$131.44		\$79.45	1	\$79.45
TOTAL LABOR/VEHICLE				\$338.12				\$286.12
TOTAL COST				\$860.33				\$601.76

30

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 30 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - COLONIAL				PT - SALEM			
	Wattage:		100 W HPS		Wattage:		100 W HPS	
	Initial Lumens:	9,500	Avg OH Span:	N/A	Initial Lumens:	9,500	Avg OH Span:	N/A
Monthly KWH:	44	Avg UG Span:	100.0	Monthly KWH:	44	Avg UG Span:	100.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$481.49				\$355.86
	5586150	\$483.75	266	\$128,799	5586661	\$355.86	1,684	\$599,264
	5586660		1	\$0	5586662	\$358.53	0	\$90
LAMP	5585580	\$10.72	1	\$10.72	5585580	\$10.72	1	\$10.72
BRACKET & ACCESSORY avg				\$0.00				\$0.00
N/A								
PHOTO CONTROL avg			0	\$0.00			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT			1 LOT	\$21.47			1 LOT	\$21.47
Oil Switch	5589120	\$13.75	0.0	\$0	5589120	\$13.75	0.0	\$0
OH Installation	Varies	\$11.48	47	\$539	Varies	\$11.48	47	\$539
UG Installation	Varies	\$21.47	27	\$580	Varies	\$21.47	27	\$580
FIXTURE HARDWARE avg				\$0.00				\$0.00
OH			ratio OH/UG	0%			ratio OH/UG	0%
UG			ratio OH/UG	100%			ratio OH/UG	100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG								
TOTAL MATERIAL				\$516.68				\$391.05
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 93.98	1	\$93.98		\$ 93.98	1	\$93.98
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 97.15	1	\$97.15		\$ 97.15	1	\$97.15
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			1	\$15.55			1	\$15.55
Oil Switch	5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation	Varies	\$2.76	47	\$130	Varies	\$2.76	47	\$130
UG Installation	Varies	\$15.55	27	\$420	Varies	\$15.55	27	\$420
MATERIAL HANDLING		\$130.05	1	\$130.05		\$98.43	1	\$98.43
TOTAL LABOR/VEHICLE				\$336.72				\$305.10
TOTAL COST				\$853.40				\$696.15

31

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 31 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

MATERIAL	PT - GENERAL				PT - SALEM				
	Watage:		175 W MH		Watage:		175 W MH		
	Initial Lumens:	Avg OH Span:		N/A	Initial Lumens:	Avg OH Span:		N/A	
	Monthly KWH:	74	Avg UG Span:	100.0	Monthly KWH:	74	Avg UG Span:	90.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	
LUMINAIRE avg				\$413.88				\$326.31	
	5583340	\$0.00	0	\$0	5582040	\$314.08	0	\$0	
	5583350	\$398.20	84	\$33,548	5582050	\$326.31	156	\$50,823	
	5584220	\$427.74	63	\$26,841					
	5584330	0	0	\$0					
	5582150	518.68	0	\$0					
	5587760	499.81	5	\$2,624					
LAMP	5585610	\$10.94	1	\$10.94	5585610	\$10.94	1	\$10.94	
BRACKET & ACCESSORY avg				\$0.00				\$0.00	
N/A				\$0.00				\$0.00	
PHOTO CONTROL avg	PC = 0 if Control Eq used		0	\$0.00			0	\$0.00	
1000W, 277V		5588100	\$5.23	7,789	\$40,749	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V		5588110	\$3.79	16,801	\$63,648	5588110	\$3.79	16,801	\$63,648
SHORTING CAP	Cap = 0 if PC used	5581500	\$3.00	1	\$3.00	5581500	\$3.00	1	\$3.00
CONTROL EQUIPMENT	Control Eq = 0 if PC used			1 LOT	\$32.20			1 LOT	\$32.20
Oil Switch		5589120	\$20.63	0.0	\$0	5589120	\$20.63	0.0	\$0
OH Installation		Varies	\$17.21	47	\$809	Varies	\$17.21	47	\$809
UG Installation		Varies	\$32.20	27	\$869	Varies	\$32.20	27	\$869
FIXTURE HARDWARE avg				\$0.00				\$0.00	
OH	ratio OH/UG			0%				0%	
UG	ratio OH/UG			100%				100%	
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG				\$460.02				\$372.45	
TOTAL MATERIAL									
LABOR/VEHICLE		Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost		
INSTALL LIGHT FIXTURE/BRACKET		\$ 93.98	1	\$93.98	\$ 93.98	1	\$93.98		
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 97.15	1	\$97.15	\$ 97.15	1	\$97.15		
INSTALL CONTROL EQUIPMENT	Control Eq = 0 if PC used		1	\$23.32		1	\$23.32		
Oil Switch		5589120	\$3.70	0.0	\$0	5589120	\$3.70	0.0	\$0
OH Installation		Varies	\$4.14	47	\$195	Varies	\$4.14	47	\$195
UG Installation		Varies	\$23.32	27	\$630	Varies	\$23.32	27	\$630
MATERIAL HANDLING			\$115.79	1	\$115.79		\$93.75	1	\$93.75
TOTAL LABOR/VEHICLE				\$330.23				\$308.19	
TOTAL COST				\$790.25				\$680.65	

32

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 32 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST- LUMINAIRES
POST TOP AND DOUBLE BRACKET

POST TOP DOUBLE BRACKET				
MATERIAL	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE avg				\$0.00
LAMP				\$0.00
BRACKET & ACCESSORY avg	5580950	\$297.43	1	\$297.43
N/A				
PHOTO CONTROL avg <i>PC = 0 if Control Eq used</i>			0	\$0.00
1000W, 277V	5588100	\$5.23	7,789	\$40,749
1000W GRAY Cover 120V	5588110	\$3.79	16,801	\$63,648
SHORTING CAP <i>Cap = 0 if PC used</i>	5581500	\$3.00	0	\$0.00
CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			0	\$0.00
Oil Switch	5589120	\$29.79	0.0	\$0
OH Installation	Varies	\$24.86	47	\$1,169
UG Installation	Varies	\$46.51	27	\$1,256
FIXTURE HARDWARE avg				\$3.61
OH <i>ratio OH/UG</i>				0%
UG <i>ratio OH/UG</i>				100%
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	5.0	\$4
TOTAL MATERIAL				\$301.04
LABOR/VEHICLE		Unit Cost	# of Units	Cost
INSTALL LIGHT FIXTURE/BRACKET		\$ 51.61	1	\$51.61
ENGINEERING LIGHT FIXTURE/BRACKET		\$ 11.95	1	\$11.95
INSTALL CONTROL EQUIPMENT <i>Control Eq = 0 if PC used</i>			0	\$0.00
Oil Switch				
OH Installation				
UG Installation				
MATERIAL HANDLING		\$75.77	1	\$75.77
TOTAL LABOR/VEHICLE				\$139.33
TOTAL COST				\$440.37

33

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 33 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST
CONTROL EQUIPMENT
TIMER AND RELAY

INSTALLATION COST - CONTROL EQUIPMENT
TIMER

MATERIAL	TIMER			
	Stock #	Unit Cost	# of Units	Cost
LUMINAIRE SOCKET avg				\$0.00
Eagle, C-7 WHITE (includes Washer)				\$0
LAMP				\$0.00
10 W, SYLV10C7CL-120V				\$0
BRONNERS CORD SET				\$0.00
52 ft, 18 AWG split wire, White (includes Socket, Lamp, Washer)				\$0
PHOTO CONTROL avg <i>PC = 0 if Control Eq used</i>				\$0.00
1000W, 277V				\$0
1000W GRAY Cover 120V				\$0
TIMER				\$244.50
	5588160	\$196.45	1	\$147
	5588760	\$251.37	5	\$1,320
CABLE, POLE & BRACKET, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	10	\$7.22
FIXTURE HARDWARE avg				\$2.04
OH <i>ratio OH/UG</i>				100%
Outdoor Receptacle, Duplex, 125V/20A IVORY				
Tie, Cable 5-1/2 IN				
3/4" PVC Conduit				
5/8 x 12 Galvanized	9235250	\$0.87	2	\$1.7
Washer, Flat 2 X 2 X 1/8 11/16" w/DIA Hole	9296750	\$0.15	2	\$0.3
TOTAL MATERIAL				\$253.76
LABOR/VEHICLE		Unit Cost	# of Units	Cost
INSTALL ARCHWAY /TIMER		\$ 217.89	1	\$217.89
ENGINEERING ARCHWAY/ TIMER		\$11.95	1	\$11.95
MATERIAL HANDLING		\$63.87	1	\$63.87
TOTAL LABOR/VEHICLE				\$293.72
TOTAL COST				\$547.47

35

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 35 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - CONTROL EQUIPMENT
RELAY

OH INSTALLATION

MATERIAL				
Items	Stock #	Unit Cost	# of Units	Annual Usage
Relay, 60 A, 277480V, 2 pole	5588140	\$330.36	1	24.25
Relay, 100 A, 277480V, 2 pole	5588170	\$529.78	1	15.25
Relay, 125 A, 480V	5589000	\$1,685.19	1	7.50
Relay, Pole Mount	varies	varies	1	
Photo Control	5588110	\$3.79	1	
Lightning Arrestor	5270750	\$31.60	1	
Photo Control, Standoff	5582110	\$19.89	1	
#6 Triplex Cable to Relay	5322200	\$1.37	10	
Lag Screw (Hard Head)	9239640	\$0.41	1	
Washer, Flat 2-1/4 X 2-1/4 X 3/16 w/ 11/16" Hole I	9296750	\$0.15	1	
Bolt, Machine GALV 5/8x12	9233550	\$0.85	1	
Nut, Eye 1-1/2" GALV for 5/8" bolt	9237650	\$1.20	1	

Cost		
60A	100A	125A
5588140	5588170	5589000
\$330.36	\$529.78	\$1,685.19
\$3.79	\$3.79	\$3.79
\$31.60	\$31.60	\$31.60
\$19.89	\$19.89	\$19.89
\$13.69	\$13.69	\$13.69
\$0.41	\$0.41	\$0.41
\$0.15	\$0.15	\$0.15
\$0.85	\$0.85	\$0.85
\$1.20	\$1.20	\$1.20
\$401.93	\$601.35	\$1,756.76

OH Average							
(120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	Varies	\$18.17	\$4.37	\$22.54
1.5	70	HPS	Cobra/NEMA	Varies	\$14.28	\$3.44	\$17.71
0.9	70	HPS	PT	Varies	\$8.61	\$2.07	\$10.68
1.2	100	HPS	Cobra/NEMA	Varies	\$11.86	\$2.85	\$14.71
1.2	100	HPS	PT	Varies	\$11.48	\$2.76	\$14.24
2	100	HPS	Shoebox	Varies	\$19.13	\$4.60	\$23.73
1.2	150	HPS	Cobra	Varies	\$11.48	\$2.76	\$14.24
2.6	250	HPS	Cobra, Flood, Shoebox	Varies	\$24.86	\$5.98	\$30.85
4.1	400	HPS	Cobra, Flood, Sbox, Mongoc	Varies	\$39.21	\$9.44	\$48.64
1.8	175	MH	Shoebox	Varies	\$17.21	\$4.14	\$21.36
1.8	175	MH	PT	Varies	\$17.21	\$4.14	\$21.36
4.1	400	MH	Cobra, Flood, Shoebox	Varies	\$39.21	\$9.44	\$48.64
9.9	1000	MH	Flood, Shoebox	Varies	\$94.67	\$22.79	\$117.46

OH 60 A						60 A		5588140
Amp/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL	
1.9	50	HPS	Cobra, PT	25	\$401.93	\$140.34	\$542.27	
1.5	70	HPS	Cobra/NEMA	32	\$15.91	\$5.56	\$21.46	
0.9	70	HPS	PT	53	\$7.54	\$4.36	\$11.86	
1.2	100	HPS	Cobra/NEMA	39	\$10.58	\$2.63	\$13.01	
1.2	100	HPS	PT	40	\$10.05	\$3.53	\$14.01	
2	100	HPS	Shoebox	24	\$16.75	\$3.51	\$13.56	
1.2	150	HPS	Cobra	40	\$10.05	\$5.85	\$22.59	
2.6	250	HPS	Cobra, Flood, Shoebox	18	\$21.77	\$3.51	\$13.56	
4.1	400	HPS	Cobra, Flood, Shoebox	12	\$34.33	\$7.60	\$29.37	
1.8	175	MH	Shoebox	27	\$15.07	\$11.99	\$46.32	
1.8	175	MH	PT	27	\$15.07	\$5.26	\$20.34	
4.1	400	MH	Cobra, Flood, Shoebox	12	\$34.33	\$5.26	\$20.34	
9.9	1000	MH	Flood, Shoebox	5	\$82.90	\$11.99	\$46.32	
						29.94453	111.8435	

OH 100 A						100 A		5588170
Amp/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL	
1.9	50	HPS	Cobra, PT	42	\$801.35	\$140.34	\$741.69	
1.493	70	HPS	Cobra/NEMA	54	\$14.28	\$3.33	\$17.62	
0.9	70	HPS	PT	89	\$6.77	\$1.58	\$8.34	
1.240	100	HPS	Cobra/NEMA	65	\$9.32	\$2.18	\$11.50	
1.2	100	HPS	PT	67	\$9.02	\$2.11	\$11.13	
2	100	HPS	Shoebox	40	\$15.03	\$3.51	\$18.54	
1.2	150	HPS	Cobra	67	\$9.02	\$2.11	\$11.13	
2.6	250	HPS	Cobra, Flood, Shoebox	31	\$19.54	\$4.58	\$24.10	
4.1	400	HPS	Cobra, Flood, Shoebox	20	\$30.82	\$7.19	\$38.01	
1.8	175	MH	Shoebox	44	\$13.53	\$3.16	\$16.69	
1.8	175	MH	PT	44	\$13.53	\$3.16	\$16.69	
4.1	400	MH	Cobra, Flood, Shoebox	20	\$30.82	\$7.19	\$38.01	
9.9	1000	MH	Flood, Shoebox	8	\$74.42	\$17.37	\$91.78	

OH 125 A						125 A		5589000
Amp/Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL	
1.9	50	HPS	Cobra, PT	53	\$33.38	\$2.67	\$36.04	
1.5	70	HPS	Cobra/NEMA	67	\$26.23	\$2.09	\$28.32	
0.9	70	HPS	PT	111	\$15.81	\$1.28	\$17.07	
1.2	100	HPS	Cobra/NEMA	81	\$21.79	\$1.74	\$23.53	
1.2	100	HPS	PT	83	\$21.08	\$1.68	\$22.77	
2	100	HPS	Shoebox	50	\$35.14	\$2.61	\$37.94	
1.2	150	HPS	Cobra	83	\$21.08	\$1.68	\$22.77	
2.6	250	HPS	Cobra, Flood, Shoebox	38	\$45.68	\$3.65	\$49.32	
4.1	400	HPS	Cobra, Flood, Shoebox	24	\$72.03	\$5.75	\$77.78	
1.8	175	MH	Shoebox	56	\$31.62	\$2.53	\$34.15	
1.8	175	MH	PT	56	\$31.62	\$2.53	\$34.15	
4.1	400	MH	Cobra, Flood, Shoebox	24	\$72.03	\$5.75	\$77.78	
9.9	1000	MH	Flood, Shoebox	10	\$173.92	\$13.89	\$187.81	

Note: Amperage Rating per Fixture from Visio Design Software

INSTALLATION COST-CONTROL EQUIPMENT
RELAY

UG INSTALLATION

MATERIAL				Annual
Items	Stock #	Unit Cost	# of Units	Usage
Relay, 60 A, 277480V, 2 pole	5588070	\$616.32		10.25
Relay, 100 A, 277480V, 2 pole	5588050	\$650.18		9.00
Relay, 125 A, 480V	5589000	\$1,665.19		7.50
<hr/>				
Relay, Pedestal Mount	varies	varies	1	
Pedestal	5588210	\$50.54	1	
Bracket, Photo Control	5580660	\$6.37	1	
#10 Cable to Photo Control	5322230	\$0.72	100	
Photo Control	5588110	\$3.79	1	
Hand Hole	5536950	\$53.44	1	
PVC, Schedule 40	5522010	\$0.72	110	
Pipe Straps	5512420	\$0.20	2	
Screws for Strap	1901543	\$0.10	4	
Padlock	5853180	\$13.05	1	
Gel Pack	5558230	\$16.91	1	
PVC, 90 Elbow	5522220	\$1.69	1	
PVC, Coupling	5522180	\$0.51	2	
Cement	5850580	\$2.53	1	
#2 CU Cable	5353210	\$1.25	20	
#6 CU Cable	5322200	\$1.37	10	
Connector, URD	5554800	\$9.11	3	
Cable Tag, Grd #	5559830	\$0.57	1	

Cost		
60A	100A	125A
5588070	5588050	5589000
\$616.32	\$650.18	\$1,665.19
\$50.54	\$50.54	\$50.54
\$6.37	\$6.37	\$6.37
\$72.20	\$72.20	\$72.20
\$3.79	\$3.79	\$3.79
\$53.44	\$53.44	\$53.44
\$78.71	\$78.71	\$78.71
\$0.40	\$0.40	\$0.40
\$0.40	\$0.40	\$0.40
\$13.05	\$13.05	\$13.05
\$16.91	\$16.91	\$16.91
\$1.69	\$1.69	\$1.69
\$1.01	\$1.01	\$1.01
\$2.53	\$2.53	\$2.53
\$24.92	\$24.92	\$24.92
\$13.69	\$13.69	\$13.69
\$27.32	\$27.32	\$27.32
\$0.57	\$0.57	\$0.57
\$983.85	\$1,017.71	\$2,052.72

