

Application: 15-04-012
Exhibit No.: SDG&E-10

Application of SAN DIEGO GAS & ELECTRIC
COMPANY (U 902 E) For Authority To Update
Marginal Costs, Cost Allocation, And Electric
Rate Design.

Application No. 15-04-012
(Filed April 13, 2015)

SUPPLEMENTAL PREPARED DIRECT TESTIMONY OF
CHRISTOPHER SWARTZ
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY IN
SUPPORT OF SECOND AMENDED APPLICATION
CHAPTER 10
BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

JUNE 3, 2016



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1 **II. BACKGROUND**

2 In its *Second Amended Application of San Diego Gas and Electric Company for*
3 *Authority to Update Marginal Costs, Cost Allocation and Rate Design Second Amended*
4 *Application*, filed on February 9, 2016, SDG&E proposed the framework for a new rate option
5 for dimmable streetlights which would reduce the usage applied to the electric energy
6 commodity charge by the amount of kWh dimmed. During meetings with the City of San Diego
7 on street lighting, SDG&E received feedback on the need for a new rate option beyond what is
8 currently in place for streetlights, which is a monthly per lamp charge for unmetered streetlights.
9 This new rate option would support the installation of new streetlight technology, including
10 light-emitting diode (“LED”) lamps, and would allow customers to realize benefits related to
11 usage that can be varied through dimming. Since the new streetlight technology required
12 installing non-utility owned third-party metering devices, the focus of the feedback was based
13 upon a rate option for the Cities’ customer-owned streetlights.

14 To help gain a better understanding of the customer needs, SDG&E proposed to meet
15 with the various parties, including the interested Cities³ and the California Streetlighting
16 Association (“CAL-SLA”). At the prehearing conference held on January 26, 2016, the ALJ and
17 parties agreed that these meetings would take place in the form of workshops to be hosted by
18 SDG&E.⁴

19 Beginning February 19, 2016, SDG&E began hosting collaborative workshops with the
20 Cities to gain a mutual understanding on what was needed for the rate design and to ensure
21 progress towards a common goal.

³ Cities include the City of San Diego, Oceanside, Poway, Chula Vista, Escondido, Encinitas and Orange County

⁴ Prehearing Conference, January 26, 2016, Transcript at 72, line 5 through 76, line 27.

1 As a result of those workshops, the need for two new rate options to address two distinct
2 City needs was identified: (1) a new rate option for non-utility owned third party metered
3 dimmable streetlights, and (2) a new rate option for non-utility owned third party separately
4 metered ancillary devices that would result in incremental usage and leverage the metering
5 ability associated with third party metered streetlights. The need for two separate rates, as
6 opposed to a single rate, was driven by differing time periods when the energy was expected to
7 be used for the dimmable streetlight when compared to the various ancillary devices that the
8 streetlight may support.⁵ By separately metering the two services and subsequently allowing the
9 services to be billed on different rate options, the dusk to dawn allocation benefit for rates in the
10 streetlighting class would still be preserved for the dimmable streetlight, while the ancillary
11 device can operate like a small commercial service.

12 SDG&E presented: (1) a preliminary Dimmable Streetlight rate option, and (2) a
13 preliminary Ancillary Device rate option to the Cities and CAL-SLA on May 23, 2016. In
14 addition, SDG&E presented the start-up implementation costs and ongoing maintenance costs
15 associated with these two new rate options. The intent was to solicit feedback from the Cities
16 and CAL-SLA to help ensure the proposed rate options were in alignment with their request and
17 also create transparency around the related costs. The two rates proposed below, reflect this
18 feedback.

19 **III. PROPOSED STREETLIGHTING RATES**

20 SDG&E's proposals for a Dimmable Streetlight rate option and an Ancillary Device rate
21 option for customer-owned streetlights are provided below. These proposals are designed to be
22 consistent with SDG&E's rate design policy objectives, such as the need for providing customers

⁵ Ancillary street pole devices may include, but are not limited to cameras, cell phone circuits, etc.

1 with clear and accurate price signals, as presented in the Direct Testimony of Ms. Fang (Chapter 1)
2 and presented in my Direct Testimony (Chapter 2), where costs based rates are based upon:

- 3 • Customer costs being recovered through a fixed \$/month charge;
- 4 • For customers with distribution demand charges, recovery of distribution demand
5 costs are through a NCD to better reflect how costs are incurred;
- 6 • For customers with commodity demand charges, recovery of generation capacity
7 costs are through an on-peak commodity demand charge; and,
- 8 • Energy costs are recovered through a dollar per kWh energy charge structure to
9 recover commodity revenues related to marginal energy costs, differentiated by
10 season and TOU period structure.

11 **A. Dimmable Streetlight Rate Option**

12 The majority of existing SDG&E customer-owned streetlighting services (Schedule LS-
13 2) are unmetered and as such, the rate structure is a charge on a per-lamp basis, that varies by
14 lamp and wattage that is based on an assumed 4,165 hours per year for dusk to dawn operation.
15 Under a dimmable streetlighting rate option, the energy being used by a streetlight will be
16 metered by a non-utility owned third-party device on the customer-owned streetlight. Along
17 with measuring the energy being used, this technology will have the ability to reduce usage by
18 varying wattage at different times. While this can provide a reduction in commodity services,
19 there continues to be a need for remaining utility services such as distribution and transmission
20 services and cost responsibility for state mandated programs, such as Public Purpose Programs
21 (“PPP”).

22 Since the type of metering configuration for the dimmable streetlight option is different
23 from the standard utility owned metering configuration, such as SDG&E smart meters, it will
24 require additional system validation points. Additional validations will be needed to address

1 potential issues with the accuracy, timeliness, and the completeness of the interval data being
2 provided by the non-utility owned third party meters. If this data found to be inconsistent or not
3 accurate, it will cause issues with the customers' billing.