UG Average							
Amps/ Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL
1.9	50	HPS	Cobra, PT	Varies	\$33.99	\$24.62	\$58.61
1.5	70	HPS	Cobra/NEMA	Varies	\$26.71	\$19.34	\$46.05
0.9	70	HPS	PT	Varies	\$16.10	\$11.66	\$27.76
1.2	100	HPS	Cobra/NEMA	Varies	\$22.19	\$16.07	\$38.25
1.2	100	HPS	PT	Varies	\$21.47	\$15.55	\$37.01
2	100	HPS	Shoebox	Varies	\$35.78	\$25.91	\$61.69
1.2	150	HPS	Cobra	Varies	\$21.47	\$15.55	\$37.01
2.6	250	HPS	Cobra, Flood, Shoebox	Varies	\$46.51	\$33.68	\$80.20
4.1	400	HPS	Cobra,Flood,Shox,Mongoc	Varies	\$73.35	\$53.12	\$126.46
1.8	175	MH	Shoebox	Varies	\$32.20	\$23.32	\$55.52
1.8	175	MH	PT	Varies	\$32.20	\$23.32	\$55.52
4.1	400	MH	Cobra, Flood, Shoebox	Varies	\$73.35	\$53.12	\$126.46
9.9	1000	MH	Flood, Shoebox	Varies	\$177.10	\$126.26	\$303.36

UG 60 A	48	80%	Rating			60 A			5588070
Amps/ Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL		
1.9	50	HPS	Cobra, PT	25	\$38.94	\$34.21	\$73.15		
1.493	70	HPS	Cobra/NEMA	32	\$30.60		\$57.47		
0.9	70	HPS	PT	53	\$18.45	\$26.68	\$45.13		
1.240	100	HPS	Cobra/NEMA	39	\$25.42	\$16.20	\$41.62		
1.2	100	HPS	PT	40	\$24.60	\$22.33	\$46.93		
2	100	HPS	Shoebox	24	\$40.99	\$21.60	\$62.59		
1.2	150	HPS	Cobra	40	\$24.60	\$38.01	\$62.61		
2.6	250	HPS	Cobra, Flood, Shoebox	16	\$53.29	\$21.60	\$74.89		
4.1	400	HPS	Cobra,Flood,Shox,Mongoc	12	\$84.04	\$46.81	\$130.85		
1.8	175	MH	Shoebox	27	\$36.89	\$73.61	\$110.50		
1.8	175	MH	PT	27	\$36.89	\$32.41	\$69.30		
4.1	400	MH	Cobra, Flood, Shoebox	12	\$84.04	\$32.41	\$116.45		
9.9	1000	MH	Flood, Shoebox	5	\$202.92	\$73.61	\$276.53		

UG 100 A	80	80%	Rating			100 A			5588050
Amps/ Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL		
1.9	50	HPS	Cobra, PT	42	\$24.17	\$20.52	\$44.69		
1.5	70	HPS	Cobra/NEMA	54	\$18.99	\$16.13	\$35.12		
0.9	70	HPS	PT	89	\$11.45	\$9.72	\$21.17		
1.2	100	HPS	Cobra/NEMA	65	\$15.78	\$13.40	\$29.17		
1.2	100	HPS	PT	67	\$15.27	\$12.96	\$28.23		
2	100	HPS	Shoebox	40	\$25.44	\$21.60	\$47.05		
1.2	150	HPS	Cobra	67	\$15.27	\$12.96	\$28.23		
2.6	250	HPS	Cobra, Flood, Shoebox	31	\$33.08	\$28.08	\$61.16		
4.1	400	HPS	Cobra,Flood,Shox,Mongoc	20	\$52.16	\$44.29	\$96.45		
1.8	175	MH	Shoebox	44	\$22.90	\$19.44	\$42.34		
1.8	175	MH	PT	44	\$22.90	\$19.44	\$42.34		
4.1	400	MH	Cobra, Flood, Shoebox	20	\$52.16	\$44.29	\$96.45		
9.9	1000	MH	Flood, Shoebox	8	\$125.94	\$108.94	\$234.88		

UG 125 A	100	80%	Rating			125 A			5589000
Amps/ Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units	Material	Labor	TOTAL		
1.9	50	HPS	Cobra, PT	53	\$39.00	\$18.42	\$57.42		
1.493	70	HPS	Cobra/NEMA	67	\$30.64	\$12.90	\$43.54		
0.9	70	HPS	PT	111	\$18.47	\$7.78	\$26.25		
1.240	100	HPS	Cobra/NEMA	81	\$25.46	\$10.72	\$36.17		
1.2	100	HPS	PT	83	\$24.63	\$10.37	\$35.00		
2	100	HPS	Shoebox	50	\$41.05	\$17.28	\$58.34		
1.2	150	HPS	Cobra	83	\$24.63	\$10.37	\$35.00		
2.6	250	HPS	Cobra, Flood, Shoebox	38	\$53.37	\$22.47	\$75.84		
4.1	400	HPS	Cobra,Flood,Shox,Mongoc	24	\$84.16	\$35.43	\$119.59		
1.8	175	MH	Shoebox	56	\$36.95	\$15.55	\$52.50		
1.8	175	MH	PT	56	\$36.95	\$15.55	\$52.50		
4.1	400	MH	Cobra, Flood, Shoebox	24	\$84.16	\$35.43	\$119.59		
9.9	1000	MH	Flood, Shoebox	10	\$203.22	\$85.55	\$288.77		

Note: Amperage Rating per Fixture from Visio Design Software

37

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 37 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST -CONTROL EQUIPMENT
RELAY

OIL SWITCH INSTALLATION

MATERIAL Items	Stock #	Unit Cost	# of Units	Cost
Oil Switch	5589120	\$603.41	1	\$603.41
Oil Switch Control Cable	5850390	\$116.76	1	\$116.76
Oil Switch/Tx Bracket	5272250	\$100.53	1	\$100.53
Stinger Wire, Insulated Sleeve	5551051	\$30.31	1	\$30.31
Bracket, Photo Control	5580660	\$6.37	1	\$6.37
Photo Control	5588110	\$3.79	1	\$3.79
Wildlife Protector	5852850	\$5.67	1	\$5.67
Transformer, 25 KVA	2050025	\$888.09	1	\$888.09
Cutout	9258100	\$2.79	1	\$2.79
Arrestor	5270680	\$22.20	1	\$22.20
CU & Arrestor Bracket	5532230	\$9.36	1	\$9.36
#2 CU Cable	5353210	\$1.25	20	\$24.92
#6 CU Cable	5322200	\$1.37	10	\$13.69
5/8 x 12 Galvanized	9235250	\$0.87	2	\$1.74
Washer, Flat 2 X 2 X 1/8 11/16" w/DIA Hole	9296750	\$0.15	2	\$0.30
5/8 x 2" Machine Bolts for TX & OS Bracket	9233100	\$0.65	3	\$1.95
Washer, Curved 3-1/2 X 3-1/2 X 1/4 w/ 13/16" Hol	9296630	\$0.77	2	\$1.54
				\$1,833.41

OIL SWITCH	160	80%	Rating	200 A		5589120
				Material	Labor	
				\$1,833.41	\$ 493.73	\$2,327.14
Amps/ Lamp (120V)	Lamp Size	Lamp Type	Fixture Type	Units		
1.9	50	HPS	Cobra, PT	84	\$21.77	\$5.88
1.493	70	HPS	Cobra/NEMA	107	\$17.11	\$4.61
0.9	70	HPS	PT	178	\$10.31	\$2.78
1.240	100	HPS	Cobra/NEMA	129	\$14.21	\$3.83
1.2	100	HPS	PT	133	\$13.75	\$3.70
2	100	HPS	Shoebox	80	\$22.92	\$6.17
1.2	150	HPS	Cobra	133	\$13.75	\$3.70
2.6	250	HPS	Cobra, Flood, Shoebox	62	\$29.79	\$8.02
4.1	400	HPS	Cobra, Flood, Shoebox	39	\$48.98	\$12.65
1.8	175	MH	Shoebox	89	\$20.63	\$5.55
1.8	175	MH	PT	89	\$20.63	\$5.55
4.1	400	MH	Cobra, Flood, Shoebox	39	\$48.98	\$12.65
9.9	1000	MH	Flood, Shoebox	16	\$113.44	\$30.55

Note: Amperage Rating per Fixture from Visio Design Software

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 38 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 39 OF 77
FILED: 08/11/2008

INSTALLATION COST

POLES

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Winston				PT - Franklin				PT - 10ft DB			
	Stock #	Unit Cost	# of Units	FIBER	Stock #	Unit Cost	# of Units	COMPOSITE	Stock #	Unit Cost	# of Units	ALUMINUM
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
				Avg UG Span: 65.0				Avg UG Span: 99.8				Avg UG Span: 65.0
POLE avg	5586600	\$118.37	1,912	\$118.37	5586690	\$714.36	84	\$714.36	5586420	\$69.96	1.0	\$69.96
				\$226,357				\$60,007				\$70
CABLE	based on OH/UG			\$54.15				\$79.31				\$54.15
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	75.0	\$54.15	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	75.0	\$54.15
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH				0%				0%				0%
UG				100%				100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			0.05	\$1.10			0.08	\$1.69			0.05	\$1.10
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$89.62				\$117.03				\$89.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	65	\$46.51	5522010	\$0.72	100	\$71.44	5522010	\$0.72	65	\$46.51
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtld seq. ftg	5853530	\$0.04	85	\$3.21	5853530	\$0.04	120	\$4.53	5853530	\$0.04	85	\$3.21
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	4	\$2.15	5522180	\$0.51	6	\$3.03	5522180	\$0.51	4	\$2.15
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.2	\$0.55	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.2	\$0.55
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$325.00				\$974.15				\$276.59
LABOR/VEHICLE												
HAUL & SET POLE		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	75.0	\$387.70		\$ 5.17	109.8	\$567.80		\$ 5.17	75.0	\$387.70
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	75.0	\$84.83		\$ 1.13	109.8	\$124.24		\$ 1.13	75.0	\$84.83
MATERIAL HANDLING		\$81.80	1	\$81.80		\$245.19	1	\$245.19		\$69.62	1	\$69.62
TOTAL LABOR/VEHICLE				\$765.01				\$1,147.90				\$752.82
TOTAL COST				\$1,090.01				\$2,122.05				\$1,029.41

40

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 40 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Heritage				PT - Capital				PT - 16ft DB			
	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	ALUMINUM
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
				Avg UG Span: 99.8				Avg UG Span: 99.8				Avg UG Span: 99.8
POLE avg				\$265.51				\$714.36				\$146.39
	5586659	\$266.54	1	\$267	5586690	\$714.36	84	\$60,007	5586640	\$146.39	0.3	\$37
	5586680	\$284.91	0.0	\$0								
	5586900	\$263.46	0.5	\$132								
CABLE				\$79.31				\$79.31				\$79.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH				0%				0%				0%
UG				\$0.00				\$0.00				\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			0.08	\$1.69			0.08	\$1.69			0.08	\$1.69
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$117.03				\$117.03				\$117.03
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtld seq. fig	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.3	\$0.84	5850580	\$2.53	0.3	\$0.84
Gell Pack, Gel Cap Splice 800V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$525.30				\$974.15				\$406.18
LABOR/VEHICLE												
HAUL & SET POLE		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24
MATERIAL HANDLING		\$132.22	1	\$132.22		\$245.19	1	\$245.19		\$102.24	1	\$102.24
TOTAL LABOR/VEHICLE				\$1,034.92				\$1,147.90				\$1,004.94
TOTAL COST				\$1,560.23				\$2,122.05				\$1,411.12

41

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 41 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Charleston Banner				PT - Charleston				PT - Riviera			
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
				Avg UG Span: 99.8				Avg UG Span: 99.8				Avg UG Span: 99.8
POLE avg	5586629	\$729.00	1	\$729.00	5586630	\$342.83	1,486	\$509,531	5586650	\$351.09	1	\$351.09
CABLE				\$79.31				\$79.31				\$79.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$61.76
OH ratio OH/UG				0%				0%				0%
UG ratio OH/UG				\$0.00				\$0.00				\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi = 13			0.08	\$1.69			0.08	\$1.69			0.08	\$1.69
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$90.53				\$90.53				\$90.53
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prmtd seq, fig	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63
Wood			0%	\$0.00			0%	\$0.00			0%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$962.28				\$576.11				\$584.37
LABOR/VEHICLE												
HAUL & SET POLE		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24
MATERIAL HANDLING		\$242.21	1	\$242.21		\$145.01	1	\$145.01		\$147.09	1	\$147.09
TOTAL LABOR/VEHICLE				\$1,144.91				\$1,047.71				\$1,049.79
TOTAL COST				\$2,107.20				\$1,623.83				\$1,634.17

42

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 42 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Charleston HD				PT - Waterford				PT - Tall Waterford			
	Stock #	Unit Cost	# of Units	ALUMINUM	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	CONCRETE
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
Cost	Avg UG Span: 99.8	Avg UG Span: 99.8	Avg UG Span: 133.6	Cost	Cost	Cost	Cost					
POLE avg	5586628	\$520.02	1	\$520.02	5210260	\$329.56	0	\$0	5210370	\$748.12	15	\$11,035
				\$260	5210270	\$448.60	0	\$0	5212220	\$589.57	11	\$6,485
				\$79.31				\$79.31				\$103.70
CABLE				\$0.00				\$0.00				\$0.00
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$75.48
OH				0%				0%				0%
UG				\$0.00				\$0.00				\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	35	\$25.27
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			0.08	\$1.69	13		0.08	\$1.69	10		0.10	\$2.26
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$90.53				\$90.53				\$118.73
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prtd seq. ftg	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.4	\$7.53
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$753.30				\$622.36				\$980.56
LABOR/VEHICLE												
HAUL & SET POLE		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80		\$ 5.17	143.6	\$742.44
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24		\$ 1.13	143.6	\$162.45
MATERIAL HANDLING		\$189.61	1	\$189.61		\$156.65	1	\$156.65		\$246.81	1	\$246.81
TOTAL LABOR/VEHICLE				\$1,092.31				\$1,059.35				\$1,362.36
TOTAL COST				\$1,845.62				\$1,681.72				\$2,342.93

43

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 43 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - POST TOP POLES

MATERIAL	PT - Victorian				PT - Standard				PT - DB CONCRETE ROUND			
	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	CONCRETE	Stock #	Unit Cost	# of Units	23FT - DB CONCRETE
				Avg OH Span: 0.0				Avg OH Span: 0.0				Avg OH Span: 0.0
				Avg UG Span: 99.8				Avg UG Span: 99.8				Avg UG Span: 99.8
POLE avg	5211130	\$666.70	39	\$666.70	5212330	\$165.85	1	\$165.85	5210520	\$412.66	10.8	\$412.66
	5211132	\$629.16	0.0	\$0								\$4,436
CABLE				\$79.31				\$79.31				\$79.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31	5322230	\$0.72	109.8	\$79.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$61.76				\$61.76				\$66.82
OH ratio OH/UG				0%				0%				0%
UG ratio OH/UG				\$0.00				\$0.00				\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	16	\$11.55	5322230	\$0.72	16	\$11.55	5322230	\$0.72	23	\$16.61
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi - 13			0.08	\$1.69			0.08	\$1.69			0.08	\$1.69
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$90.53				\$90.53				\$90.53
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44	5522010	\$0.72	100	\$71.44
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. fig	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53	5853530	\$0.04	120	\$4.53
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03	5522180	\$0.51	6	\$3.03
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$2.53
Gel Pack, Gal Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63	5558230	\$16.91	0.3	\$5.63
Wood			0%	\$0.00			0%	\$0.00			0%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 IN	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$899.99				\$399.13				\$651.00
LABOR/VEHICLE												
HAUL & SET POLE		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98		\$ 171.98	1	\$171.98
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00		\$ 0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80		\$ 5.17	109.8	\$567.80
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24		\$ 1.13	109.8	\$124.24
MATERIAL HANDLING		\$226.53	1	\$226.53		\$100.46	1	\$100.46		\$163.86	1	\$163.86
TOTAL LABOR/VEHICLE				\$1,129.23				\$1,003.17				\$1,066.58
TOTAL COST				\$2,029.22				\$1,402.30				\$1,717.56

44

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 44 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - CONCRETE POLES

45

MATERIAL	DB CONCRETE STANDARD (TYPE 1)				DB CONCRETE STANDARD (TYPE 1)				DB CONCRETE STANDARD			
	OH SVC		35FT		UG SVC		35FT		OH SVC		UP TO 45FT	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg	5210380	\$285.45	1,034	\$285.45	5210300	\$75.34	155	\$11,658	5210770	\$476.73	66	\$476.73
CABLE	based on OH/UG			\$56.79	based on OH/UG			\$103.70				\$53.03
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	146.1	\$56.79	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	136.4	\$53.03
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span +	5322230	\$0.72	0.0	\$0.00	5322230	\$0.72	143.6	\$103.70	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$104.13				\$195.29				\$104.13
CONC												
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II												
OH ratio OH/UG				100%				0%				100%
OH CONC												
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	1	\$7.29	5581800	\$7.29	0	\$0.00	5581800	\$7.29	1	\$7.29
UG ratio OH/UG				0%				100%				0%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	0	\$0.00	5322230	\$0.72	67	\$48.24	5322230	\$0.72	0	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.00
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mile				\$0.00	10			\$2.26	10			\$0.00
Rod, Ground, Sectional, Copper Bonded. Threadless Length	9293260	\$8.87	2	\$0.00	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper. Threadless 1/2-1	9281300	\$3.54	1	\$0.00	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.00
CONDUIT				\$0.00				\$143.62				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	0	\$0.00	5522010	\$0.72	134	\$95.61	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. ftg	5853530	\$0.04	20	\$0.00	5853530	\$0.04	154	\$5.80	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00	5522180	\$0.51	8	\$3.88	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STA	5850580	\$2.53	0.0	\$0.00	5850580	\$2.53	0.4	\$1.13	5850580	\$2.53	0.0	\$0.00
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$0.00
Wood				\$0.00				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$448.37				\$520.21				\$633.89
LABOR/VEHICLE												
HAUL & SET POLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
ENGINEERING POLE		\$ 198.83	1	\$198.83		\$ 198.83	1	\$198.83		\$ 198.83	1	\$198.83
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
TRENCH & INSTALL CONDUIT		\$ 0.97	146.095678	\$141.96		\$ 0.97	0	\$0.00		\$ 0.97	136.423912	\$132.56
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 5.17	0.0	\$0.00		\$ 5.17	143.6	\$742.44		\$ 5.17	0.0	\$0.00
MATERIAL HANDLING		\$ 1.13	0.0	\$0.00		\$ 1.13	143.6	\$162.45		\$ 1.13	0.0	\$0.00
TOTAL LABOR/VEHICLE		\$112.35	1	\$112.35		\$130.94	1	\$130.94		\$159.55	1	\$159.55
TOTAL COST				\$938.20				\$1,793.56				\$1,163.52

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 45 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - CONCRETE POLES

MATERIAL	DB CONCRETE (TYPE I or II)				DB CONCRETE (TYPE I or II)				DB CONCRETE (TYPE I or II)			
	(70/100 W, up to 100R Span)		35FT		(150 W, up to 150R Span)		35FT		(250/400 W, Above 150R Span)		35FT	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$288.81				\$288.81				\$288.81
	5210390	\$301.77	3	\$830	5210390	\$301.77	3	\$830	5210390	\$301.77	3	\$830
	5210340	\$296.92	425	\$126,118	5210340	\$296.92	425	\$126,118	5210340	\$296.92	425	\$126,118
	5210380	\$285.45	1,034	\$295,009	5210380	\$285.45	1,034	\$295,009	5210380	\$285.45	1,034	\$295,009
CABLE				\$106.03				\$109.31				\$134.27
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span +	5322230	\$0.72	146.9	\$106.03	5322230	\$0.72	151.4	\$109.31	5322230	\$0.72	186.0	\$134.27
CABLE HARDWARE w/ P&B Cable (UG only)				\$196.46				\$198.10				\$210.58
CONC												
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II												
OH ratio OH/UG				0%				0%				0%
OH CONC												
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00
UG ratio OH/UG				100%				100%				100%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	68	\$49.41	5322230	\$0.72	71	\$51.04	5322230	\$0.72	88	\$63.53
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mi			0.11	\$2.31			0.11	\$2.39			0.14	\$2.98
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$146.17				\$149.73				\$176.95
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	137	\$97.92	5522010	\$0.72	141	\$101.17	5522010	\$0.72	176	\$125.91
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. ftg	5853530	\$0.04	157	\$5.92	5853530	\$0.04	161	\$6.09	5853530	\$0.04	196	\$7.40
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.96	5522180	\$0.51	8	\$4.08	5522180	\$0.51	10	\$4.95
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER ST	5850580	\$2.53	0.5	\$1.15	5850580	\$2.53	0.5	\$1.19	5850580	\$2.53	0.6	\$1.48
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood			0%	\$0.00			0%	\$0.00			0%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$739.79				\$748.34				\$813.59
LABOR/VEHICLE												
HAUL & SET POLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
		\$ 198.83	1	\$198.83		\$ 198.83	1	\$198.83		\$ 198.83	1	\$198.83
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$0.97	0	\$0.00		\$0.97	0	\$0.00		\$0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	146.9	\$759.15		\$ 5.17	151.4	\$782.60		\$ 5.17	186.0	\$961.35
PULL UG CONDUCTOR (includes install HH & terminate @ Seconda		\$ 1.13	146.9	\$166.11		\$ 1.13	151.4	\$171.24		\$ 1.13	186.0	\$210.35
MATERIAL HANDLING				\$186.20				\$188.36				\$204.78
TOTAL LABOR/VEHICLE				\$1,348.99				\$1,378.72				\$1,614.00
TOTAL COST				\$2,088.78				\$2,128.07				\$2,427.59

46

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 46 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - CONCRETE POLES

MATERIAL	DB CONCRETE STANDARD				DB CONCRETE STANDARD			
	Stock #	Unit Cost	# of Units	25FT or 30FT	Stock #	Unit Cost	# of Units	45FT
				Avg OH Span:				Avg OH Span:
				Avg UG Span:				Avg UG Span:
			0.0				0.0	
			133.6				133.6	
POLE avg				\$245.43				\$475.02
	5210140	\$274.27	1	\$274	5210770	\$476.73	66	\$31,583
	5210250	\$256.00	4	\$896	5210769	\$420.80	1	\$421
	5210310	\$237.40	3	\$653	5210775	\$416.04	1	\$416
	5210330	\$210.43	1	\$263				
CABLE				\$103.70				\$103.70
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span +	5322230	\$0.72	143.6	\$103.70	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$195.29				\$195.29
CONC								
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type I	5210120	\$96.84	1	\$97	5210120	\$96.84	1	\$97
Pole Cap, w/ 2-3/8" O.D. Tenon Hot Dipped GALV Type II								
OH ratio OH/UG				0%				0%
OH CONC								
Clamp, Service AL #4 - #2 STR	5581800	\$7.29	0	\$0.00	5581800	\$7.29	0	\$0.00
UG ratio OH/UG				100%				100%
P&B, UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	67	\$48.24	5322230	\$0.72	67	\$48.24
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits Spans per 1/4 mile			0.10	\$2.26			0.10	\$2.26
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$143.62				\$143.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	134	\$95.61	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmid seq. fig	5853530	\$0.04	154	\$5.80	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.88	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER ST	5850580	\$2.53	0.4	\$1.13	5850580	\$2.53	0.4	\$1.13
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
Wood				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.0	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$690.30				\$919.89
LABOR/VEHICLE								
HAUL & SET POLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
		\$ 198.83	1	\$198.83		\$ 198.83	1	\$198.83
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$0.97	0	\$0.00		\$0.97	0	\$0.00
TRENCH & INSTALL CONDUIT		\$ 5.17	143.6	\$742.44		\$ 5.17	143.6	\$742.44
PULL UG CONDUCTOR (includes install HH & terminate @ Seconda		\$ 1.13	143.6	\$162.45		\$ 1.13	143.6	\$162.45
MATERIAL HANDLING		\$173.75	1	\$173.75		\$231.54	1	\$231.54
TOTAL LABOR/VEHICLE				\$1,316.16				\$1,373.95
TOTAL COST				\$2,006.46				\$2,293.84

47

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 47 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	DB ALUMINUM				AB ALUMINUM			
	(70/100 W, up to 100ft Span)	28FT		(150 W, up to 150ft Span)	27FT			
		Avg OH Span:	0.0		Avg OH Span:	0.0		
		Avg UG Span:	136.9			Avg UG Span:	141.4	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$696.34				\$953.61
FOUNDATION, ANCHOR	5586780	\$696.34	6	\$4,178	5586720	\$953.61	16	\$15,496
Foundation, Anchor Screw 15in			N/A	\$0.00			1	\$348.36
Foundation, Anchor Screw 15in Covers, Street Light Pole Base					5580620	\$348.36	44	\$15,328
BASE			N/A	\$0.00	5581350	\$60.00	4	\$240
Base, 27ft	5580630	\$347.06	3	\$1,128			1	\$336.51
Base, 37ft	5580640	\$309.07	1	\$386	5580630	\$347.06	3	\$1,128
					5580640	\$309.07	1	\$386
CABLE				\$106.03				\$109.31
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	146.9	\$106.03	5322230	\$0.72	151.4	\$109.31
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09				\$79.09
general part								
OH		N/A for AL & Steel	ratio OH/UG	0%				0%
OH Part		N/A for AL & Steel		\$0.00				\$0.00
OH Part		N/A for AL & Steel		\$0.00				\$0.00
UG			ratio OH/UG	100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits	10		0.11	\$2.31	9		0.11	\$2.39
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$146.17				\$149.73
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	137	\$97.92	5522010	\$0.72	141	\$101.17
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtl seq. fig	5853530	\$0.04	157	\$5.92	5853530	\$0.04	161	\$6.09
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.96	5522180	\$0.51	8	\$4.08
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.5	\$1.15	5850580	\$2.53	0.5	\$1.19
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$1,029.95				\$1,979.01
LABOR/VEHICLE		Unit Cost	# of Units	Cost	Unit Cost	# of Units		Cost
HAUL & SET POLE		\$ 171.98	1	\$171.98	\$ 190.23	1		\$190.23
ENGINEERING POLE		\$ 38.70	1	\$38.70	\$ 38.70	1		\$38.70
TRENCH & INSTALL CONDUIT		\$ 5.17	146.9	\$759.15	\$ 5.17	151.4		\$782.60
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	146.9	\$166.11	\$ 1.13	151.4		\$171.24
MATERIAL HANDLING		\$259.24	1	\$259.24	\$498.12	1		\$498.12
TOTAL LABOR/VEHICLE				\$1,395.17				\$1,680.88
TOTAL COST				\$2,425.12				\$3,659.89

48

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 48 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	AB ALUMINUM				AB ALUMINUM			
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$1,425.52				\$1,188.60
FOUNDATION, ANCHOR				\$3,207				\$54,676
Foundation, Anchor Screw 15in				\$437.50				\$437.50
Foundation, Anchor Screw 15in	5580670	\$437.50	1	\$438	5580670	\$437.50	1	\$438
Covers, Street Light Pole Base	5581350	\$60.00	4	\$240	5581350	\$60.00	4	\$240
BASE				\$336.51				\$336.51
Base, 27ft	5580630	\$347.06	3	\$1,128	5580630	\$347.06	3	\$1,128
Base, 37ft	5580640	\$309.07	1	\$386	5580640	\$309.07	1	\$386
CABLE				\$134.27				\$134.27
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	186.0	\$134.27	5322230	\$0.72	186.0	\$134.27
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09				\$79.09
general part								
OH		N/A for AL & Steel	ratio OH/UG	0%				0%
OH Part		N/A for AL & Steel		\$0.00				\$0.00
OH Part		N/A for AL & Steel		\$0.00				\$0.00
UG			ratio OH/UG	100%				100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			Spans per 1/4 m	\$2.98				\$2.98
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74	9272950	\$0.74	1	\$0.74
CONDUIT				\$176.95				\$176.95
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	176	\$125.91	5522010	\$0.72	176	\$125.91
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prntd seq. ftg	5853530	\$0.04	196	\$7.40	5853530	\$0.04	196	\$7.40
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	10	\$4.95	5522180	\$0.51	10	\$4.95
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.6	\$1.48	5850580	\$2.53	0.6	\$1.48
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$2,592.82				\$2,355.90
LABOR/VEHICLE								
HAUL & SET POLE		Unit Cost	# of Units	Cost	Unit Cost	# of Units	Cost	
ENGINEERING POLE		\$ 190.23	1	\$190.23	\$ 190.23	1	\$190.23	
TRENCH & INSTALL CONDUIT		\$ 38.70	1	\$38.70	\$ 38.70	1	\$38.70	
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 5.17	186.0	\$961.35	\$ 5.17	186.0	\$961.35	
MATERIAL HANDLING		\$ 1.13	186.0	\$210.35	\$ 1.13	186.0	\$210.35	
TOTAL LABOR/VEHICLE		\$652.61	1	\$652.61	\$592.98	1	\$592.98	
TOTAL COST				\$4,646.06				\$4,349.50

49

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 49 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - POLES
ALUMINIUM AND STEEL

MATERIAL	AB STEEL			
	Stock #	Unit Cost	# of Units	Cost
			30FT	
			Avg OH Span:	0.0
			Avg UG Span:	133.6
POLE avg				\$904.15
FOUNDATION, ANCHOR				\$226
Foundation, Anchor Screw 15in	5586831	\$904.15	0	\$350.34
Foundation, Anchor Screw 15in	5580620	\$348.36	44	\$438
Covers, Street Light Pole Base	5581350	\$60.00	4	\$0.00
BASE			N/A	\$0.00
Base, 27ft	5580630	\$347.06	3	\$1,128
Base, 37ft	5580640	\$309.07	1	\$386
CABLE				\$103.70
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	143.6	\$103.70
CABLE HARDWARE w/ P&B Cable (UG only)				\$79.09
general part				
OH		N/A for AL & Steel	ratio OH/UG	0%
OH Part		N/A for AL & Steel		\$0.00
OH Part		N/A for AL & Steel		\$0.00
UG			ratio OH/UG	100%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16
Water Seal, Compound, Waterproofing 3-3/4' x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71
GROUNDING (1 every 1/4 mile) - UG Circuits			Spans per 1/4 m 10	\$2.26
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$17.74
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$3.54
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.74
CONDUIT				\$143.62
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	134	\$95.61
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmted seq. ftg	5853530	\$0.04	154	\$5.80
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	8	\$3.88
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.4	\$1.13
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82
TOTAL MATERIAL				\$1,583.16
LABOR/VEHICLE				
HAUL & SET POLE		Unit Cost	# of Units	Cost
ENGINEERING POLE		\$ 190.23	1	\$190.23
TRENCH & INSTALL CONDUIT		\$ 38.70	1	\$38.70
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 5.17	143.6	\$742.44
		\$ 1.13	143.6	\$162.45
MATERIAL HANDLING		\$398.48	1	\$398.48
TOTAL LABOR/VEHICLE				\$1,532.29
TOTAL COST				\$3,115.46

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 50 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST - WOOD POLES

MATERIAL	WOOD				WOOD			
	EXISTING	UG SVC			30FT - OH SVC	30FT - OH SVC		
		Avg OH Span:	Avg UG Span:	Cost		Avg OH Span:	Avg UG Span:	Cost
			154.8	0.0		144.8	0.0	
	Stock #	Unit Cost	# of Units	Cost	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$0.00				\$75.44
					5210240	\$141.56	0	\$35
					5210300	\$75.34	155	\$11,658
CABLE	based on OH/UG				based on OH/UG			
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	0.0	\$0.00	5430340	\$0.39	144.8	\$56.26
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	164.8	\$119.02	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$104.91				\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44	5261930	\$0.44	1	\$0.44
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34	9261730	\$0.34	1	\$0.34
OH				0%				100%
UG				100%				0%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$28.88	5322230	\$0.72	40	\$0.00
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$1.95	9280450	\$1.95	1	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$4.56	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$14.58	5581800	\$7.29	2	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$12.16	5531950	\$12.16	1	\$0.00
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$17.85	5522000	\$0.45	40	\$0.00
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$1.69	5522220	\$1.69	1	\$0.00
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$1.01	5522180	\$0.51	2	\$0.00
Cement, PVC Clear solvent	5850580	\$2.53	1	\$2.53	5850580	\$2.53	1	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$5.30	5852800	\$5.30	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$12.90	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.71	5858200	\$0.71	1	\$0.00
Grounding (1 every 1/4 mile) - UG Circuits			0.12	\$0.31			0.11	\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$2.11	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.42	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.09	9272950	\$0.74	1	\$0.00
CONDUIT				\$160.32				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	155	\$110.79	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmtd seq. ftg	5853530	\$0.04	175	\$6.60	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$3.38	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	9	\$4.42	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.5	\$1.31	5850580	\$2.53	0.0	\$0.00
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$33.82	5558230	\$16.91	2	\$0.00
Wood - UG Svc Conduit			100%	\$25.84			100%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$25.04	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.40	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.40	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$410.41				\$132.49
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
HAUL & SET POLE		\$ 132.89	0	\$0.00		\$ 132.89	1	\$132.89
ENGINEERING POLE		\$ 38.70	0	\$0.00		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$0.97	0.0	\$0.00		\$0.97	144.8	\$140.65
TRENCH & INSTALL CONDUIT		\$ 5.17	164.8	\$852.15		\$ 5.17	0.0	\$0.00
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	164.8	\$186.45		\$ 1.13	0.0	\$0.00
INSTALL UG SVC TO EXISTING WOOD POLE		\$ 197.82	1	\$197.82		\$ 197.82	0	\$0.00
MATERIAL HANDLING		\$103.30	1	\$103.30		\$33.35	1	\$33.35
TOTAL LABOR/VEHICLE				\$1,339.72				\$345.58
TOTAL COST				\$1,750.13				\$478.07

51

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 51 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - WOOD POLES