4 As the dimmable streetlights will continue to be using energy between dusk and dawn,
5 SDG&E proposes a rate structure that would be in the streetlighting customer class, but rather
6 than being based on a monthly per lamp charge will be based on an energy rate for all
7 components other than distribution to allow for varying energy usage associated with dimming to
8 be reflected as a benefit on the bill. The Dimmable Streetlight rate option consists of the
9 following components:

- 10 • A monthly per lamp charge for the recovery of all distribution costs that is equivalent
11 to the specific lamp's current monthly per lamp Distribution charge (\$/Lamp/Month)
12 to better reflect how these costs are incurred;⁶
- 13 • An energy rate for the recovery of all other rate components: Transmission, PPP,
14 Nuclear Decommissioning ("ND"), Competition Transition Charge ("CTC"), Local
15 Generation Charge ("LGC"), Reliability Services ("RS"), Department of Water
16 Resources Bond Charge ("DWR-BC"), DWR Credit, and Commodity (\$/kWh) in
17 order to provide a rate structure that meets the need of the dimmable streetlight rate
18 option;⁷
- 19 • A one-time upfront per participant charge and a monthly per lamp fee for the
20 recovery of start-up implementation costs to mitigate shifting these costs to non-
21 participating customers; and
- 22 • A monthly ongoing maintenance charge for the recovery of ongoing costs related to
23 the rate option to mitigate shifting of these costs to non-participating customers.

⁶ See, Direct Testimony of Christopher Swartz (Chapter 2), Attachments D, F and H.

⁷ See, SDG&E's 2016 GRC Phase 2 Lighting Model, "Inputs-General" tab.

1 Table CS-S-1 provides an illustrative example of the rates for three different dimmable LED
 2 lamps using the average Year 1 proposed rates in SDG&E's 2016 GRC Phase 2 filing. Please
 3 note that the table below does not include the one-time upfront charge for recovery of
 4 implementation start-up costs. Implementation costs are discussed later in this testimony.

5
 6 **Table CS-S-1 – LED Comparison (Year 1)**

	52 Watts	92 Watts	137 Watts
Current LS-2 LED Rate			
Lamp Charge (\$/Lamp/Month) ⁸	\$3.86	\$5.71	\$7.82
Proposed Rate			
Monthly Distribution Cost (\$/Lamp/Month)	\$1.80	\$2.06	\$2.35
Total Energy Rates (\$/kWh)	\$0.11410	\$0.11410	\$0.11410
Monthly Start-Up Fee (\$/Meter/Month)	\$0.10	\$0.10	\$0.10
Monthly Ongoing Maintenance Fee (\$/Meter/Month)	\$0.45	\$0.45	\$0.45

7
 8 **B. Ancillary Device Rate Option**

9 During the workshops, the Cities included the need for an option available for ancillary
 10 devices that could eventually be added to the streetlight poles. While the dimmable streetlight
 11 would still operate during the dusk to dawn period, the ancillary devices would have an
 12 expectation of 24-hour usage. This would include devices such as cameras, cell phone circuits,
 13 etc., which would have an expectation of low 24-hour usage outside of the dusk to dawn period.

14 Under the streetlighting class there is an assumption that the usage is occurring in the
 15 dusk to dawn time period, when the energy costs are assumed to be lower. This assumption

⁸ Assumes an average of 18 kWh for 52 watt LED, 32 kWh for 92 watt LED and 48 kWh for a 137 watt LED.

1 allows for cost allocation based upon the lower cost hours. Combining the dimmable streetlight
2 and ancillary device under one meter, and subsequently billing under one rate, the allocation
3 benefits of dusk to dawn operations would be lost as the service would now have energy usage
4 outside of the dusk to dawn period. In order to preserve the cost allocation benefit for the
5 dimmable streetlight service, SDG&E is proposing to have the Cities separately meter the
6 ancillary devices and proposes a rate option that would be in alignment with other 24-hour
7 services in the small commercial class.

8 Although the ancillary devices will be on the same streetlight pole, the metering
9 technology being installed by the third-party has the capability to separately meter the usage for
10 these devices. In workshops, the Cities informed SDG&E that the demand of these ancillary
11 devices is expected to be below 1kW. Therefore, SDG&E proposes a rate option that would be
12 part of the small commercial customer class, which is identified as non-Residential customers
13 with demand less than 20 kW, with SDG&E's Schedule TOU-A as the standard rate schedule for
14 customers in that class. SDG&E proposes an ancillary device rate option that consists of the
15 following rate components:

- 16 • A cost-based monthly service fee for the recovery of customer-related distribution
17 costs excluding metering costs associated with 0-2 kW demand based on our
18 Schedule Unmetered ("UM") customer which excludes metering costs and generally
19 serves smaller customers to better reflect how these costs are incurred;⁹
- 20 • Time-Of-Use ("TOU") energy rate for the recovery of commodity costs equal to the
21 TOU per kWh commodity rates for Schedule TOU-A to better reflect how these costs
22 are incurred;¹⁰

⁹ See, workpaper labeled "Ancillary Device Workpapers."

¹⁰ See, Direct Testimony of Christopher Swartz (Chapter 2), Attachments D, F and H.

- A flat energy rate (\$/kWh) for the recovery of demand-related distribution costs and all other rate components consistent with Schedule TOU-A (for Transmission, PPP, ND, CTC, LGC, RS, DWR-BC and the DWR Credit to better reflect how these costs are incurred;¹¹
- A one-time upfront per participant charge and monthly per lamp fee for the recovery of start-up implementation costs to mitigate shifting these costs to non-participating customers; and
- A monthly ongoing maintenance charge for the recovery of ongoing costs related to the rate option to mitigate shifting these costs to non-participating customers.

Implementation costs are discussed later in this testimony.

As the demand of the ancillary devices is expected to be below 1 kW, customers taking service under this schedule would see a benefit from a cost-based monthly service fee that is associated with a 0-2 kW demand, when compared with the cost based average monthly service fees associated with SDG&E’s small commercial class and Schedule UM. In addition, customers would see a benefit as the proposed cost-based monthly service fee would not include meter costs. Table CS-S-2 compares the average cost-based monthly service fees for the small commercial class, Schedule UM, and the proposed Ancillary Devices rate option (0-2 kW).

Table CS-S-2 – Cost Based Monthly Service Fee Comparison

	Small Commercial ¹²	UM ¹³	Ancillary Device Rate Option
<i>Secondary</i>			
MSF (\$/month)	\$35.69	\$22.47	\$10.22

¹¹ See, Direct Testimony of Christopher Swartz (Chapter 2), Attachments D, F and H.

¹² See, Direct Testimony of Christopher Swartz (Chapter 2), Table CS-17.

¹³ See, Workpapers supporting the direct Testimony of William Saxe (Chapter 6).

1 Table CS-S-3 below provides an overall illustrative rate comparison of the different
 2 charges associated with the proposed Ancillary Device rate, Schedule UM, and Schedule TOU-A
 3 under SDG&E's Year 1 proposal. Please note that the table below does not include the one-time
 4 upfront charge for recovery of implementation start-up costs. Implementation costs are
 5 discussed later in this testimony.