MATERIAL	WOOD				WOOD			
	Stock #	Unit Cost	# of Units	35FT - OH SVC	INACCESSIBLE	Stock #	Unit Cost	30FT - OH SVC
				Avg OH Span: 149.9				Avg OH Span: 145.4
Cost	Avg UG Span: 0.0	Avg UG Span: 0.0	Cost	Cost				
POLE avg				\$106.99				\$75.34
	5210160	\$152.89	1	\$153	5210300	\$75.34	155	\$11,658
	5210200	\$223.26	1	\$223				
	5210350	\$132.75	147	\$19,448				
	5210360	\$93.02	282	\$26,209				
CABLE	based on OH/UG				based on OH/UG			
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	149.9	\$58.26	5430340	\$0.39	145.4	\$56.53
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	0.0	\$0.00	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$0.78				\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44	5261930	\$0.44	1	\$0.44
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34	9261730	\$0.34	1	\$0.34
OH				100%				100%
UG				0%				0%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$0.00	5322230	\$0.72	40	\$0.00
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$0.00	9280450	\$1.95	1	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00	5581800	\$7.29	2	\$0.00
Handhoise, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00	5531950	\$12.16	1	\$0.00
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$0.00	5522000	\$0.45	40	\$0.00
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$0.00	5522220	\$1.69	1	\$0.00
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$0.00	5522180	\$0.51	2	\$0.00
Cement, PVC Clear solvent	5850580	\$2.53	1	\$0.00	5850580	\$2.53	1	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00	5852800	\$5.30	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00	5858200	\$0.71	1	\$0.00
Grounding (1 every 1/4 mile) - UG Circuits			0.12	\$0.00			0.11	\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$0.00	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.00	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00	9272950	\$0.74	1	\$0.00
CONDUIT				\$0.00				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	0	\$0.00	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/pmted seq. ftg	5853530	\$0.04	20	\$0.00	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.0	\$0.00	5850580	\$2.53	0.0	\$0.00
Gell Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00	5558230	\$16.91	2	\$0.00
Wood - UG Svc Conduit			100%	\$0.00			100%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.00	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$166.03				\$132.65
LABOR/VEHICLE		Unit Cost	# of Units	Cost		Unit Cost	# of Units	Cost
HAUL & SET POLE		\$ 132.89	1	\$132.89		\$ 132.89	1	\$132.89
ENGINEERING POLE		\$ 38.70	1	\$38.70		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$0.97	149.9	\$145.64		\$0.97	145.4	\$141.31
TRENCH & INSTALL CONDUIT		\$ 5.17	0.0	\$0.00		\$ 5.17	0.0	\$0.00
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	0.0	\$0.00		\$ 1.13	0.0	\$0.00
INSTALL UG SVC TO EXISTING WOOD POLE		\$ 197.82	0	\$0.00		\$ 197.82	0	\$0.00
MATERIAL HANDLING		\$41.79	1	\$41.79		\$33.39	1	\$33.39
TOTAL LABOR/VEHICLE				\$359.02				\$346.29
TOTAL COST				\$525.05				\$478.94

52

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 52 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

INSTALLATION COST - WOOD POLES

WOOD				
UP TO 45FT - OH SVC				
Avg OH Span: 136.4				
Avg UG Span: 0.0				
MATERIAL	Stock #	Unit Cost	# of Units	Cost
POLE avg				\$202.11
	5210400	\$195.10	13	\$2,488
	5210470	\$214.88	7	\$1,504
CABLE	based on OH/UG			\$53.03
OH Cable, OH Svc Drop, AAC-TRIPLEX, 4 AWG = OH Span	5430340	\$0.39	136.4	\$53.03
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG = UG Span + 10ft	5322230	\$0.72	0.0	\$0.00
CABLE HARDWARE w/ P&B Cable (UG only)				\$0.78
Hook, Drive Pilot Point 4-3/4" Overall Length	5261930	\$0.44	1	\$0.44
Clamp, Service AL #4 - #2 STR	9261730	\$0.34	1	\$0.34
OH		ratio OH/UG		100%
UG		ratio OH/UG		0%
UG Cable, UG, Copper, Triplex, 600V 2/C, 10AWG	5322230	\$0.72	40	\$0.00
Connector, Vice CU #4 STR	9280450	\$1.95	1	\$0.00
Fuse, Cartridge Non-Renew 30A 600V 1-1/2 X 13/3	5251300	\$2.28	2	\$0.00
Fuse Holder, Waterproof Fuse Connector	5581800	\$7.29	2	\$0.00
Handhole, Round 9X10X13 w/Penta HD Bolt	5531950	\$12.16	1	\$0.00
Conduit, PVC 2 IN 20 FT Bell End	5522000	\$0.45	40	\$0.00
Elbow, Conduit PVC 2 IN, 90 Degree	5522220	\$1.69	1	\$0.00
Coupling, Conduit PVC 2 IN	5522180	\$0.51	2	\$0.00
Cement, PVC Clear solvent	5850580	\$2.53	1	\$0.00
Compound, Silicone Grease Dielectric 5.3oz Tube	5852800	\$5.30	1	\$0.00
Water Seal, Compound, Waterproofing 3-3/4" x 3-3/4"x1/8"	5851120	\$12.90	1	\$0.00
Tape, 3/4" Vinyl Plastic Tape	5858200	\$0.71	1	\$0.00
Grounding (1 every 1/4 mile) - UG Circuits	Spans per 1/4 mi		10	\$0.00
Rod, Ground, Sectional, Copper Bonded, Threadless Length	9293260	\$8.87	2	\$0.00
Coupler, Ground Rod Sectional, Copper, Threadless 1/2-1	9281300	\$3.54	1	\$0.00
Clamp, Ground Rod Copper 1/2"	9272950	\$0.74	1	\$0.00
CONDUIT				\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	0	\$0.00
Pullwire, Tape, Pulling, Polyester, Rated 1250#, w/prmtd seq. ftg	5853530	\$0.04	20	\$0.00
ELBOW, CONDUIT PVC 2 IN SCH 40 90 DEG 9-1/2 IN RAD	5522220	\$1.69	2	\$0.00
COUPLING, PVC 2 IN SCH 40 TEMS 13.01	5522180	\$0.51	1	\$0.00
CEMENT, PVC CLEAR, FAST DRYING, 1 PINT CONTAINER STANDARD	5850580	\$2.53	0.0	\$0.00
Gel Pack, Gel Cap Splice 600V used w/ #10 CU Lugs	5558230	\$16.91	2	\$0.00
Wood - UG Svc Conduit			100%	\$0.00
CONDUIT, PVC SCH 40 2 IN 10 FT W/ COUPLING TEMS 13.01	5522010	\$0.72	35	\$0.00
STRAP, GALV 2 IN 2 HOLE	5512420	\$0.20	2	\$0.00
ANCHOR, MASONRY, TAPCON SCREW, HEX HEAD, 1/4 X 1 1/4 INCH	1901543	\$0.10	4	\$0.00
TOTAL MATERIAL				\$255.92
LABOR/VEHICLE				
		Unit Cost	# of Units	Cost
HAUL & SET POLE		\$ 132.89	1	\$132.89
ENGINEERING POLE		\$ 38.70	1	\$38.70
RUN OH CONDUCTOR (includes terminate @ Secondary)		\$0.97	136.4	\$132.56
TRENCH & INSTALL CONDUIT		\$ 5.17	0.0	\$0.00
PULL UG CONDUCTOR (includes install HH & terminate @ Secondary)		\$ 1.13	0.0	\$0.00
INSTALL UG SVC TO EXISTING WOOD POLE		\$ 197.82	0	\$0.00
MATERIAL HANDLING		\$64.41	1	\$64.41
TOTAL LABOR/VEHICLE				\$368.56
TOTAL COST				\$624.48

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 53 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

53

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 54 OF 77
FILED: 08/11/2008

LIGHTING
MAINTENANCE LABOR

MAINTENANCE COST
TIME AND LABOR - GENERAL

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min
TRAVEL TIME - MAINTENANCE						
		Maint	Group Maint			
a Locate Ticket on MDT		0.5	-			
b Compute Route		1	-			
c Average Travel		22.5	5			
d Arrive		-	-			
# subtotal time (min)		24	5			
# subtotal time (hr)		0.40	0.08			
SET UP BUCKET - MAINTENANCE						
				Nxt Pole/ MidSpan		2nd Man
	Bucket Maint	Climb Maint	UG Maint	Bucket Maint	Climb Maint	Climb Maint
Turn on flashers, rotating lights, arrow board	1	1	1	0	0	1
b Read Ticket on MDT	1	1	1	0	0	1
c Set cones out	1	1	1	1	1	1
d Gather and set out Materials	2	2	2	0	0	0
e Raise Bucket	1	-	-	1	-	-
e1 Set up and secure Ladder	-	7	-	-	7	-
# subtotal time (min)	6	12	5	2	8	3
# subtotal time (hr)	0.10	0.20	0.08	0.03	0.13	0.05
PREPARE TO TRAVEL - MAINTENANCE						
				Nxt Pole/ MidSpan		2nd Man
	Bucket Maint	Climb Maint	UG Maint	Bucket Maint	Climb Maint	Climb Maint
a Lower Bucket	1	-	-	1	-	-
a1 Stow Ladder	-	7	-	-	7	-
b Dispose of Materials	1	1	1	0	0	1
c Pick up and Store cones	1	1	1	1	1	1
d Relocate to NxtPole/MidSpan	-	-	-	2	2	-
e Turn off flashers, rotating lights, arrow board	1	1	1	0	0	-
f Complete Ticket on MDT	1	1	1	0	0	1
# subtotal time (min)	5	11	4	4	10	3
# subtotal time (hr)	0.08	0.18	0.07	0.07	0.17	0.05
CALL IN 2ND MAN/ WAIT TIME						
		All Maint				
a Call on Radio		1				
b Wait Time		30				
# subtotal time (min)		31				
# subtotal time (hr)		0.52				

MAINTENANCE COST
TIME AND LABOR - LUMINAIRES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	\$/Hr	
LAMP FAILURE						SL1	\$70.98
	Bucket Maint	Climb Maint	2nd Man Climb Maint				
a Travel Time	24	24	24				
b Call in for 2nd Man/Wait Time	-	-	31				
c Set up Bucket	6	12	3				
c1 Extra Access Time	0.01	0.01	-				
d Light Maintenance	5	8	8				
e Prepare to Travel	5	11	11				
# subtotal time (min)	40	55	77				
# subtotal time (hr)	0.67	0.92	1.28			\$ 62.14	
Bucket/Climb Ratio	86%	14%					
<i>Repair Type</i>	<i>All Maint</i>						
Extra Access Time (move surrounding items e.g. cars)	15	0.06%					
LUMINAIRE PARTS FAILURE						SL1	\$70.98
	Bucket Maint	Climb Maint	Memo	2nd Man FR Climb			
a Travel Time (Maint)	24	24	24	24			
b Set up Bucket	6	12	6	3			
c Inspect/Diagnose Problem/Remove Part	18	21	Bucket or Climb	Join Job			
d Lower Bucket	1	-					
e Call in for 2nd Man/Wait Time	-	-			31		
f Pull Material Off Truck	4	4			Join Job		
g Raise Bucket	1	-					
h Repair Luminaire	10	12		12			
i Prepare to Travel	5	11	5	3			
# subtotal time (min)	69	84	35	70			
# subtotal time (hr)	1.15	1.40	0.58	1.17		\$ 101.79	
Bucket/Climb Ratio	95%	5%					
FR/Memo Ratio	100%		5.7%				
<i>Part Group</i>	<i>All Maint</i>		<i>Individual Frequency</i>	<i>Ratio of Group</i>	<i>Memo</i>		
Starting Aide	1	1	1.0%	25.69%	5%		
Capacitor	15	18	2.2%	59.54%	5%		
Ballast	30	36	0.07%	1.77%	10%		
Glass	2	4	0.5%	13.01%	10%		
Average	10	12	3.7%				

MAINTENANCE COST
TIME AND LABOR - LUMINAIRES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	\$/Hr
PHOTOCELL REPLACEMENT					SL1	\$70.98
	Bucket Maint	Climb Maint	2nd Man FR Climb			
a Travel Time (Maint)	24	24	24			
b Set up Bucket	6	12	12			
Inspect/Diagnose Problem/ c Remove Part	10	14	Join Job			
d Lower Bucket	1	-				
e Call in for 2nd Man/Wait Time	-	-	31			
f Pull Material Off Truck	4	4	Join Job			
g Raise Bucket	1	-				
h Repair Luminaire	1	3	3			
i Prepare to Travel	5	11	11			
# subtotal time (min)	52	68	81			
# subtotal time (hr)	0.87	1.13	1.35			\$ 67.25
Bucket/Climb Ratio	95%	5%				
FR/Memo Ratio		100%				

MAINTENANCE COST
TIME AND LABOR - POLES

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	S/Hr	S/Hr (Alt)
CABLE & UG PARTS FAILURE				SL1	SL2	\$70.98	\$141.96
	Bucket Maint FR	Climb Maint FR	FR All (pre Memo)	Memo (UG Parts)	Memo (LT-UG Cable)		
a	Travel Time (Maint)	24	24	24	24		
b	Set up Bucket	6	12	6	5		
c	Inspect/Diagnose Problem	3	5	3.1			
d	Prepare to Travel Nxt Pole	4	10	4			
e	Set up Bucket Nxt Pole	2	8	2			
f	Inspect/Diagnose Problem (determine is UG issue)	3	5	3.1	FR	FR	
g	Lower Bucket	1		1			
h	Locate HH/Feed Source	10	10	10			
i	Inspect/Diagnose Problem	2	2	2			
i1	Add'l Inspect/Diagnose Handhole/Connector/Fuse/Fuse Holder (may determine is UG Cable issue)	-	-	-	2		
j	Remove Old Conductor	-	-	-	-	30	
k	Pull Material Off Truck	4	4	4	4	4	
l	Measure Cable	-	-	Memo	-	15	
m	Repair/Replace Conductor	-	-	-	-	30	
n	Repair/Replace Handhole/Connector/Fuse/Fuse Holder	3	3	3	3	-	
o	Raise Bucket	1	-	1	1	1	
p	Cover PC/Test Light	1	1	1	1	1	
q	Prepare to Travel	5	11	4	4	4	
#	subtotal time (min)	69	95	60	44	114	
#	subtotal time (hr)	1.15	1.58	1.00	0.73	1.90	\$ 118.68
Bucket/Climb Ratio	95%	5%					
FR/Memo Ratio	86%		14%	0.2%	13.8%		
Part Group	Insp/ Diagnose/ Remove	Replace	Individual Frequency	Ratio	All FR Freq	All Memo Freq	
UG Cable Failure FR			0.15%	14%	100%	100%	
Hand Hole	10	11	0.02%	2%	85%	15%	
UG Connector	5	4	0.05%	5%	100%	0%	
UG Fuse	2	2	0.74%	68%	100%	0%	
UG Fuse Holder	3	9	0.13%	12%	100%	0%	
Average	2	3	1.09%		100%	14.0%	
FR/Memo Ratio	86.0%		14%	0.2%	13.8%		

MAINTENANCE COST
TIME AND LABOR - POLES

Operation	AVERAGE UNIT TIME			Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)
	Unit Time min	Unit Time min	Unit Time min				
CABLE & OH PARTS FAILURE				SL1	SL2	\$70.98	\$141.96
	Bucket Maint FR	Climb Maint FR	FR (pre Memo) All	Memo (OH Parts)	Memo (LT-2/4 SVC)	2nd Man FR Climb	
a	Travel Time (Maint)	24	24	24	24	24	
b	Set up Bucket	6	12	6.3	6	3	
c	Inspect/Diagnose Problem	3	5	3.1			
d	Prepare to Travel NxtPole	4	10	4.3			
e	Set up Bucket NxtPole	2	8	2.3			
f	Cable Issue)	3	5	3.1			Join FR Job
fi	Add'l Inspect/Diagnose Connector/Fuse	1	1	1	FR	FR	
g	Prepare to Travel MidSpan	4	4	-			
h	Create Memo on MDT	-	-	1			
i	Call in for 2nd Man/Wait Time or log as Memo	-	-	-			31
j	Pull Material Off Truck	4	4	4	4	10	Join FR Job
k	Measure Cable	10	10	-	10	10	
l	Set up Bucket MidSpan	2	2	-	2	2	
m	Repair/Replace Conductor - tree trim/make splice	15	25	Memo	-	48	25
n	Add'l Repair/Replace Connector/Fuse	1	1	1	1	1	
o	Prepare to Travel NxtPole	4	10	4.3	-	10	
p	Set up Bucket NxtPole	2	8	2.3	-	8	
q	Reenergize	2	2	2	-	2	
r	Prepare to Travel	5	11	5.3	5.3	5	3
#	subtotal time (min)	92	142	51	49	99	119
#	subtotal time (hr)	1.54	2.37	0.84	0.81	1.66	1.98
							\$ 155.75
Bucket/Climb Ratio	95%	5%					
FR/Memo Ratio	70%		14%	16%			
Repair Type	Clear	in Trees					
Cut old Cable	4	4					
Attach Rope, pull Old Cable Out of Trees, pull	20	35					
Hang & Sag Cable	8	8					
Make Hot (connect)	3	3					
Dispose of Materials, add'l	2	2					
Repair/Replace Cable Sum	37	52					
Clear/Tree Trim Ratio	30%	70%					
Repair/Replace Cable Avg	48						
Part	Inspect Diagnose Remove	Replace	Individual Frequency	Ratio	All FR Freq	All Memo Freq	
OH Cable Failure FR			0.39%	66%	100%	25%	
OH Connector	5	4	0.12%	20%	100%	0%	
OH Fuse	2	1	0.08%	14%	0%	100%	
Average	1	1	0.60%			30%	
FR/Memo Ratio	OH Parts LT-2/4 SVC	86.2% 65.8%	14%	16%			