6 **Table CS-S-3 –Ancillary Device Rate Comparison (Year 1)**

Rate Component	Ancillary Device Rate Option	UM	TOU-A
<i>Secondary</i>			
MSF (\$/month)			
0-2kW	\$10.22	N/A	N/A
0-5 kW	N/A	\$8.01	\$9.30
> 5-20 kW	N/A	\$8.01	\$16.00
> 20-50kW	N/A	\$8.01	\$26.00
>50kW	N/A	\$8.01	\$66.70
Summer Total Energy Rate (\$/kWh)			
<i>On-peak</i>	\$0.28672	\$0.27192	\$0.31465
<i>Semi-peak</i>	\$0.24399	\$0.27192	\$0.27192
<i>Off-peak</i>	\$0.20607	\$0.27192	\$0.23400
Winter Total Energy Rate (\$/kWh)			
<i>On-peak</i>	\$0.19221	\$0.20967	\$0.22014
<i>Semi-peak</i>	\$0.18187	\$0.20967	\$0.20980
<i>Off-peak</i>	\$0.17165	\$0.20967	\$0.19958
Monthly Start-Up Fee (\$/Meter/Month)	\$0.10	N/A	N/A
Monthly Ongoing Maintenance Fee (\$/Meter/Month)	\$0.45	N/A	N/A

1 **IV. IMPLEMENTATION AND ONGOING SUPPORT COSTS**

2 **A. Start-Up Implementation Costs**

3 In order to implement the two proposed rate options described above, SDG&E would
4 need to make changes to its interval data processing and billing systems. As the meters
5 measuring the usage are not SDG&E smart meters, changes would be needed to allow SDG&E's
6 systems to receive and validate the accuracy of the interval data from a third-party system.
7 Without these changes, common issues such as missing data, delayed data and inaccurately
8 metered data would not be detected and would ultimately lead to inaccurate bills, estimated
9 billing, delayed billing and subsequent corrective bills. By identifying these issues up front in a
10 data validation process, these issues can be avoided. The required changes would include
11 automated processes for: (1) integration with the Cities/Vendor's meters and/or databases; (2)
12 inventory management to ensure the meter numbers and identifiers are in alignment between the
13 third-party systems and SDG&E's systems; (3) the implementation of interval data validating,
14 editing, and estimation ("VEE") processes to identify and assess gaps or missing data for specific
15 meters; and (4) bill calculations and presentment set-up. These processes would all be needed to
16 ensure the accurate and timely billing of customers on the proposed rates. It is estimated that the
17 start-up implementation cost for making these changes would be \$4.1 million. The details for
18 this cost estimate are provided in Attachment D.

19 To avoid shifting costs of this program to non-participating customers, SDG&E proposes
20 the recovery of these program costs from participating customers only. Cost-based recovery of
21 these initial implementation costs would be through an up-front lump sum payment. Currently,
22 SDG&E has 580 streetlighting customers who have customer owned streetlights¹⁴. Of these, the
23 Cities make up approximately 30 potential participants, which would result in an up-front lump-

¹⁴ Number of customers on SDG&E's Schedule LS-2.

1 sum payment of \$137,000 per participant if one assumes all 30 customers participate. SDG&E
2 recognizes that an up-front lump-sum payment of \$137,000 per participant would be prohibitive
3 and therefore, proposes that the initial implementation costs be tracked in a balancing account to
4 be off-set with (1) a one-time upfront fee of \$8,000 per participant and (2) a monthly per meter
5 fee of \$0.10. The one-time upfront fee of \$8,000 would be the same amount regardless of the
6 number of streetlights and ancillary devices that would be served under the two new rate options.
7 Since this approach would result in an undercollection, SDG&E proposes to address the
8 remaining balance in a future rate proceeding.

9 **B. Ongoing Maintenance Costs**

10 In addition to the initial implementation costs, there will also be ongoing costs to support
11 the monthly maintenance of these new proposed rate options. This ongoing support is needed to:
12 (1) address and resolve any identified discrepancies with the meter inventory between the Cities
13 and SDG&E; (2) handle the incremental exception processing for missing, inaccurate or delayed
14 interval data related to the data received from the third party non-utility meters; and, (3)
15 troubleshoot the incremental billing issues related to delayed or estimated bills, such as
16 corrective billing to adjust for any incorrect third party metering data or late metering data that
17 was not received prior to the monthly billing of the lamps or ancillary devices. The identified
18 ongoing support would be required for both the dimmable streetlight rate option and the ancillary
19 device rate option due to the use of non-utility owned third party metering devices and would
20 therefore be applied on a per meter per month basis. Current estimates of the ongoing
21 maintenance costs per meter are presented in Table CS-S-4 below. For ongoing maintenance
22 costs, as the number of meters taking service under the proposed rate options increases, the
23 support costs per meter will decrease. The details for these cost estimates are presented in
24 Attachment D.

Table CS-S-4 – Monthly Maintenance Costs

Number of Meters	Cost (\$/meter/month)
0 - 50,000	\$0.83
50,000 to 100,000	\$0.55
>100,000	\$0.42

SDG&E proposes the recovery of these ongoing maintenance costs from participating customers to avoid shifting program costs to non-participating customers. In the May 23rd workshop, it was brought up by the Cities that the ongoing maintenance cost structure, based upon the number of meters, may create a disincentive for early adopters, who instead of transitioning to the rate options as soon as possible may elect to wait until more customers take service under these rate options. To avoid this, SDG&E proposes a balancing account to track the ongoing maintenance costs to be offset by an initial monthly maintenance fee of \$0.45 per meter per month. Should the level of inaccurate, late, or missing interval data prove to be less or more substantial than projected, SDG&E proposes to re-examine the appropriate level of the monthly maintenance fee in a future rate proceeding.

V. COMPLIANCE WITH COMMISSION RESOLUTION E-4757

In order to comply with Ordering Paragraphs 2 and 3 of Commission Resolution E-4757, SDG&E served on the parties to this proceeding a plan on May 20, 2016 describing when and how the data collected in its Streetlighting Pilot Program¹⁵ would be used to inform its long-term dimmable streetlighting rate option, and what the costs of the pilot were, as authorized in the Resolution.”¹⁶

As discussed in the plan filed on May 20th, the two primary uses for the data being gathered in the pilot are (1) sampling and reviewing the interval usage data from the customer

¹⁵ The Streetlighting Pilot program was proposed in SDG&E AL 2665-E and approved by Resolution E-4757.

¹⁶ See, Resolution E-4757, at p. 11.

1 owned watt hour meters to ensure overall accuracy regarding dimming capabilities; and (2)
2 projecting the long term costs for implementing and maintaining the new dimmable rate option.

3 A key component of the pilot is the ability to review and validate the interval data
4 registering in the third party non-utility owned meters. By reviewing the interval data, SDG&E
5 can gain a better understanding of what issues to expect with the accuracy, timelines and
6 completeness with the interval data, so that it can better design its validation processes. This is
7 important as if the data is found to have a high number of inaccuracies or gaps than the
8 associated costs will be need to be higher to support the processing. However, if the meters are
9 found to be providing data in an accurate, timely and complete manner, in alignment with
10 SDG&E's smart meters, than the costs for supporting this could be lowered. In addition,
11 reviewing the interval data will help to better understand how often the non-utility owned third
12 party meters will need to be tested in field for accuracy. If the interval data is found to have a
13 high number of inconsistencies or inaccuracies, a higher rigor will need to be placed on the
14 amount of meters that should be tested in field.

15 The pilot implementation and ongoing monthly maintenance costs, as presented in the
16 May 20th filing, were an input for the costs presented in this testimony, such as the costs related
17 to the manual account setup, data validation and rate change processing for billing. However,
18 two key technical and process differences between the pilot and the proposed rate options
19 presented in this testimony are: (1) the pilot was assuming a predetermined fixed dimming rate
20 and is not based upon the actual metered energy being used, whereas the proposed rate options
21 will use the third party provided metered interval data to calculate the bill; and, (2) the pilot was
22 only for the dimmable streetlights and did not provide for the ancillary devices. These
23 differences were accounted for in the cost figures presented in this testimony.

1 **VI. SUMMARY AND CONCLUSION**

2 This supplemental testimony presents SDG&E's rate design proposal for a new
3 dimmable streetlight rate option and an ancillary device rate option, supplementing my
4 February 9, 2016 prepared direct testimony, which originally proposed the framework for a new
5 rate option for dimmable streetlights. For the foregoing reasons, SDG&E requests that the
6 Commission approve the following:

- 7 • SDG&E's proposed Dimmable Streetlighting option which consists of consists of
8 the following components:
 - 9 ○ A monthly per lamp charge for the recovery of all distribution costs that is
10 equivalent to the specific lamp's current monthly per lamp Distribution charge
11 (\$/Lamp/Month);
 - 12 ○ An energy rate (\$/kWh) for the recovery of all other rate components,
13 including: Transmission, PPP, ND, CTC, LGC, RS, DWR-BC, the DWR
14 Credit and Commodity;
 - 15 ○ A one-time upfront fee of \$8,000 per participant and a monthly per meter
16 start-up fee of \$0.10 for the recovery of start-up implementation costs; and
 - 17 ○ A monthly per meter ongoing maintenance charge of \$0.45 for the recovery of
18 ongoing costs related to the rate option.
- 19 • SDG&E's proposed Ancillary Device option consists of the following components:
 - 20 ○ A cost-based monthly service fee that reflects the recovery of customer-
21 related distribution costs excluding metering costs for our smallest small
22 commercial customers (0-2 kW)¹⁷;

¹⁷ See, workpaper labeled "Ancillary Device Workpapers."

- A Time-Of-Use (“TOU”) energy rate for the recovery of commodity costs consistent with Schedule TOU-A;
- A Flat energy rate (\$/kWh) for the recovery of distribution-related demand costs and all other rate components consistent with Schedule A, which includes: Transmission, PPP, ND, CTC, LGC, RS, the DWR-BC and DWR Credit;
- A one-time upfront fee of \$8,000 per participant and a monthly per meter start-up fee of \$0.10 for the recovery of start-up implementation costs; and
- A monthly per meter ongoing maintenance charge of \$0.45 for the recovery of ongoing costs related to the rate option.
- A balancing account to track implementation costs and revenues from the \$8,000 upfront participant fee and the \$0.10 monthly per meter start-up fee and the ability to address any under-collected balance in future rate proceedings.
- A balancing account to track implementation costs and revenues from the \$0.45 monthly per meter ongoing maintenance charge and ability to re-examine monthly maintenance charges to address under-collected balance in future rate proceedings.

This concludes my prepared supplemental direct testimony.

ATTACHMENT A

ILLUSTRATIVE PROPOSED RATES FOR NEW STREETLIGHTING RATE OPTIONS FOR YEAR 1
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT
 2016 GENERAL RATE CASE (GRC) PHASE 2 A.15-04-012