MAINTENANCE COST
TIME AND LABOR - POLES

AVERAGE UNIT TIME

Operation	Unit Time		Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)
	min	min				
CLEAN & PAINT POLES						
			PT1	PT2	\$64.77	\$73.48
	First Pole	PT 30'				
a	Travel Time (Group)	24	24			
b	Set up	10	10			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	2	2			
h	Prepare to Travel Nxt Pole	8	8			
#	subtotal time (min)	97	122			PT 30'
#	subtotal time (hr)	1.62	2.03			\$104.70 \$149.41
	Interim Pole	PT 30'				
a	Travel Time (Group)	5	5			
b	Set up	5	5			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	2	2			
h	Prepare to Travel Nxt Pole	8	8			
#	subtotal time (min)	73	98			PT 30'
#	subtotal time (hr)	1.22	1.63			\$78.80 \$120.02
	Last Pole	PT 30'				
a	Travel Time (Group)	5	5			
b	Set up	5	5			
c	Pressure Wash Pole	20	20			
d	Paint Pole & Fixture	20	45			
e	Prepare to Travel Nxt Pole	8	8			
f	Re-Grid Pole	5	5			
g	Restore Site/Stow Materials	15	15			
h	Prepare to Travel	6	6			
#	subtotal time (min)	84	109			PT 30'
#	subtotal time (hr)	1.40	1.82			\$90.67 \$133.49
					PT/30' Pole Ratio	89% 11%
Clean/Paint Pole Summary						
		PT	30'		PT	30'
Pole Sequence	Labor/ Vehicle per Pole	Labor/ Vehicle per Pole	Qty Poles (avg job)	Extended	Extended	
First Pole	\$104.70	\$149.41	1	\$104.70	\$149.41	
Interim Pole	\$78.80	\$120.02	26	\$2,048.73	\$3,120.55	
Last Pole	\$90.67	\$133.49	1	\$90.67	\$133.49	
			28	\$2,244.11	\$3,403.46	
Average Labor/Vehicle per Pole				\$80.15	\$121.55	

MAINTENANCE COST
TIME AND LABOR - DOUBLE POST TOP BRACKET

AVERAGE UNIT TIME

<u>Operation</u>	<u>Unit Time</u> min	<u>Crew</u>	<u>\$/Hr</u>
REPLACE DOUBLE BRACKET - POST TOP		SL1	\$70.98
	Bucket		
a Travel Time (Maint)	24		
b Set up Bucket	6		
c Remove Fixtures & Bracket	30		
d Lower Bucket	1		
e Make up Double Bracket & Fixtures	6		
f Install Double Bracket & Fixtures	12		
# subtotal time (min)	79		\$ 93.45
# subtotal time (hr)	1.32		

MAINTENANCE COST
TIME AND LABOR - TIMER

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Crew	\$/Hr
TIMER REPLACEMENT			SL1	\$70.98
		FR	Memo	
a Travel Time (Maint)	24	24		
b Set up Bucket	6	6		
c Energize Relay/inspect/ Diagnose	40	FR		
d Problem/ Remove	1			
e Lower Bucket	1			
f Create Memo	-	15		
g Program Timer in Office		4		
h Pull Material Off Truck	Memo	1		
i Raise Bucket		10		
j Replace Relay/Timer/Reenergize	5	5		
# subtotal time (min)	77	65		
# subtotal time (hr)	1.28	1.08		\$ 167.98
FR/Memo Ratio	100%	100%		

MAINTENANCE COST
TIME AND LABOR - RELAY

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Crew	\$/Hr
RELAY REPLACEMENT			SL1	\$70.98
	FR	Memo		
a Travel Time (Maint)	24	24		
b Set up Bucket	6	6		
Energize Relay/inspect/ Diagnose				
c Problem/ Remove	36	<i>Bucket</i>		
d Lower Bucket	1			
e Create Memo*				
f Program Timer in Office	-			
g Pull Material Off Truck	4			
h Raise Bucket	1			
i Replace Relay/Timer/Reenergize	20			
j Prepare to Travel	5	5		
# subtotal time (min)	97	35		
# subtotal time (hr)	1.62	0.58		\$ 143.73
FR/Memo Ratio	100%	70%		

*Relay - 20% is a special relay,
must memo to order part.

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 64 OF 77
FILED: 08/11/2008

LIGHTING
INSTALLATION LABOR

INSTALLATION COST
TIME AND LABOR - GENERAL

AVERAGE UNIT TIME

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Unit Time min
TRAVEL TIME								
	Crew	Group	Engineering					
a Review Work Request for Location	0.5	-	0.5					
b Compute Route	1	-	1					
c Average Travel	22.5	5	22.5					
d Arrive	-	-	-					
# subtotal time (min)	24	5	24					
# subtotal time (hr)	0.40	0.08	0.40					
SET UP BUCKET								
				Nxt Pole/ MidSpan			Subdivision/ Comm	Roadway
	Bucket	Climb	UG	Bucket	Climb	Engineering1	Engineering2	Engineering3
a Turn on flashers, rotating lights, arrow board	1	1	1	0	0	1	1	1
b Review Work Request	1	1	1	1	1	-	-	-
c Set cones out	2	2	2	0	0	-	-	-
d Put on PPE (Ops is already wearing)	-	-	-	-	-	-	1	2
e Gather and set out Materials	2	2	2	0	0	-	-	-
f Raise Bucket	1	-	-	1	-	-	-	-
f1 Set up and secure Ladder	-	7	-	-	7	-	-	-
# subtotal time (min)	7	13	6	2	8	1	2	3
# subtotal time (hr)	0.12	0.22	0.10	0.03	0.13	0.02	0.03	0.05
PREPARE TO TRAVEL								
				Nxt Pole/ MidSpan				
	Bucket	Climb	UG	Bucket	Climb	Engineering 1		
a Lower Bucket	1	-	-	1	-	-		
a1 Stow Ladder	-	7	-	-	7	-		
b Dispose of Materials	1	1	1	0	0	-		
c Pick up and Store cones	1	1	1	1	1	-		
d Relocate to NxtPole/MidSpan	-	-	-	2	2	-		
e Remove PPE (Ops remains wearing)	-	-	-	-	-	1		
f Turn off flashers, rotating lights, arrow board	1	1	1	0	0	1		
f Process Work Request Paperwork	1	1	1	0	0	-		
# subtotal time (min)	5	11	4	4	10	2		
# subtotal time (hr)	0.08	0.18	0.07	0.07	0.17	0.03		

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME																																													
Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	S/Hr	S/Hr (Alt)																																					
INSTALL NEW POLE & NEW FIXTURE - Al & Steel					LN1		\$172.02																																						
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																													
a	Install Conduit								Time Allocation																																				
b	Pull Wire and Install Conductor								pole																																				
c	Install Hand Hole & Connect to Secondary (UG only)								pole																																				
d	Load Material	6	6	6	6				shared																																				
e	Travel Time (Install)	24	24	2	2				shared																																				
f	Set up Bucket	7	7	2	2				shared																																				
g	Set up Site/Pole Hauler	5	5	3	3				pole																																				
h	Make up Material (fixture & bracket)	8	8	8	8				fixture																																				
i	Make up Material (pole)	2	2	2	2				pole																																				
j	Run Cable down thru Pole (UG only)	12	12	12	12				pole																																				
k	Wire New Fixture/Bracket & Install on Pole	15	15	15	15				fixture																																				
l	Dig Hole/Set Pole	25	25	25	25				pole																																				
m	Run OH Cable & Connect to Secondary (OH only)								pole																																				
n	Connect Pole Wire to HH (UG)	8	8	8	8				pole																																				
o	Energize (All)	2	2	2	2				fixture																																				
p	Raise Bucket	1	1	1	1				fixture																																				
q	Test Light	2	2	2	2				fixture																																				
r	Restore Site/Stow Material	6	2	2	6				pole																																				
s	Prepare to Travel	5	4	4	5				shared																																				
#	subtotal time (min)	128	123	84	99																																								
#	subtotal time (hr)	2.13	2.05	1.57	1.65																																								
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td></td> <td>1<x<2</td> <td>3>x>4</td> <td>5<x<7 & multiples</td> <td></td> </tr> <tr> <td></td> <td>Ratio</td> <td>20.7%</td> <td>24.1%</td> <td>55.2%</td> <td></td> </tr> <tr> <td>Fixture Subtotal time (min)</td> <td>Cost</td> <td>\$ 140.48</td> <td>\$391.34</td> <td>\$642.20</td> <td></td> </tr> <tr> <td>Fixture Subtotal time (hr)</td> <td>Unit Cost</td> <td>\$ 140.48</td> <td>\$ 111.81</td> <td>\$ 107.03</td> <td></td> </tr> <tr> <td>Pole Subtotal time (min)</td> <td>Cost</td> <td>\$ 226.49</td> <td>\$649.37</td> <td>\$1,072.25</td> <td></td> </tr> <tr> <td>Pole Subtotal time (hr)</td> <td>Unit Cost</td> <td>\$ 226.49</td> <td>\$ 185.53</td> <td>\$ 178.71</td> <td></td> </tr> </table>												1<x<2	3>x>4	5<x<7 & multiples			Ratio	20.7%	24.1%	55.2%		Fixture Subtotal time (min)	Cost	\$ 140.48	\$391.34	\$642.20		Fixture Subtotal time (hr)	Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03		Pole Subtotal time (min)	Cost	\$ 226.49	\$649.37	\$1,072.25		Pole Subtotal time (hr)	Unit Cost	\$ 226.49	\$ 185.53	\$ 178.71	
		1<x<2	3>x>4	5<x<7 & multiples																																									
	Ratio	20.7%	24.1%	55.2%																																									
Fixture Subtotal time (min)	Cost	\$ 140.48	\$391.34	\$642.20																																									
Fixture Subtotal time (hr)	Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03																																									
Pole Subtotal time (min)	Cost	\$ 226.49	\$649.37	\$1,072.25																																									
Pole Subtotal time (hr)	Unit Cost	\$ 226.49	\$ 185.53	\$ 178.71																																									
Avg per Unit, Normalized by Pole/Job Distribution \$ 115.10 per Fixture \$ 190.23 per Pole																																													
INSTALL NEW POLE & NEW FIXTURE - PT Decorative					LN1		\$172.02																																						
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																													
a	Install Conduit								Time Allocation																																				
b	Pull Wire and Install Conductor								pole																																				
c	Install Hand Hole & Connect to Secondary (UG only)								pole																																				
d	Load Material	6	6	6	6				shared																																				
e	Travel Time (Install)	24	24	2	2				shared																																				
f	Set up Bucket	6	6	2	2				shared																																				
g	Set up Site/Pole Hauler	5	5	3	3				pole																																				
h	Make up Material (fixture & bracket)	6	6	6	6				fixture																																				
i	Make up Material (pole)	2	2	2	2				pole																																				
j	Run Cable down thru Pole (UG only)	6	6	6	6				pole																																				
k	Wire New Fixture/Bracket & Install on Pole	11	11	11	11				fixture																																				
l	Dig Hole/Set Pole	25	25	25	25				pole																																				
m	Run OH Cable & Connect to Secondary (OH only)								pole																																				
n	Connect Pole Wire to HH (UG)	8	8	8	8				pole																																				
o	Energize (All)	2	2	2	2				fixture																																				
p	Raise Bucket/Set up Ladder	-	-	-	-				fixture																																				
q	Test Light	2	2	2	2				fixture																																				
r	Restore Site/Stow Material	6	2	2	6				pole																																				
s	Prepare to Travel	4	4	4	4				shared																																				
#	subtotal time (min)	113	109	81	85																																								
#	subtotal time (hr)	1.88	1.82	1.35	1.42																																								
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td></td> <td>1<x<2</td> <td>3>x>4</td> <td>5<x<7 & multiples</td> <td></td> </tr> <tr> <td></td> <td>Ratio</td> <td>20.7%</td> <td>24.1%</td> <td>55.2%</td> <td></td> </tr> <tr> <td>Fixture Subtotal time (min)</td> <td>Cost</td> <td>\$ 117.55</td> <td>\$318.23</td> <td>\$518.92</td> <td></td> </tr> <tr> <td>Fixture Subtotal time (hr)</td> <td>Unit Cost</td> <td>\$ 117.55</td> <td>\$ 90.92</td> <td>\$ 66.49</td> <td></td> </tr> <tr> <td>Pole Subtotal time (min)</td> <td>Cost</td> <td>\$ 206.42</td> <td>\$586.30</td> <td>\$966.17</td> <td></td> </tr> <tr> <td>Pole Subtotal time (hr)</td> <td>Unit Cost</td> <td>\$ 206.42</td> <td>\$ 167.51</td> <td>\$ 161.03</td> <td></td> </tr> </table>												1<x<2	3>x>4	5<x<7 & multiples			Ratio	20.7%	24.1%	55.2%		Fixture Subtotal time (min)	Cost	\$ 117.55	\$318.23	\$518.92		Fixture Subtotal time (hr)	Unit Cost	\$ 117.55	\$ 90.92	\$ 66.49		Pole Subtotal time (min)	Cost	\$ 206.42	\$586.30	\$966.17		Pole Subtotal time (hr)	Unit Cost	\$ 206.42	\$ 167.51	\$ 161.03	
		1<x<2	3>x>4	5<x<7 & multiples																																									
	Ratio	20.7%	24.1%	55.2%																																									
Fixture Subtotal time (min)	Cost	\$ 117.55	\$318.23	\$518.92																																									
Fixture Subtotal time (hr)	Unit Cost	\$ 117.55	\$ 90.92	\$ 66.49																																									
Pole Subtotal time (min)	Cost	\$ 206.42	\$586.30	\$966.17																																									
Pole Subtotal time (hr)	Unit Cost	\$ 206.42	\$ 167.51	\$ 161.03																																									
<p>(no bucket or ladder impacts PT time-) (no bracket impacts PT time-) only need bucket for double bracket install don't use ladder or bucket for single install</p>																																													
Avg per Unit, Normalized by Pole/Job Distribution \$ 93.98 per Fixture PT Fixture \$ 171.98 per Pole																																													

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME																																	
Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	\$/Hr	\$/Hr (Alt)																									
INSTALL NEW POLE & NEW FIXTURE - UG Conc					LN1		\$172.02																										
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																	
a	Install Conduit	separate task				pole																											
b	Pull Wire and Install Conductor	separate task				pole																											
c	Install Hand Hole & Connect to Secondary (UG only)	separate task - part of Install Conductor				pole																											
d	Load Material	6	6	6	6	shared																											
e	Travel Time (Install)	24	24	2	2	shared																											
f	Set up Bucket	7	7	2	2	shared																											
g	Set up Site/Pole Hauler	5	5	3	3	pole																											
h	Make up Material (fixture & bracket)	8	8	8	8	fixture																											
i	Make up Material (pole)	2	2	2	2	pole																											
j	Run Cable down thru Pole (UG only)	15	15	15	15	pole																											
k	Wire New Fixture/Bracket & Install on Pole	15	15	15	15	fixture																											
l	Dig Hole/Set Pole	25	25	25	25	pole																											
m	Run OH Cable & Connect to Secondary (OH only)	separate task				pole																											
n	Connect Pole Wire to HH (UG)	8	8	8	8	pole																											
o	Energize (All)	2	2	2	2	fixture																											
p	Raise Bucket	1	1	1	1	fixture																											
q	Test Light	2	2	2	2	fixture																											
r	Restore Site/Stow Material	6	2	2	6	pole																											
s	Prepare to Travel	5	4	4	5	shared																											
#	subtotal time (min)	131	126	97	102																												
#	subtotal time (hr)	2.18	2.10	1.62	1.70																												
Avg per Unit, Normalized by Pole/Job Distribution																																	
							\$ 115.10	per Fixture																									
							\$ 198.83	per Pole																									
<table border="1"> <thead> <tr> <th></th> <th>1<x<2</th> <th>3>x>4</th> <th>5<x<7 & multiples</th> </tr> </thead> <tbody> <tr> <td>Ratio</td> <td>20.7%</td> <td>24.1%</td> <td>55.2%</td> </tr> <tr> <td>Cost</td> <td>\$ 140.48</td> <td>\$ 391.34</td> <td>\$ 642.20</td> </tr> <tr> <td>Unit Cost</td> <td>\$ 140.48</td> <td>\$ 111.81</td> <td>\$ 107.03</td> </tr> <tr> <td>Cost</td> <td>\$ 235.09</td> <td>\$ 679.47</td> <td>\$ 1,123.85</td> </tr> <tr> <td>Unit Cost</td> <td>\$ 235.09</td> <td>\$ 194.14</td> <td>\$ 187.31</td> </tr> </tbody> </table>											1<x<2	3>x>4	5<x<7 & multiples	Ratio	20.7%	24.1%	55.2%	Cost	\$ 140.48	\$ 391.34	\$ 642.20	Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03	Cost	\$ 235.09	\$ 679.47	\$ 1,123.85	Unit Cost	\$ 235.09	\$ 194.14	\$ 187.31
	1<x<2	3>x>4	5<x<7 & multiples																														
Ratio	20.7%	24.1%	55.2%																														
Cost	\$ 140.48	\$ 391.34	\$ 642.20																														
Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03																														
Cost	\$ 235.09	\$ 679.47	\$ 1,123.85																														
Unit Cost	\$ 235.09	\$ 194.14	\$ 187.31																														
INSTALL NEW POLE & NEW FIXTURE - Wood & OH Conc																																	
New Pole (w/Fixture) assuming conduit and cable is pulled (UG)																																	
a	Install Conduit	separate task				pole																											
b	Pull Wire and Install Conductor	separate task				pole																											
c	Install Hand Hole & Connect to Secondary (UG only)	separate task - part of Install Conductor				pole																											
d	Load Material	6	6	6	6	shared																											
e	Travel Time (Install)	24	24	2	2	shared																											
f	Set up Bucket	7	7	2	2	shared																											
g	Set up Site/Pole Hauler	5	5	3	3	pole																											
h	Make up Material (fixture & bracket)	8	8	8	8	fixture																											
i	Make up Material (pole)	2	2	2	2	pole																											
j	Run Cable down thru Pole (UG only)	-	-	-	-	pole																											
k	Wire New Fixture/Bracket & Install on Pole	15	15	15	15	fixture																											
l	Dig Hole/Set Pole	25	25	25	25	pole																											
m	Run OH Cable & Connect to Secondary (OH only)	separate task				pole																											
n	Connect Pole Wire to HH (UG)	-	-	-	-	pole																											
o	Energize (All)	2	2	2	2	fixture																											
p	Raise Bucket	1	1	1	1	fixture																											
q	Test Light	2	2	2	2	fixture																											
r	Restore Site/Stow Material	6	2	2	6	pole																											
s	Prepare to Travel	5	4	4	5	shared																											
#	subtotal time (min)	108	103	74	79																												
#	subtotal time (hr)	1.80	1.72	1.23	1.32																												
Avg per Unit, Normalized by Pole/Job Distribution																																	
							\$ 115.10	per Fixture																									
							\$ 132.89	per Pole																									
<table border="1"> <thead> <tr> <th></th> <th>1<x<2</th> <th>3>x>4</th> <th>5<x<7 & multiples</th> </tr> </thead> <tbody> <tr> <td>Ratio</td> <td>20.7%</td> <td>24.1%</td> <td>55.2%</td> </tr> <tr> <td>Cost</td> <td>\$ 140.48</td> <td>\$ 391.34</td> <td>\$ 642.20</td> </tr> <tr> <td>Unit Cost</td> <td>\$ 140.48</td> <td>\$ 111.81</td> <td>\$ 107.03</td> </tr> <tr> <td>Cost</td> <td>\$ 169.15</td> <td>\$ 448.68</td> <td>\$ 728.21</td> </tr> <tr> <td>Unit Cost</td> <td>\$ 169.15</td> <td>\$ 128.19</td> <td>\$ 121.37</td> </tr> </tbody> </table>											1<x<2	3>x>4	5<x<7 & multiples	Ratio	20.7%	24.1%	55.2%	Cost	\$ 140.48	\$ 391.34	\$ 642.20	Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03	Cost	\$ 169.15	\$ 448.68	\$ 728.21	Unit Cost	\$ 169.15	\$ 128.19	\$ 121.37
	1<x<2	3>x>4	5<x<7 & multiples																														
Ratio	20.7%	24.1%	55.2%																														
Cost	\$ 140.48	\$ 391.34	\$ 642.20																														
Unit Cost	\$ 140.48	\$ 111.81	\$ 107.03																														
Cost	\$ 169.15	\$ 448.68	\$ 728.21																														
Unit Cost	\$ 169.15	\$ 128.19	\$ 121.37																														
INSTALL PT DOUBLE BRACKET (for 2nd FIXTURE)																																	
additional time for Bracket & 2nd Fixture																																	
a	Make up Double Bracket & Fixtures	6	Time Allocation			100% fixture																											
b	Install Double Bracket & Fixtures	12																															
#	subtotal time (min)	18																															
#	subtotal time (hr)	0.30						\$ 51.61	part of another job																								

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 68 OF 77
FILED: 08/11/2008
REVISED: 12/29/2008

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME																																							
Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	S/Hr	S/Hr (Alt)																															
ENGINEERING - FIELD/WORK ORDER							E/F	\$64.61																															
<i>Field Design Work</i>																																							
	<table border="1"> <thead> <tr> <th>1<x<2</th> <th>Subdivision</th> <th>Commercial</th> <th>Street /Blvd</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>4</td> <td>3</td> </tr> <tr> <td># Lights Range</td> <td><5</td> <td>10>x>25</td> <td>6>x>??</td> <td>17.6/side*</td> </tr> <tr> <td># Lights Avg</td> <td>1</td> <td>17.5</td> <td>10</td> <td>16.3</td> </tr> </tbody> </table>				1<x<2	Subdivision	Commercial	Street /Blvd	1	3	4	3	# Lights Range	<5	10>x>25	6>x>??	17.6/side*	# Lights Avg	1	17.5	10	16.3	Time Allocation		Trips to job site														
1<x<2	Subdivision	Commercial	Street /Blvd																																				
1	3	4	3																																				
# Lights Range	<5	10>x>25	6>x>??	17.6/side*																																			
# Lights Avg	1	17.5	10	16.3																																			
FIELD VISIT 1																																							
a1 Travel Time	24	24	24	24	Pole & Fixture																																		
b1 Secure Vehicle	1	2	2	3	Pole & Fixture																																		
c1 Customer Contact (Intro Meeting)	5	23	45	-	Pole & Fixture																																		
d1 Product offering w/ Cust (brochure)	5	-	-	-	Pole & Fixture																																		
e1 Contract Explanation	5	-	-	-	Fixture																																		
f1 Site inspection	5	-	-	30	Pole & Fixture																																		
g1 Preliminary sketch (wheel, engineering tools)	25	-	-	-	Pole & Fixture																																		
h1 Prepare to Travel	2	0	0	0	Pole & Fixture																																		
# subtotal time (min)	72	48.5	71	57																																			
# subtotal time (hr)	1.2	0.81	1.18	0.95																																			
FIELD VISIT 2																																							
a2 Travel Time		24	24	24	Pole & Fixture																																		
b2 Secure Vehicle		2	2	3	Pole & Fixture																																		
c2 Pre Construction Meeting		15	30	-	Pole & Fixture																																		
d2 Product offering w/ Cust (brochure)		10	10	10	Pole & Fixture																																		
e2 Contract Explanation		10	10	0	Fixture																																		
f2 Preliminary sketch (wheel, engineering tools)		0	0	45	Pole & Fixture																																		
g2 Review Electronic CAD drawings		40	40	15	Pole & Fixture																																		
h2 Prepare to Travel		0	0	0	Pole & Fixture																																		
# subtotal time (min)	0	101	116	97																																			
# subtotal time (hr)	0.00	1.68	1.93	1.62																																			
FIELD VISIT 3																																							
a3 Travel Time		24	24	24	Pole																																		
b3 Secure Vehicle		2	2	3	Pole																																		
c3 Conduit Issue/Crew Visit		15	20	-	Pole																																		
d3 Staking of Site		-	-	33	Pole																																		
e3 Prepare to Travel		0	0	0	Pole																																		
# subtotal time (min)	0	41	46	60																																			
# subtotal time (hr)	0.00	0.68	0.77	0.99																																			
FIELD VISIT 4																																							
a4 Travel Time			24		Pole																																		
b4 Secure Vehicle			2		Pole																																		
c4 Crew Visit			15		Pole																																		
d4 Prepare to Travel			0		Pole																																		
# subtotal time (min)	0	0	41	0																																			
# subtotal time (hr)	0.00	0.00	0.68	0.00																																			
Combined subtotal time (min)	72	190.5	274	213.6																																			
Combined subtotal time (hr)	1.20	3.18	4.57	3.56																																			
<table border="1"> <thead> <tr> <th></th> <th>1<x<2</th> <th>Subdivision</th> <th>Commercial</th> <th>Street/ Blvd</th> </tr> </thead> <tbody> <tr> <td>Fixture Subtotal time (min)</td> <td>38.5</td> <td>79.8</td> <td>98.5</td> <td>77.0</td> </tr> <tr> <td>Fixture Subtotal time (hr)</td> <td>0.64</td> <td>1.33</td> <td>1.64</td> <td>1.28</td> </tr> <tr> <td>Pole Subtotal time (min)</td> <td>33.5</td> <td>110.8</td> <td>175.5</td> <td>136.6</td> </tr> <tr> <td>Pole Subtotal time (hr)</td> <td>0.56</td> <td>1.85</td> <td>2.93</td> <td>2.28</td> </tr> </tbody> </table>											1<x<2	Subdivision	Commercial	Street/ Blvd	Fixture Subtotal time (min)	38.5	79.8	98.5	77.0	Fixture Subtotal time (hr)	0.64	1.33	1.64	1.28	Pole Subtotal time (min)	33.5	110.8	175.5	136.6	Pole Subtotal time (hr)	0.56	1.85	2.93	2.28					
	1<x<2	Subdivision	Commercial	Street/ Blvd																																			
Fixture Subtotal time (min)	38.5	79.8	98.5	77.0																																			
Fixture Subtotal time (hr)	0.64	1.33	1.64	1.28																																			
Pole Subtotal time (min)	33.5	110.8	175.5	136.6																																			
Pole Subtotal time (hr)	0.56	1.85	2.93	2.28																																			
<table border="1"> <thead> <tr> <th></th> <th>1<x<2</th> <th>Subdivision</th> <th>Commercial</th> <th>Street/ Blvd</th> </tr> </thead> <tbody> <tr> <td></td> <td>20.7%</td> <td>20.4%</td> <td>24.1%</td> <td>34.8%</td> </tr> <tr> <td>Fixture</td> <td>\$ 41.46</td> <td>\$ 85.86</td> <td>\$ 106.07</td> <td>\$ 82.91</td> </tr> <tr> <td></td> <td>\$ 41.46</td> <td>\$ 4.91</td> <td>\$ 10.61</td> <td>\$ 5.09</td> </tr> <tr> <td>Pole</td> <td>\$ 36.07</td> <td>\$ 119.26</td> <td>\$ 188.98</td> <td>\$ 147.09</td> </tr> <tr> <td></td> <td>\$ 36.07</td> <td>\$ 6.81</td> <td>\$ 18.90</td> <td>\$ 9.02</td> </tr> </tbody> </table>											1<x<2	Subdivision	Commercial	Street/ Blvd		20.7%	20.4%	24.1%	34.8%	Fixture	\$ 41.46	\$ 85.86	\$ 106.07	\$ 82.91		\$ 41.46	\$ 4.91	\$ 10.61	\$ 5.09	Pole	\$ 36.07	\$ 119.26	\$ 188.98	\$ 147.09		\$ 36.07	\$ 6.81	\$ 18.90	\$ 9.02
	1<x<2	Subdivision	Commercial	Street/ Blvd																																			
	20.7%	20.4%	24.1%	34.8%																																			
Fixture	\$ 41.46	\$ 85.86	\$ 106.07	\$ 82.91																																			
	\$ 41.46	\$ 4.91	\$ 10.61	\$ 5.09																																			
Pole	\$ 36.07	\$ 119.26	\$ 188.98	\$ 147.09																																			
	\$ 36.07	\$ 6.81	\$ 18.90	\$ 9.02																																			
* Intersection/15 roadway/.5 ml 2sides,150' span = 17.6/side																																							
Visits																																							
Visit 1 Duration		45																																					
Visit 1 (Intro Meeting) % attended		50%																																					
Visit 2 Duration		30																																					
Visit 2 (Pre Construction Meeting) % attended		50%																																					
Staking of Site (min per light)				2																																			

INSTALLATION COST
TIME AND LABOR - LUMINAIRE/POLE SHARED COSTS

AVERAGE UNIT TIME										
Operation	Unit Time	Unit Time	Unit Time	Unit Time	Crew	Crew (Alt)	S/Hr	S/Hr (Alt)		
	min	min	min	min						
ENGINEERING - PRELIMINARY					E/O		\$59.77			
Office Design Work										
					Time Allocation		\$ 79.69	Fixture Only		
	# Lights Range	1<x<2	Subdivision	Commercial	Street /Blvd					
	# Lights Avg	<5	10>	6>	17.6/side*					
#		1	17.5	10	16.3			Avg per Unit, Normalized by Job Distribution		
a	Lighting Design - Design software	10	87.5	50	81.5	Fixture		\$ 8.92 per Fixture		
b	Lighting Design - Design Revisions	0	20	20	20	Fixture		\$ 22.15 per Pole		
c	CIAC	0	10	10	10	Pole&Fixture		\$ 31.07 TOTAL		
d	Electrical Design	60	120	90	150	Pole				
e	Permitting	10	20	15	15	Pole				
f	Packaging work request (contract, prints, voltage drop, wind)	10	20	15	15	Pole&Fixture				
#	subtotal time (min) based on # of fixtures	80	257.5	185	336.5					
#	subtotal time (hr)	1.33	4.29	3.08	5.61					
		1<x<2	Subdivision	Commercial	Street/ Blvd					
		20.7%	20.4%	24.1%	34.8%					
	Fixture Subtotal time (min)	15.0	122.5	82.5	114.0	Fixture	\$ 14.94	\$ 122.03	\$ 82.18	\$ 113.56
	Fixture Subtotal time (hr)	0.25	2.04	1.38	1.90	Fixture	\$ 14.94	\$ 6.97	\$ 8.22	\$ 6.97
	Pole Subtotal time (min)	65.0	135.0	102.5	222.5	Pole	\$ 64.75	\$ 134.48	\$ 102.10	\$ 221.64
	Pole Subtotal time (hr)	1.08	2.25	1.71	3.71	Pole	\$ 64.75	\$ 7.68	\$ 10.21	\$ 13.60

* Intersection/15 roadway/.5 ml 2sides,150' span = 17.6/side

INSTALLATION COST - TIME AND LABOR - POLES

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	S/Hr									
INSTALL CONDUIT															
					CC2	\$134.90									
Trips to job site	<table border="1"> <thead> <tr> <th>UG Install</th> <th>UG Install</th> <th>UG Install</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3</td> <td>4</td> </tr> <tr> <td>100</td> <td>500</td> <td>1000</td> </tr> </tbody> </table>			UG Install	UG Install	UG Install	1	3	4	100	500	1000	Trips to job site		
UG Install	UG Install	UG Install													
1	3	4													
100	500	1000													
FIELD VISIT 1															
a1 Load Material	10	20	25												
b1 Travel Time (Install)	24	24	24												
c1 Safety Tail Board (Set cones, safety flashers, etc)	5	5	5												
d1 Unload Equip (Backhoe, air compressor)	6	6	6												
e1 Unload Material (PVC, hand tools)	6	6	8												
f1 Spot Utilities	10	10	10												
g1 Dig Trench	120	185	165												
h1 Install conduit (cutting, gluing, blow rabbit)	10	21	25												
i1 Pull Tape	5	6	7												
j1 Back fill	90	123	132												
k1 Load Equipment	6	6	6												
l1 Load Material	5	5	5												
m1 Complete DARs	5	5	5												
n1 Prepare to Travel	4	4	4												
# subtotal time (min)	306	425.3	426.9												
# subtotal time (hr)	5.1	7.1	7.1												
FIELD VISIT 2															
a2 Load Material		20	25												
b2 Travel Time (Install)		24	24												
c2 Safety Tail Board (Set cones, safety flashers, etc)		5	5												
d2 Unload Equip (Backhoe, air compressor)		6	6												
e2 Unload Material (PVC, hand tools)		6	8												
f2 Dig Trench		185	165												
g2 Install conduit (cutting, gluing, blow rabbit)		21	25												
h2 Pull Tape		6	7												
i2 Back fill		123	132												
j2 Load Equipment		6	6												
k2 Load Material		5	5												
l2 Complete DARs		5	5												
m2 Prepare to Travel		4	4												
# subtotal time (min)	0	415.3	416.9												
# subtotal time (hr)	0.0	6.9	6.9												
FIELD VISIT 3															
a3 Load Material		20	25												
b3 Travel Time (Install)		24	24												
c3 Safety Tail Board (Set cones, safety flashers, etc)		5	5												
d3 Unload Equip (Backhoe, air compressor)		6	6												
e3 Unload Material (PVC, hand tools)		3	8												
f3 Dig Trench		81	165												
g3 Install conduit (cutting, gluing, blow rabbit)		9	25												
h3 Pull Tape		3	7												
i3 Back fill		54	132												
j3 Load Equipment		6	6												
k3 Load Material		5	5												
l3 Complete DARs		5	5												
m3 Prepare to Travel		4	4												
# subtotal time (min)	0	224.4	416.9												
# subtotal time (hr)	0.0	3.7	6.9												
FIELD VISIT 4															
a4 Load Material			25												
b4 Travel Time (Install)			24												
c4 Safety Tail Board (Set cones, safety flashers, etc)			5												
d4 Unload Equip (Backhoe, air compressor)			6												
e4 Unload Material (PVC, hand tools)			5												
f4 Dig Trench			105												
g4 Install conduit (cutting, gluing, blow rabbit)			16												
h4 Pull Tape			4												
i4 Back fill			84												
j4 Load Equipment			6												
k4 Load Material			5												
l4 Complete DARs			5												
m4 Prepare to Travel			4												
# subtotal time (min)	0	0	294												
# subtotal time (hr)	0.0	0.0	4.9												
Combined subtotal time (min)	306	1065	1555												
Combined subtotal time (hr)	5.10	17.75	25.92												