LINE NO.	Description (A)	TRANS RATE (\$/KWh) (B)	DIST RATE (\$/Lamp) (C)	PPP RATE (\$/KWh) (D)	ND RATE (\$/KWh) (E)	CTC RATE (\$/KWh) (F)	LCG RATE (\$/KWh) (G)	RS RATE (\$/KWh) (H)	TRAC RATE (\$/KWh) (I)	UDC RATE (\$/Lamp) (J)	UDC RATE (\$/KWh) (K)	DWR-BC RATE (\$/Lamp) (L)	ECC RATE (\$/Lamp) (M)	DWR CREDIT (\$/Lamp) (N)	TOTAL RATE (\$/Lamp) (O)	TOTAL RATE (\$/KWh) (P)	LINE NO.
1	0.5	0.01656	1.47	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.47	0.02230	0.00526	0.08893	(0.00239)	1.47	0.11410	1
2	5.01-10	0.01656	1.51	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.51	0.02230	0.00526	0.08893	(0.00239)	1.51	0.11410	2
3	10.01-15	0.01656	1.54	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.54	0.02230	0.00526	0.08893	(0.00239)	1.54	0.11410	3
4	15.01-20	0.01656	1.57	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.57	0.02230	0.00526	0.08893	(0.00239)	1.57	0.11410	4
5	20.01-25	0.01656	1.60	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.60	0.02230	0.00526	0.08893	(0.00239)	1.60	0.11410	5
6	25.01-30	0.01656	1.64	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.64	0.02230	0.00526	0.08893	(0.00239)	1.64	0.11410	6
7	30.01-35	0.01656	1.67	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.67	0.02230	0.00526	0.08893	(0.00239)	1.67	0.11410	7
8	35.01-40	0.01656	1.70	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.70	0.02230	0.00526	0.08893	(0.00239)	1.70	0.11410	8
9	40.01-45	0.01656	1.73	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.73	0.02230	0.00526	0.08893	(0.00239)	1.73	0.11410	9
10	45.01-50	0.01656	1.77	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.77	0.02230	0.00526	0.08893	(0.00239)	1.77	0.11410	10
11	50.01-55	0.01656	1.80	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.80	0.02230	0.00526	0.08893	(0.00239)	1.80	0.11410	11
12	55.01-60	0.01656	1.83	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.83	0.02230	0.00526	0.08893	(0.00239)	1.83	0.11410	12
13	60.01-65	0.01656	1.86	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.86	0.02230	0.00526	0.08893	(0.00239)	1.86	0.11410	13
14	65.01-70	0.01656	1.90	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.90	0.02230	0.00526	0.08893	(0.00239)	1.90	0.11410	14
15	70.01-75	0.01656	1.93	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.93	0.02230	0.00526	0.08893	(0.00239)	1.93	0.11410	15
16	75.01-80	0.01656	1.96	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.96	0.02230	0.00526	0.08893	(0.00239)	1.96	0.11410	16
17	80.01-85	0.01656	1.99	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.99	0.02230	0.00526	0.08893	(0.00239)	1.99	0.11410	17
18	85.01-90	0.01656	2.03	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.03	0.02230	0.00526	0.08893	(0.00239)	2.03	0.11410	18
19	90.01-95	0.01656	2.06	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.06	0.02230	0.00526	0.08893	(0.00239)	2.06	0.11410	19
20	95.01-100	0.01656	2.09	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.09	0.02230	0.00526	0.08893	(0.00239)	2.09	0.11410	20
21	100.01-105	0.01656	2.13	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.13	0.02230	0.00526	0.08893	(0.00239)	2.13	0.11410	21
22	105.01-110	0.01656	2.16	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.16	0.02230	0.00526	0.08893	(0.00239)	2.16	0.11410	22
23	110.01-115	0.01656	2.19	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.19	0.02230	0.00526	0.08893	(0.00239)	2.19	0.11410	23
24	115.01-120	0.01656	2.22	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.22	0.02230	0.00526	0.08893	(0.00239)	2.22	0.11410	24
25	120.01-125	0.01656	2.26	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.26	0.02230	0.00526	0.08893	(0.00239)	2.26	0.11410	25
26	125.01-130	0.01656	2.29	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.29	0.02230	0.00526	0.08893	(0.00239)	2.29	0.11410	26
27	130.01-135	0.01656	2.32	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.32	0.02230	0.00526	0.08893	(0.00239)	2.32	0.11410	27
28	135.01-140	0.01656	2.35	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.35	0.02230	0.00526	0.08893	(0.00239)	2.35	0.11410	28
29	140.01-145	0.01656	2.39	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.39	0.02230	0.00526	0.08893	(0.00239)	2.39	0.11410	29
30	145.01-150	0.01656	2.42	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.42	0.02230	0.00526	0.08893	(0.00239)	2.42	0.11410	30
31	150.01-155	0.01656	2.45	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.45	0.02230	0.00526	0.08893	(0.00239)	2.45	0.11410	31
32	155.01-160	0.01656	2.48	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.48	0.02230	0.00526	0.08893	(0.00239)	2.48	0.11410	32
33	160.01-165	0.01656	2.52	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.52	0.02230	0.00526	0.08893	(0.00239)	2.52	0.11410	33
34	165.01-170	0.01656	2.55	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.55	0.02230	0.00526	0.08893	(0.00239)	2.55	0.11410	34
35	170.01-175	0.01656	2.58	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.58	0.02230	0.00526	0.08893	(0.00239)	2.58	0.11410	35
36	175.01-180	0.01656	2.61	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.61	0.02230	0.00526	0.08893	(0.00239)	2.61	0.11410	36
37	180.01-185	0.01656	2.65	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.65	0.02230	0.00526	0.08893	(0.00239)	2.65	0.11410	37
38	185.01-190	0.01656	2.68	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.68	0.02230	0.00526	0.08893	(0.00239)	2.68	0.11410	38
39	190.01-195	0.01656	2.71	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.71	0.02230	0.00526	0.08893	(0.00239)	2.71	0.11410	39
40	195.01-200	0.01656	2.75	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.75	0.02230	0.00526	0.08893	(0.00239)	2.75	0.11410	40
41	200.01-205	0.01656	2.78	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.78	0.02230	0.00526	0.08893	(0.00239)	2.78	0.11410	41
42	205.01-210	0.01656	2.81	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.81	0.02230	0.00526	0.08893	(0.00239)	2.81	0.11410	42
43	210.01-215	0.01656	2.84	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.84	0.02230	0.00526	0.08893	(0.00239)	2.84	0.11410	43
44	215.01-220	0.01656	2.88	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.88	0.02230	0.00526	0.08893	(0.00239)	2.88	0.11410	44
45	220.01-225	0.01656	2.91	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.91	0.02230	0.00526	0.08893	(0.00239)	2.91	0.11410	45
46	225.01-230	0.01656	2.94	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.94	0.02230	0.00526	0.08893	(0.00239)	2.94	0.11410	46
47	230.01-235	0.01656	2.97	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.97	0.02230	0.00526	0.08893	(0.00239)	2.97	0.11410	47
48	235.01-240	0.01656	3.01	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.01	0.02230	0.00526	0.08893	(0.00239)	3.01	0.11410	48

LS-2, LED, Rate A, Energy, 1-Lamp; Dimmable Rate Option;

Watts/Lamp

ATTACHMENT A

ILLUSTRATIVE PROPOSED RATES FOR NEW STREETLIGHTING RATE OPTIONS FOR YEAR 1
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT
 2016 GENERAL RATE CASE (GRC) PHASE 2 A.15-04-012