\$ 5.17 Avg per Foot, Normalized by Pole/Job Distribution

	100 Ft	500 Ft	1000 Ft
per Foot Ratio	\$ 6.88	\$ 4.79	\$ 3.50
	44.8%	12.3%	43.0%

INSTALLATION COST - TIME AND LABOR - POLES

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	\$/Hr						
INSTALL HAND HOLE - NEW INSTALL						CC1 \$148.46						
						One Man of Two Man Crew						
Part of Existing Visit												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Only</th> <th style="text-align: center;">First</th> <th style="text-align: center;">Next</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>							Only	First	Next	1	1	1
Only	First	Next										
1	1	1										
a Load Material												
b Travel Time (Install)												
c Pull Material Off Truck	existing trip											
d Dig Hole	4	4	3									
e Install Hand Hold	5	5	5									
f Prepare to Travel NxtPole	5	5	5									
g Set up Bucket NxtPole	0	0	0									
h Prepare to Travel	0	0	0									
existing trip												
# subtotal time (min)	15	15	14									
# subtotal time (hr)	0.25	0.25	0.23									
						Single HH Install \$23.51 One Man of Two Man Crew imbedded in Pull Conductor Task						
PULL CONDUCTOR IN CONDUIT						CC1 \$148.46						
	Feet	100	500	1000								
a Load Material in Yard		10	10	10								
b Travel Time (Install)		0	0	0								
c Set Up Bucket (Install)		0	0	0								
d Safety Tail Board (Set cones, safety flashers, etc)		5	5	5								
e Unload Equip (Backhoe, air compressor)		5	6	6								
f Unload Material (wire, hand tools)		5	5	5								
g Pull in Wire		3	15	30								
h Install Handhole(s)* (1 every Avg Span, 1.5 first span)		8	32.9	60.0								
i Terminate conductor (both ends) to URD Hand Hole		5	11.5	21.2								
j Dig In & Connect to Secondary		5	5	5								
k Load Equipment		6	6	6								
l Load Material		2	2	2								
m Complete DARs		5	5	5								
n Prepare to Travel (Install)		0	0	0								
# subtotal time (min)		47.5	103	155								
# subtotal time (hr)		0.79	1.72	2.59								
\$ 1.13 Avg per Foot, Normalized by Pole/Job Distribution * HH time from separate task - includes HH install & connections & connect to Secondary. Time halved for One Man of Two Man Crew.												
		100 Ft	500 Ft	1000 Ft								
	per Foot	\$1.88	\$0.68	\$0.48								
	Ratio	44.8%	12.3%	43.0%								
INSTALL UG FEED TO WOOD POLE						LN1 \$172.02						
						part of Install Fixture, need LN1						
a Load Material		6										
b Travel Time (Install)		existing trip										
Install Conduit		\$7.90	per foot Conduit									
Pull Wire and Install Conductor		\$1.35	per foot Conductor									
Install Hand Hole & Connect to Secondary (UG only)		separate task										
Pull Material Off Truck		5										
Measure & Make up Conduit & Cable for Wood Pole Svc		20										
Dig to Install Conduit & Elbow Below Ground		20										
Attach Svc Conduit to Pole w/Straps		10										
f Connect Pole Wire to HH (UG)		8										
g Energize		Fixture Task										
k Prepare to Travel		existing trip										
# subtotal time (min)		69										
# subtotal time (hr)		1.15										
						\$197.82 Existing Pole						
RUN OH CABLE						LN1 \$172.02						
						part of Set Pole/Install Fixture, need LN1						
	Feet	141.6										
a Load Material		6										
b Travel Time (Install)		existing trip										
d Pull Material Off Truck		5										
e Measure Cable		10										
c Raise Bucket		1										
f Connect to Luminaire		3										
g Pull in Conductor - Hang & Sag		15										
h Prepare to Travel NxtPole		4										
i Set up Bucket NxtPole		2										
j Connect to Secondary Feed		2										
k Prepare to Travel		existing trip										
# subtotal time (min)		48										
# subtotal time (hr)		0.80										
						\$0.97 per foot, Avg OH Span basis						
						\$137.61						

MAINTENANCE COST
TIME AND LABOR- RELAY AND TIMER

Operation	Unit Time min	Unit Time min	Unit Time min	Unit Time min	Crew	Crew (Alt)	S/Hr	S/Hr (Alt)																																																																																																																	
INSTALL RELAY/ TIMER					SL1	LN1	\$70.98	\$172.02																																																																																																																	
	<table border="1"> <thead> <tr> <th colspan="4">Relay</th> <th rowspan="2">Timer Relay</th> </tr> <tr> <th>OH</th> <th>UG</th> <th>Oil Switch</th> <th></th> </tr> </thead> <tbody> <tr> <td>a Load Material</td> <td>6</td> <td>6</td> <td>12</td> <td>6</td> </tr> <tr> <td>b Program Timer In Office</td> <td>-</td> <td>-</td> <td>-</td> <td>15</td> </tr> <tr> <td>c Travel Time (Install)</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> </tr> <tr> <td>d Set up Bucket</td> <td>6</td> <td>6</td> <td>6</td> <td>6</td> </tr> <tr> <td>e Pull Material Off Truck</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>f Trench & Install Conduit (UG)</td> <td>-</td> <td>per foot</td> <td>-</td> <td>-</td> </tr> <tr> <td>g Install Conductor (UG)</td> <td>-</td> <td>per foot</td> <td>-</td> <td>-</td> </tr> <tr> <td>h Install Pedestal</td> <td>-</td> <td>20</td> <td>-</td> <td>-</td> </tr> <tr> <td>i Measure Cable</td> <td>10</td> <td>-</td> <td>10</td> <td>-</td> </tr> <tr> <td>j Raise Bucket</td> <td>1</td> <td>-</td> <td>1</td> <td>-</td> </tr> <tr> <td>k Pull Wire (OH)</td> <td>15</td> <td>-</td> <td>15</td> <td>-</td> </tr> <tr> <td>l Lower Bucket</td> <td>1</td> <td>-</td> <td>1</td> <td>-</td> </tr> <tr> <td>m Setup Bucket Next Span</td> <td>2</td> <td>-</td> <td>2</td> <td>1</td> </tr> <tr> <td>n Unload & Install Transformer & Oil Switch</td> <td>-</td> <td>-</td> <td>30</td> <td>-</td> </tr> <tr> <td>o Install Relay/Timer on Pole/Pedestal</td> <td>25</td> <td>60</td> <td>-</td> <td>15</td> </tr> <tr> <td>p Install PC for PC controlled Relay</td> <td>2</td> <td>2</td> <td>2</td> <td>-</td> </tr> <tr> <td>q Hang Cutout & Arrestor & Bracket</td> <td>-</td> <td>-</td> <td>25</td> <td>-</td> </tr> <tr> <td>r Connect & Energize</td> <td>5</td> <td>5</td> <td>30</td> <td>-</td> </tr> <tr> <td>s Prepare to Travel</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td># subtotal time (min)</td> <td>106</td> <td>132</td> <td>167</td> <td>76</td> </tr> <tr> <td># subtotal time (hr)</td> <td>1.77</td> <td>2.20</td> <td>2.78</td> <td>1.27</td> </tr> </tbody> </table>				Relay				Timer Relay	OH	UG	Oil Switch		a Load Material	6	6	12	6	b Program Timer In Office	-	-	-	15	c Travel Time (Install)	24	24	24	24	d Set up Bucket	6	6	6	6	e Pull Material Off Truck	4	4	4	4	f Trench & Install Conduit (UG)	-	per foot	-	-	g Install Conductor (UG)	-	per foot	-	-	h Install Pedestal	-	20	-	-	i Measure Cable	10	-	10	-	j Raise Bucket	1	-	1	-	k Pull Wire (OH)	15	-	15	-	l Lower Bucket	1	-	1	-	m Setup Bucket Next Span	2	-	2	1	n Unload & Install Transformer & Oil Switch	-	-	30	-	o Install Relay/Timer on Pole/Pedestal	25	60	-	15	p Install PC for PC controlled Relay	2	2	2	-	q Hang Cutout & Arrestor & Bracket	-	-	25	-	r Connect & Energize	5	5	30	-	s Prepare to Travel	5	5	5	5	# subtotal time (min)	106	132	167	76	# subtotal time (hr)	1.77	2.20	2.78	1.27	\$5.17 per foot	\$1.73 per foot	
Relay				Timer Relay																																																																																																																					
OH	UG	Oil Switch																																																																																																																							
a Load Material	6	6	12	6																																																																																																																					
b Program Timer In Office	-	-	-	15																																																																																																																					
c Travel Time (Install)	24	24	24	24																																																																																																																					
d Set up Bucket	6	6	6	6																																																																																																																					
e Pull Material Off Truck	4	4	4	4																																																																																																																					
f Trench & Install Conduit (UG)	-	per foot	-	-																																																																																																																					
g Install Conductor (UG)	-	per foot	-	-																																																																																																																					
h Install Pedestal	-	20	-	-																																																																																																																					
i Measure Cable	10	-	10	-																																																																																																																					
j Raise Bucket	1	-	1	-																																																																																																																					
k Pull Wire (OH)	15	-	15	-																																																																																																																					
l Lower Bucket	1	-	1	-																																																																																																																					
m Setup Bucket Next Span	2	-	2	1																																																																																																																					
n Unload & Install Transformer & Oil Switch	-	-	30	-																																																																																																																					
o Install Relay/Timer on Pole/Pedestal	25	60	-	15																																																																																																																					
p Install PC for PC controlled Relay	2	2	2	-																																																																																																																					
q Hang Cutout & Arrestor & Bracket	-	-	25	-																																																																																																																					
r Connect & Energize	5	5	30	-																																																																																																																					
s Prepare to Travel	5	5	5	5																																																																																																																					
# subtotal time (min)	106	132	167	76																																																																																																																					
# subtotal time (hr)	1.77	2.20	2.78	1.27																																																																																																																					
	<table border="1"> <thead> <tr> <th colspan="4">Relay Control Equipment</th> </tr> <tr> <th>OH</th> <th>UG</th> <th>Oil Switch</th> <th>Timer</th> </tr> </thead> <tbody> <tr> <td>Subtotal</td> <td>\$ 125.40</td> <td>\$ 156.15</td> <td>\$ 478.79</td> <td>\$ 217.89</td> </tr> <tr> <td>Conduit</td> <td>\$0.00</td> <td>\$568.83</td> <td>\$0.00</td> <td></td> </tr> <tr> <td>Cable</td> <td>\$0.00</td> <td>\$124.42</td> <td>\$0.00</td> <td></td> </tr> <tr> <td>Total</td> <td>\$ 125.40</td> <td>\$ 849.20</td> <td>\$ 478.79</td> <td>\$ 217.89</td> </tr> </tbody> </table>				Relay Control Equipment				OH	UG	Oil Switch	Timer	Subtotal	\$ 125.40	\$ 156.15	\$ 478.79	\$ 217.89	Conduit	\$0.00	\$568.83	\$0.00		Cable	\$0.00	\$124.42	\$0.00		Total	\$ 125.40	\$ 849.20	\$ 478.79	\$ 217.89																																																																																									
Relay Control Equipment																																																																																																																									
OH	UG	Oil Switch	Timer																																																																																																																						
Subtotal	\$ 125.40	\$ 156.15	\$ 478.79	\$ 217.89																																																																																																																					
Conduit	\$0.00	\$568.83	\$0.00																																																																																																																						
Cable	\$0.00	\$124.42	\$0.00																																																																																																																						
Total	\$ 125.40	\$ 849.20	\$ 478.79	\$ 217.89																																																																																																																					
Install Conduit (feet of)		110																																																																																																																							
Install Conductor (feet of)		110																																																																																																																							
ENGINEERING - RELAY or TIMER or PT DOUBLE BRACKET					E/O		\$59.77																																																																																																																		
<i>Office Design Work</i>																																																																																																																									
	<table border="1"> <thead> <tr> <th>Relay</th> <th>w/Timer</th> <th>PT Double Bracket</th> </tr> </thead> <tbody> <tr> <td>a Lighting Design - Design software</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>b Electrical Design</td> <td>5</td> <td>2</td> <td>2</td> </tr> <tr> <td>c CIAC</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>d Packaging Work Request</td> <td colspan="3"><i>existing job</i></td> </tr> <tr> <td>e Prepare to Travel</td> <td colspan="3"><i>existing job</i></td> </tr> <tr> <td># subtotal time (min)</td> <td>15</td> <td>12</td> <td>12</td> </tr> <tr> <td># subtotal time (hr)</td> <td>0.25</td> <td>0.20</td> <td>0.20</td> </tr> </tbody> </table>				Relay	w/Timer	PT Double Bracket	a Lighting Design - Design software	10	10	10	b Electrical Design	5	2	2	c CIAC	0	0	0	d Packaging Work Request	<i>existing job</i>			e Prepare to Travel	<i>existing job</i>			# subtotal time (min)	15	12	12	# subtotal time (hr)	0.25	0.20	0.20	\$14.94 Relay	\$11.95 Timer	\$11.95 PT Double Bracket																																																																																			
Relay	w/Timer	PT Double Bracket																																																																																																																							
a Lighting Design - Design software	10	10	10																																																																																																																						
b Electrical Design	5	2	2																																																																																																																						
c CIAC	0	0	0																																																																																																																						
d Packaging Work Request	<i>existing job</i>																																																																																																																								
e Prepare to Travel	<i>existing job</i>																																																																																																																								
# subtotal time (min)	15	12	12																																																																																																																						
# subtotal time (hr)	0.25	0.20	0.20																																																																																																																						

MAINTENANCE FREQUENCY BY ACTIVITY AND LUMINAIRE TYPE

SL2 and OL1										
DESCRIPTION	Fixture Type	Sum of FIXTURE (WP Memo)	Sum of Lamp	Sum of PHOTO CELL	Sum of RELAY	Sum of TIMER	Sum of Luminaire Parts	Sum of OH Cable Failure/ OH Parts (FR&M)	Sum of UG Cable Failure/ UG Parts (FR&M)	Sum of Paint Pole
100W HPS	Cobra	1.06%	19.80%	8.24%	0.22%	0.0210%	2.06%	0.69%	1.31%	0.01%
150W HPS	Cobra	0.91%	17.00%	6.98%	0.23%	0.0210%	1.78%	0.75%	1.00%	0.01%
250W HPS	Cobra	1.20%	21.55%	8.22%	0.24%	0.0210%	3.17%	0.76%	1.20%	0.01%
	Flood	1.20%	21.55%	8.22%	0.24%	0.0210%	3.17%	0.76%	1.20%	0.00%
400W HPS	Cobra	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	0.23%
	Flood	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	0.00%
	Mongoose	1.28%	21.85%	9.98%	0.28%	0.0358%	4.57%	0.88%	1.37%	12.57%
	Turnpike	0.00%	0.00%	0.00%	0.00%	0.0000%	0.00%	0.00%	0.00%	0.00%
50W HPS	Cobra	1.07%	18.97%	9.80%	0.22%	0.0210%	2.98%	0.91%	0.98%	0.44%
	Post Top	1.07%	18.97%	9.80%	0.22%	0.0210%	2.98%	0.91%	0.98%	7.72%
70W HPS	Cobra/NEMA	0.96%	17.77%	7.31%	0.22%	0.0210%	2.05%	0.67%	0.97%	0.97%
	Coach Post Top	0.96%	17.77%	7.31%	0.22%	0.0210%	2.05%	0.67%	0.97%	0.26%

OL3										
DESCRIPTION	Fixture Type	Sum of FIXTURE (WP Memo)	Sum of LAMP	Sum of PHOTO CELL	Sum of RELAY	Sum of TIMER	Sum of Luminaire Parts	Sum of OH Cable Failure/OH Parts (FR&M)	Sum of UG Cable Failure/UG Parts (FR&M)	Sum of Paint Pole
100W HPS	Classic Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.874%	0.4547%	1.41%	13.44%
	Colonial Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	13.44%
	Contemporary/Cube Post Top	0.91%	21.54%	5.04%	0.15%	0.01%	1.734%	0.4547%	1.41%	13.44%
	Salem Post Top	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	13.44%
	Shoebox	0.79%	19.39%	5.04%	0.15%	0.01%	0.873%	0.4547%	1.41%	0.00%
250W HPS	Shoebox	1.07%	23.55%	15.17%	0.15%	0.01%	3.806%	1.1909%	3.77%	0.00%
400W HPS	Shoebox	1.03%	23.87%	5.69%	0.15%	0.01%	2.523%	0.4082%	0.88%	0.00%
	Flat Decorative	0.00%	0.00%	0.00%	0.00%	0.00%	0.000%	0.0000%	0.00%	0.00%
175W MH	Salem Post Top	1.31%	24.60%	11.98%	0.27%	0.03%	9.055%	0.8786%	2.55%	13.44%
	Shoebox	1.32%	24.53%	11.98%	0.27%	0.03%	9.140%	0.8786%	2.55%	0.00%
	General Post Top	1.31%	24.52%	11.98%	0.27%	0.03%	9.060%	0.8786%	2.55%	13.44%
400W MH	Cobra	1.51%	30.07%	10.18%	0.27%	0.01%	8.554%	0.3598%	0.75%	0.00%
	Flood	1.52%	30.12%	10.18%	0.27%	0.01%	8.592%	0.3598%	0.75%	0.00%
	Shoebox	1.50%	29.65%	9.70%	0.27%	0.01%	8.759%	0.3598%	0.75%	0.00%
	Cube/Decorative	2.24%	41.25%	10.18%	0.27%	0.01%	16.011%	0.3598%	0.75%	0.00%
1000W MH	Flood	2.96%	42.65%	12.08%	0.36%	0.01%	33.062%	0.6535%	1.47%	0.00%
	Shoebox	2.96%	42.63%	12.08%	0.36%	0.01%	33.040%	0.6535%	1.47%	0.00%

Group Misc UG Parts Failure: UG Fuse, Fuse Holder UG, Bad Connector, Hand Hole
 Group Misc Luminaire Parts Failure: Glass, Photo Eye Socket, Lamp Socket, Capacitor, Starting Aide

73

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 73 OF 77
 FILED: 08/11/2008

CREW MAKEUP AND ENGINEERING LABOR

Installation & Maintenance Crews

POSITION	Hourly	Comments	Conductor Crew	Conduit Crew	Engineering Field	Engineering Office	Line Crew	Paint Crew	Paint Crew	Street Light Crew	Street Light Crew	System Service Crew
CREW CODE			CC1	CC2	E/F	E/O	LN1	PT1	PT2	SL1	SL2	SS1
CREW MAKEUP			\$148.46	\$134.90	\$64.61	\$59.77	\$172.02	\$64.77	\$73.48	\$70.98	\$141.96	\$88.66
Apprentice Lineman III	\$23.77						1.00					
Lineman	\$32.43						1.00					
Cable Splicer	\$32.43											
Lighting Repairman	\$22.66											
Lighting Repairman/ Serviceman (Avg)	\$23.19									1.00	2.00	
Troubleman	\$33.59											1.00
Serviceman	\$30.12											
Special Utility Worker	\$16.77	for conduit										
UG Serviceman	\$25.41	for conduit	2.00	2.00								
Utility Worker	\$13.40							2.00	2.00			
FET (S9)	\$29.29				1.00	1.00						
LFET (Avg)	\$26.16											
Light Vehicle (Rsc 04)	\$4.84	Air Compressor, Small Pole Trailer, Light Trailer	2.00	2.00	1.00			1.00				
Medium Vehicle (Rsc 13)	\$9.09											
Heavy Vehicle (Rsc 05) - Class A	\$11.59	Mini Backhoe, Semi Pole Hauler	1.00	1.00			1.00					
Heavy Vehicle (Rsc 05) - Class B	\$13.56	Aerial Truck	1.00				1.00		1.00			1.00
Heavy Vehicle (Rsc 05) - Class C	\$19.12	Aerial Truck								1.00	2.00	
Heavy Vehicle (Rsc 05) - Class D	\$21.21	Digger Derrick					1.00					

74

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 74 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

LABOR AND EQUIPMENT FACTORS

Inflation rate =	1.024
A&G/Fringe =	72.00%
Small Tools % for TEC Field Labor =	2.68%
% Supv & Admin Lighting Field - TEC Labor (Maintenance) =	48.92%
% Supv & Admin TEC Lighting Engineering - TEC Labor (Installation) =	32.1%
% Supv & Admin TEC Lighting Field - TEC Labor (Installation) =	32.1%
ED Material Handling % =	25.17%
At-Cost Labor Conversion Factor (ACRF) =	1.38
Street fixture life *	19
Area fixture life *	17
Premium fixture life *	15
* Assume fixtures are in place equal to their book lives	

TAMPA ELECTRIC COMPANY
 DOCKET NO. 080317-EI
 LIGHTING INCREMENTAL COST STUDY - 2008
 SUPPLEMENTAL MFR SCHEDULE 13D
 WITNESS: ASHBURN
 PAGE 75 OF 77
 FILED: 08/11/2008
 REVISED: 12/29/2008

AVERAGE SPAN LENGTH
IES DESIGN STANDARD

Fixture Type	Rate	Fixture Long Desc	Lamp	Fixture	Scenario	Ratio PL	Ratio Rdwy	OH Span to meet IES	UG Span to meet IES	Number Lights Plotted for Avg	Typical Pole Height	TSN	Average OH Span	Average UG Span	
Flood	468	250W HPS Flood	HPS	Flood	Parking Lot	100%	0%	137	137	5	29	5585810	137.0	137.0	
Flood	478	400W HPS Flood	HPS	Flood	Parking Lot	100%	0%	140	140	5	29	5585815	140.0	140.0	
PT	509	50W HPS PT	HPS	PT	OL1			N/A		65		5583610	N/A	65.0	
Cobra	520	400W MH Cobra	MH	Cobra	Parking Lot	100%	0%	150	115	5	29	5587000	150.0	115.0	
Shoobox	550	100W HPS Shoobox	HPS	Shoobox	Parking Lot			95	95	5	29	5587550			
Shoobox	552	400W HPS Shoobox	HPS	Shoobox	Roadway Subdivision	10%	90%	160	160	2	29	5587550	153.5	153.5	
Shoobox	554	400W MH Shoobox FWT & MC	MH	Shoobox	Parking Lot	90%	10%	120	120	5	29	5580150	127.5	127.5	
Shoobox	554	400W MH Shoobox FWT & MC	MH	Shoobox	Roadway			195	195			5580150			
Shoobox	554	400W MH Shoobox FWT & MC	MH	Shoobox	Parking Lot	85%	15%	126	126	5	29	5586450	128.9	128.9	
Shoobox	554	400W MH Shoobox FWT & MC	MH	Shoobox	Roadway Subdivision			145	145	3	29	5586450			
Flood	556	400W MH Flood	MH	Flood	Parking Lot	100%	0%	100	100	5	29	5588590	100.0	100.0	
Flood	558	1000W MH Flood	MH	Flood	Parking Lot	100%	0%	145	145	5	29	5585900	145.0	145.0	
Decorative	562	400W MH Decorative - Cube	MH	Decorative - Cube	zero Customers										
Shoobox	564	175W MH Shoobox	MH	Shoobox	Parking Lot	90%	10%	106	106	5	29	5580280	111.4	111.4	
Shoobox	564	175W MH Shoobox	MH	Shoobox	Subdivision Roadway			160	160	5	29	5580280			
Shoobox	566	250W HPS Shoobox	HPS	Shoobox	Parking Lot	10%	90%	120	120	2	29	5580170	187.5	187.5	
Shoobox	566	250W HPS Shoobox	HPS	Shoobox	Roadway Subdivision			195	195	2	29	5580170			
PT	570	100W HPS PT Classic(Promena)	HPS	PT Classic	Parking Lot			N/A	85	5	13	5586268			
PT	570	100W HPS PT Enhanced Classi	HPS	PT Classic	Parking Lot	25%	75%	N/A	85	5	13	5582120	N/A	100.0	
PT	570	100W HPS PT Enhanced Classi	HPS	PT Classic	Subdivision Roadway			N/A	105	4	13	5582120			
PT	571	100W HPS PT Cube/Contempor	HPS	PT Cube/Contemporary				N/A					N/A	100.0	
PT	572	100W HPS PT Colonial	HPS	Colonial	Parking Lot	25%	75%	N/A	85	5	13	5586150	N/A	100.0	
PT	572	100W HPS PT Colonial	HPS	Colonial	Roadway			N/A	105	4	13	5586150			
PT	573	100W HPS PT Salem	HPS	PT Salem	Parking Lot	25%	75%	N/A	85	5	13	5586661	N/A	100.0	
PT	573	100W HPS PT Salem	HPS	PT Salem	Subdivision Roadway			N/A	105	4	13	5586661			
PT	574	175W MH PT General (Enhance)	MH	PT General	Parking Lot			N/A	85	5	13	5587760			
PT	574	175W MH PT General (Classic)	MH	PT General	Parking Lot	25%	75%	N/A	85	5	13	5583350	N/A	100.0	
PT	574	175W MH PT Colonial	MH	PT Colonial	Parking Lot			N/A	85	5	13	5584200			
PT	574	175W MH PT Colonial	MH	PT Colonial	Subdivision Roadway			N/A	105	4	13	5584200			
PT	575	175W MH PT Salem	MH	PT Salem	Parking Lot	75%	25%	N/A	85	5	13	5582050	N/A	90.0	
PT	575	175W MH PT Salem	MH	PT Salem	Roadway			N/A	105	4	13	5582050			
Shoobox	576	1000W MH Shoobox FWT & MC	MH	Shoobox	Parking Lot	100%	0%	140	140	5	29	5580216	140.0	140.0	
Cobra	662	70W HPS Cobra	HPS	Cobra	OL1	OL1	OL1	146	82	5	29	5586210	146.0	77.6	
Cobra	662	70W HPS NEMA	HPS	NEMA	OL1	OL1	OL1	146	66	5	29	5586222			
PT	668	70W HPS PT Coach	HPS	PT Coach	OL1	OL1	OL1	N/A	65	5	13	5586170	N/A	65.0	
Cobra	672	100W HPS Cobra	HPS	Cobra	Roadway			146	146	3	29	5586220			
Cobra	672	100W HPS Cobra/Cutoff	HPS	Cobra	Roadway	25%	75%	146	146	3	29	5586290	144.5	144.5	
Cobra	672	100W HPS NEMA	HPS	Cobra	Parking Lot			83	83	5	29	5586221			
Mongoose	679	400W HPS Mongoose	HPS	Mongoose	Parking Lot	50%	50%	126	126			5586663	148.0	178.0	
Mongoose	679	400W HPS Mongoose	HPS	Mongoose	Roadway			170	230	2	40	5586663			
Cobra	682	250W HPS Cobra	HPS	Cobra	Roadway			170	195	3	29	5586700			
Cobra	682	250W HPS Cobra/Cutoff DOT	HPS	Cobra	Roadway	70%	30%	170	195	3	29	5586010	153.1	161.1	
Cobra	682	250W HPS Cobra/Cutoff	HPS	Cobra	Roadway			170	195	3	29	5586190			
Cobra	682	250W HPS Cobra & Cutoff	HPS	Cobra	Parking Lot			145	145	5	29	5586200			
Cobra	692	400W HPS Cobra DOT	HPS	Cobra	Roadway			170	230	2	40	5586280			
Cobra	692	400W HPS Cobra/Cutoff DOT	HPS	Cobra	Roadway	60%	40%	170	230	2	40	5586160	154.0	192.1	
Cobra	692	400W HPS Cobra/Cutoff DOT	HPS	Cobra	Roadway Staggered			170	230	2	40	5586160			
Cobra	692	400W HPS Cobra & Cutoff	HPS	Cobra	Parking Lot			128	128	5	29	5586280			
Turnpike	699	400W HPS Turnpike	HPS	Turnpike				N/A							
Cobra	742	50W HPS Cobra	HPS	Cobra	OL1	OL1	OL1	144.5	60	5	29	5586230	144.5	60.0	
Cobra	752	150W HPS Cobra	HPS	Cobra	Roadway			160	160	3	29	5586050			
Cobra	752	150W HPS Cobra/Cutoff	HPS	Cobra	Roadway	50%	50%	160	160	3	29	5586020	141.4	141.4	
Cobra	752	150W HPS Cobra & Cutoff	HPS	Cobra	Parking Lot			118	118	5	29	5586050			
													AVERAGE SPAN	141.6	129.1
													Total Poles	39%	61%
													OVERALL AVERAGE SPAN	134.0	

76

TAMPA ELECTRIC COMPANY
DOCKET NO. 080317-EI
LIGHTING INCREMENTAL COST STUDY - 2008
SUPPLEMENTAL MFR SCHEDULE 13D
WITNESS: ASHBURN
PAGE 76 OF 77
FILED: 08/11/2008

CALCULATION OF 19-YEAR LEVELIZED FIXED CHARGE RATE

	COST RATE	RATIO																				
COMMON EQUITY	0.1200	0.5500		Property Tax Escalation Rate 1.03																		
PREFERRED STOCK	0.0000	0.0000																				
DEBT	0.0690	0.4500																				
NET SALVAGE	0.00																					
BOOK DEPR. RATE	0.0526																					
DISCOUNT RATE	0.0851																					
TAX RATE	0.3858	INITIAL COST		1.00																		
ITC RATE	0.0000	BOOK LIFE		19 Years																		
OTHER TAX RATE	0.0144	TAX LIFE		7 Years																		
DEPRECIATION		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
TAX BASIS	1.000																					
TAX DEP RATE %	14.290	24.490	17.490	12.490	8.930	8.920	8.930	4.460														
TAX DEP	0.143	0.245	0.175	0.125	0.089	0.089	0.089	0.045	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
BOOK DEP	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053			
RATE BASE ADJUSTMENTS																						
DEFERRED TAXES	0.035	0.074	0.047	0.028	0.014	0.014	0.014	-0.003	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020			
ACC DEF TAXES	0.035	0.109	0.156	0.184	0.198	0.212	0.226	0.223	0.203	0.183	0.162	0.142	0.122	0.102	0.081	0.061	0.041	0.020	0.000			
ACC BOOK DEP	0.053	0.105	0.158	0.211	0.263	0.316	0.368	0.421	0.474	0.526	0.579	0.632	0.684	0.737	0.789	0.842	0.895	0.947	1.000			
ITC AMORTIZATION	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
ACC DEF ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
RATE BASE																						
NET PLANT	0.956	0.849	0.736	0.646	0.572	0.505	0.439	0.380	0.339	0.307	0.275	0.242	0.210	0.178	0.145	0.113	0.081	0.048	0.016			
AVG DEF TAXES	0.035	0.109	0.156	0.184	0.198	0.212	0.226	0.223	0.203	0.183	0.162	0.142	0.122	0.102	0.081	0.061	0.041	0.020	0.000			
AVG ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
AVG COMMON	0.526	0.467	0.405	0.355	0.315	0.278	0.241	0.209	0.187	0.169	0.151	0.133	0.116	0.098	0.080	0.062	0.044	0.027	0.009			
AVG PREF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
AVG DEBT	0.430	0.382	0.331	0.291	0.257	0.227	0.197	0.171	0.153	0.138	0.124	0.109	0.095	0.080	0.065	0.051	0.036	0.022	0.007			
REVENUE REQUIREMENTS																						
O & M EXPENSES	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
PROPERTY TAXES/INS	0.014	0.015	0.015	0.016	0.016	0.017	0.017	0.018	0.018	0.019	0.019	0.020	0.020	0.021	0.021	0.022	0.022	0.023	0.024			
RETURN-DEBT	0.030	0.026	0.023	0.020	0.018	0.016	0.014	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.001			
RETURN-PREF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
RETURN-COMMON	0.063	0.056	0.049	0.043	0.038	0.033	0.029	0.025	0.022	0.020	0.018	0.016	0.014	0.012	0.010	0.007	0.005	0.003	0.001			
RETURN-ITC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
TOTAL RETURN	0.093	0.082	0.071	0.063	0.056	0.049	0.043	0.037	0.033	0.030	0.027	0.024	0.020	0.017	0.014	0.011	0.008	0.005	0.002			
CURRENT TAXES	0.005	-0.039	-0.017	-0.001	0.010	0.007	0.004	0.019	0.034	0.053	0.032	0.030	0.029	0.028	0.026	0.025	0.024	0.022	0.021			
TOTAL TAXES	0.040	0.035	0.030	0.027	0.024	0.021	0.018	0.016	0.014	0.013	0.011	0.010	0.009	0.007	0.006	0.005	0.003	0.002	0.001			
CASH DEP	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.053			
TOTAL REVENUE REQ	0.199	0.185	0.170	0.158	0.148	0.139	0.131	0.123	0.118	0.114	0.110	0.106	0.102	0.098	0.095	0.091	0.087	0.083	0.079			
FIXED CHARGE RATE	0.19947	0.18507	0.16982	0.15779	0.14807	0.13931	0.13056	0.12302	0.11789	0.11396	0.11004	0.10615	0.10227	0.09840	0.09456	0.09074	0.08693	0.08315	0.07939			
PRESENT WORTH REVENUE REQUIREMENTS																						
NPV	0.199	0.171	0.144	0.124	0.107	0.093	0.080	0.069	0.061	0.055	0.049	0.043	0.038	0.034	0.030	0.027	0.024	0.021	0.018			
FIXED CHARGE RATE	0.19947	0.17056	0.14424	0.12351	0.10681	0.09262	0.08000	0.06847	0.06135	0.05465	0.04864	0.04324	0.03839	0.03404	0.03015	0.02666	0.02354	0.02075	0.01826			
CUM NPV	0.199	0.370	0.514	0.638	0.745	0.837	0.917	0.987	1.048	1.103	1.151	1.195	1.233	1.267	1.297	1.324	1.347	1.368	1.386			
K-FACTOR	1.3864																					
LEVELIZED FIXED CHARGE RATE	0.1379																					
DEPRECIATION BOOK LIFE	19																					

77