LINE NO.	Description	TRANS RATE (\$/KWh)	DIST RATE (\$/Lamp)	PPP RATE (\$/KWh)	ND RATE (\$/KWh)	CTC RATE (\$/KWh)	LCG RATE (\$/KWh)	RS RATE (\$/KWh)	TRAC RATE (\$/KWh)	UDC RATE (\$/Lamp)	UDC RATE (\$/KWh)	DWR-BC RATE (\$/Lamp)	ECC RATE (\$/Lamp)	DWR CREDIT (N)	TOTAL RATE (\$/Lamp)	TOTAL RATE (\$/KWh)	LINE NO.
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	
49	240.01-245	0.01656	3.04	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.04	0.02230	0.00526	0.08893	(0.00239)	3.04	0.11410	49
50	245.01-250	0.01656	3.07	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.07	0.02230	0.00526	0.08893	(0.00239)	3.07	0.11410	50
51	250.01-255	0.01656	3.10	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.10	0.02230	0.00526	0.08893	(0.00239)	3.10	0.11410	51
52	255.01-260	0.01656	3.14	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.14	0.02230	0.00526	0.08893	(0.00239)	3.14	0.11410	52
53	260.01-265	0.01656	3.17	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.17	0.02230	0.00526	0.08893	(0.00239)	3.17	0.11410	53
54	265.01-270	0.01656	3.20	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.20	0.02230	0.00526	0.08893	(0.00239)	3.20	0.11410	54
55	270.01-275	0.01656	3.24	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.24	0.02230	0.00526	0.08893	(0.00239)	3.24	0.11410	55
56	275.01-280	0.01656	3.27	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.27	0.02230	0.00526	0.08893	(0.00239)	3.27	0.11410	56
57	280.01-285	0.01656	3.30	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.30	0.02230	0.00526	0.08893	(0.00239)	3.30	0.11410	57
58	285.01-290	0.01656	3.33	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.33	0.02230	0.00526	0.08893	(0.00239)	3.33	0.11410	58
59	290.01-295	0.01656	3.37	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.37	0.02230	0.00526	0.08893	(0.00239)	3.37	0.11410	59
60	295.01-300	0.01656	3.40	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.40	0.02230	0.00526	0.08893	(0.00239)	3.40	0.11410	60
61	300.01-305	0.01656	3.43	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.43	0.02230	0.00526	0.08893	(0.00239)	3.43	0.11410	61
62	305.01-310	0.01656	3.46	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.46	0.02230	0.00526	0.08893	(0.00239)	3.46	0.11410	62
63	310.01-315	0.01656	3.50	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.50	0.02230	0.00526	0.08893	(0.00239)	3.50	0.11410	63
64	315.01-320	0.01656	3.53	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.53	0.02230	0.00526	0.08893	(0.00239)	3.53	0.11410	64
65	320.01-325	0.01656	3.56	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.56	0.02230	0.00526	0.08893	(0.00239)	3.56	0.11410	65
66	325.01-330	0.01656	3.59	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.59	0.02230	0.00526	0.08893	(0.00239)	3.59	0.11410	66
67	330.01-335	0.01656	3.63	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.63	0.02230	0.00526	0.08893	(0.00239)	3.63	0.11410	67
68	335.01-340	0.01656	3.66	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.66	0.02230	0.00526	0.08893	(0.00239)	3.66	0.11410	68
69	340.01-345	0.01656	3.69	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.69	0.02230	0.00526	0.08893	(0.00239)	3.69	0.11410	69
70	345.01-350	0.01656	3.72	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.72	0.02230	0.00526	0.08893	(0.00239)	3.72	0.11410	70
71	350.01-355	0.01656	3.76	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.76	0.02230	0.00526	0.08893	(0.00239)	3.76	0.11410	71
72	355.01-360	0.01656	3.79	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.79	0.02230	0.00526	0.08893	(0.00239)	3.79	0.11410	72
73	360.01-365	0.01656	3.82	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.82	0.02230	0.00526	0.08893	(0.00239)	3.82	0.11410	73
74	365.01-370	0.01656	3.86	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.86	0.02230	0.00526	0.08893	(0.00239)	3.86	0.11410	74
75	370.01-375	0.01656	3.89	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.89	0.02230	0.00526	0.08893	(0.00239)	3.89	0.11410	75
76	375.01-380	0.01656	3.92	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.92	0.02230	0.00526	0.08893	(0.00239)	3.92	0.11410	76
77	380.01-385	0.01656	3.95	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.95	0.02230	0.00526	0.08893	(0.00239)	3.95	0.11410	77
78	385.01-390	0.01656	3.99	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.99	0.02230	0.00526	0.08893	(0.00239)	3.99	0.11410	78
79	390.01-395	0.01656	4.02	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	4.02	0.02230	0.00526	0.08893	(0.00239)	4.02	0.11410	79
80	395.01-400	0.01656	4.05	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	4.05	0.02230	0.00526	0.08893	(0.00239)	4.05	0.11410	80
81																	81
82																	82
83	Street Lighting Ancillary Device Rate Option:																83
84	Rate Component																84
85	Monthly Service Fee (\$/Month)		10.22							10.22					10.22		85
86	Energy Charges (\$/KWh)																86
87	Summer	On-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.28672		87
88		Semi-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.24389		88
89		Off-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.20607		89
90																	90
91	Winter	On-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.19221		91
92		Semi-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.18187		92
93		Off-Peak	0.02837	0.05610	0.01703	0.00108	0.00038	0.00027	0.00000					(0.00239)	0.17165		93
94																	94

ATTACHMENT B

ILLUSTRATIVE PROPOSED RATES FOR NEW STREETLIGHTING RATE OPTIONS FOR YEAR 2
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT

LINE NO.	Description	LS-2, LED, Rate A, Energy, 1-Lamp: Dimmable Rate Option:														TOTAL RATE (\$/kWh)	TOTAL RATE (\$/Lamp)	DWR CREDIT (\$/Lamp)	TOTAL RATE (\$/kWh)	LINE NO.
		TRANS RATE (\$/kWh)	DIST RATE (\$/Lamp)	RATE (C)	RATE (D)	RATE (E)	RATE (F)	RATE (G)	RATE (H)	RATE (I)	RATE (J)	RATE (K)	RATE (L)	EECC RATE (\$/Lamp)						
1	0-5	0.01656	1.41	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.41	0.02230	0.00526	0.09309	0.00239	1.41	0.11826	1			
2	5.01-10	0.01656	1.44	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.44	0.02230	0.00526	0.09309	0.00239	1.44	0.11826	2			
3	10.01-15	0.01656	1.47	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.47	0.02230	0.00526	0.09309	0.00239	1.47	0.11826	3			
4	15.01-20	0.01656	1.50	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.50	0.02230	0.00526	0.09309	0.00239	1.50	0.11826	4			
5	20.01-25	0.01656	1.53	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.53	0.02230	0.00526	0.09309	0.00239	1.53	0.11826	5			
6	25.01-30	0.01656	1.56	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.56	0.02230	0.00526	0.09309	0.00239	1.56	0.11826	6			
7	30.01-35	0.01656	1.59	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.59	0.02230	0.00526	0.09309	0.00239	1.59	0.11826	7			
8	35.01-40	0.01656	1.63	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.63	0.02230	0.00526	0.09309	0.00239	1.63	0.11826	8			
9	40.01-45	0.01656	1.66	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.66	0.02230	0.00526	0.09309	0.00239	1.66	0.11826	9			
10	45.01-50	0.01656	1.69	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.69	0.02230	0.00526	0.09309	0.00239	1.69	0.11826	10			
11	50.01-55	0.01656	1.72	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.72	0.02230	0.00526	0.09309	0.00239	1.72	0.11826	11			
12	55.01-60	0.01656	1.75	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.75	0.02230	0.00526	0.09309	0.00239	1.75	0.11826	12			
13	60.01-65	0.01656	1.78	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.78	0.02230	0.00526	0.09309	0.00239	1.78	0.11826	13			
14	65.01-70	0.01656	1.81	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.81	0.02230	0.00526	0.09309	0.00239	1.81	0.11826	14			
15	70.01-75	0.01656	1.84	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.84	0.02230	0.00526	0.09309	0.00239	1.84	0.11826	15			
16	75.01-80	0.01656	1.88	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.88	0.02230	0.00526	0.09309	0.00239	1.88	0.11826	16			
17	80.01-85	0.01656	1.91	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.91	0.02230	0.00526	0.09309	0.00239	1.91	0.11826	17			
18	85.01-90	0.01656	1.94	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.94	0.02230	0.00526	0.09309	0.00239	1.94	0.11826	18			
19	90.01-95	0.01656	1.97	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.97	0.02230	0.00526	0.09309	0.00239	1.97	0.11826	19			
20	95.01-100	0.01656	2.00	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.00	0.02230	0.00526	0.09309	0.00239	2.00	0.11826	20			
21	100.01-105	0.01656	2.03	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.03	0.02230	0.00526	0.09309	0.00239	2.03	0.11826	21			
22	105.01-110	0.01656	2.06	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.06	0.02230	0.00526	0.09309	0.00239	2.06	0.11826	22			
23	110.01-115	0.01656	2.09	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.09	0.02230	0.00526	0.09309	0.00239	2.09	0.11826	23			
24	115.01-120	0.01656	2.13	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.13	0.02230	0.00526	0.09309	0.00239	2.13	0.11826	24			
25	120.01-125	0.01656	2.16	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.16	0.02230	0.00526	0.09309	0.00239	2.16	0.11826	25			
26	125.01-130	0.01656	2.19	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.19	0.02230	0.00526	0.09309	0.00239	2.19	0.11826	26			
27	130.01-135	0.01656	2.22	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.22	0.02230	0.00526	0.09309	0.00239	2.22	0.11826	27			
28	135.01-140	0.01656	2.25	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.25	0.02230	0.00526	0.09309	0.00239	2.25	0.11826	28			
29	140.01-145	0.01656	2.28	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.28	0.02230	0.00526	0.09309	0.00239	2.28	0.11826	29			
30	145.01-150	0.01656	2.31	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.31	0.02230	0.00526	0.09309	0.00239	2.31	0.11826	30			
31	150.01-155	0.01656	2.34	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.34	0.02230	0.00526	0.09309	0.00239	2.34	0.11826	31			
32	155.01-160	0.01656	2.37	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.37	0.02230	0.00526	0.09309	0.00239	2.37	0.11826	32			
33	160.01-165	0.01656	2.41	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.41	0.02230	0.00526	0.09309	0.00239	2.41	0.11826	33			
34	165.01-170	0.01656	2.44	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.44	0.02230	0.00526	0.09309	0.00239	2.44	0.11826	34			
35	170.01-175	0.01656	2.47	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.47	0.02230	0.00526	0.09309	0.00239	2.47	0.11826	35			
36	175.01-180	0.01656	2.50	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.50	0.02230	0.00526	0.09309	0.00239	2.50	0.11826	36			
37	180.01-185	0.01656	2.53	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.53	0.02230	0.00526	0.09309	0.00239	2.53	0.11826	37			
38	185.01-190	0.01656	2.56	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.56	0.02230	0.00526	0.09309	0.00239	2.56	0.11826	38			
39	190.01-195	0.01656	2.59	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.59	0.02230	0.00526	0.09309	0.00239	2.59	0.11826	39			
40	195.01-200	0.01656	2.62	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.62	0.02230	0.00526	0.09309	0.00239	2.62	0.11826	40			
41	200.01-205	0.01656	2.66	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.66	0.02230	0.00526	0.09309	0.00239	2.66	0.11826	41			
42	205.01-210	0.01656	2.69	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.69	0.02230	0.00526	0.09309	0.00239	2.69	0.11826	42			
43	210.01-215	0.01656	2.72	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.72	0.02230	0.00526	0.09309	0.00239	2.72	0.11826	43			
44	215.01-220	0.01656	2.75	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.75	0.02230	0.00526	0.09309	0.00239	2.75	0.11826	44			

ATTACHMENT C

ILLUSTRATIVE PROPOSED RATES FOR NEW STREETLIGHTING RATE OPTIONS FOR YEAR 3
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT

2016 GENERAL RATE CASE (GRC) PHASE 2 A. 15-04-012

LINE NO.	Description (A)	TRANS RATE (\$/kWh) (B)	DIST RATE (\$/Lamp) (C)	RATE (\$/kWh) (D)	RATE (\$/kWh) (E)	RATE (\$/kWh) (F)	RATE (\$/kWh) (G)	RATE (\$/kWh) (H)	RATE (\$/kWh) (I)	RATE (\$/Lamp) (J)	RATE (\$/kWh) (K)	RATE (\$/Lamp) (L)	EECC RATE (\$/Lamp) (M)	DWVR CREDIT (\$/Lamp) (N)	TOTAL RATE (\$/kWh) (P)	LINE NO.
1	0-5	0.01656	1.34	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.34	0.02230	0.00526	0.09724	(0.00239)	0.12241	1
2	5.01-10	0.01656	1.37	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.37	0.02230	0.00526	0.09724	(0.00239)	0.12241	2
3	10.01-15	0.01656	1.40	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.40	0.02230	0.00526	0.09724	(0.00239)	0.12241	3
4	15.01-20	0.01656	1.43	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.43	0.02230	0.00526	0.09724	(0.00239)	0.12241	4
5	20.01-25	0.01656	1.46	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.46	0.02230	0.00526	0.09724	(0.00239)	0.12241	5
6	25.01-30	0.01656	1.49	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.49	0.02230	0.00526	0.09724	(0.00239)	0.12241	6
7	30.01-35	0.01656	1.52	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.52	0.02230	0.00526	0.09724	(0.00239)	0.12241	7
8	35.01-40	0.01656	1.55	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.55	0.02230	0.00526	0.09724	(0.00239)	0.12241	8
9	40.01-45	0.01656	1.58	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.58	0.02230	0.00526	0.09724	(0.00239)	0.12241	9
10	45.01-50	0.01656	1.61	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.61	0.02230	0.00526	0.09724	(0.00239)	0.12241	10
11	50.01-55	0.01656	1.64	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.64	0.02230	0.00526	0.09724	(0.00239)	0.12241	11
12	55.01-60	0.01656	1.67	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.67	0.02230	0.00526	0.09724	(0.00239)	0.12241	12
13	60.01-65	0.01656	1.70	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.70	0.02230	0.00526	0.09724	(0.00239)	0.12241	13
14	65.01-70	0.01656	1.73	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.73	0.02230	0.00526	0.09724	(0.00239)	0.12241	14
15	70.01-75	0.01656	1.76	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.76	0.02230	0.00526	0.09724	(0.00239)	0.12241	15
16	75.01-80	0.01656	1.79	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.79	0.02230	0.00526	0.09724	(0.00239)	0.12241	16
17	80.01-85	0.01656	1.82	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.82	0.02230	0.00526	0.09724	(0.00239)	0.12241	17
18	85.01-90	0.01656	1.85	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.85	0.02230	0.00526	0.09724	(0.00239)	0.12241	18
19	90.01-95	0.01656	1.88	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.88	0.02230	0.00526	0.09724	(0.00239)	0.12241	19
20	95.01-100	0.01656	1.91	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.91	0.02230	0.00526	0.09724	(0.00239)	0.12241	20
21	100.01-105	0.01656	1.94	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.94	0.02230	0.00526	0.09724	(0.00239)	0.12241	21
22	105.01-110	0.01656	1.97	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	1.97	0.02230	0.00526	0.09724	(0.00239)	0.12241	22
23	110.01-115	0.01656	2.00	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.00	0.02230	0.00526	0.09724	(0.00239)	0.12241	23
24	115.01-120	0.01656	2.03	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.03	0.02230	0.00526	0.09724	(0.00239)	0.12241	24
25	120.01-125	0.01656	2.06	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.06	0.02230	0.00526	0.09724	(0.00239)	0.12241	25
26	125.01-130	0.01656	2.09	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.09	0.02230	0.00526	0.09724	(0.00239)	0.12241	26
27	130.01-135	0.01656	2.12	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.12	0.02230	0.00526	0.09724	(0.00239)	0.12241	27
28	135.01-140	0.01656	2.15	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.15	0.02230	0.00526	0.09724	(0.00239)	0.12241	28
29	140.01-145	0.01656	2.18	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.18	0.02230	0.00526	0.09724	(0.00239)	0.12241	29
30	145.01-150	0.01656	2.21	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.21	0.02230	0.00526	0.09724	(0.00239)	0.12241	30
31	150.01-155	0.01656	2.24	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.24	0.02230	0.00526	0.09724	(0.00239)	0.12241	31
32	155.01-160	0.01656	2.27	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.27	0.02230	0.00526	0.09724	(0.00239)	0.12241	32
33	160.01-165	0.01656	2.30	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.30	0.02230	0.00526	0.09724	(0.00239)	0.12241	33
34	165.01-170	0.01656	2.32	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.32	0.02230	0.00526	0.09724	(0.00239)	0.12241	34
35	170.01-175	0.01656	2.35	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.35	0.02230	0.00526	0.09724	(0.00239)	0.12241	35
36	175.01-180	0.01656	2.38	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.38	0.02230	0.00526	0.09724	(0.00239)	0.12241	36
37	180.01-185	0.01656	2.41	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.41	0.02230	0.00526	0.09724	(0.00239)	0.12241	37
38	185.01-190	0.01656	2.44	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.44	0.02230	0.00526	0.09724	(0.00239)	0.12241	38
39	190.01-195	0.01656	2.47	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.47	0.02230	0.00526	0.09724	(0.00239)	0.12241	39
40	195.01-200	0.01656	2.50	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.50	0.02230	0.00526	0.09724	(0.00239)	0.12241	40
41	200.01-205	0.01656	2.53	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.53	0.02230	0.00526	0.09724	(0.00239)	0.12241	41
42	205.01-210	0.01656	2.56	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.56	0.02230	0.00526	0.09724	(0.00239)	0.12241	42
43	210.01-215	0.01656	2.59	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.59	0.02230	0.00526	0.09724	(0.00239)	0.12241	43
44	215.01-220	0.01656	2.62	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.62	0.02230	0.00526	0.09724	(0.00239)	0.12241	44

LS-2, LED, Rate A, Energy, 1-Lamp: Dimmable Rate Option:

Watts/Lamp

ATTACHMENT C

ILLUSTRATIVE PROPOSED RATES FOR NEW STREETLIGHTING RATE OPTIONS FOR YEAR 3
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT

2016 GENERAL RATE CASE (GRC) PHASE 2 A. 15-04-012

LINE NO.	Description (A)	TRANS RATE (\$/kWh) (B)	DIST RATE (\$/Lamp) (C)	RATE (\$/kWh) (D)	RATE (\$/kWh) (E)	RATE (\$/kWh) (F)	RATE (\$/kWh) (G)	RATE (\$/kWh) (H)	RATE (\$/kWh) (I)	RATE (\$/Lamp) (J)	RATE (\$/kWh) (K)	RATE (\$/Lamp) (L)	EECC RATE (\$/Lamp) (M)	DWR CREDIT (\$/Lamp) (N)	TOTAL RATE (\$/kWh) (P)	LINE NO.	
45	220.01-225	0.01656	2.65	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.65	0.02230	0.00526	0.09724	(0.00239)	2.65	0.12241	45
46	225.01-230	0.01656	2.68	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.68	0.02230	0.00526	0.09724	(0.00239)	2.68	0.12241	46
47	230.01-235	0.01656	2.71	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.71	0.02230	0.00526	0.09724	(0.00239)	2.71	0.12241	47
48	235.01-240	0.01656	2.74	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.74	0.02230	0.00526	0.09724	(0.00239)	2.74	0.12241	48
49	240.01-245	0.01656	2.77	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.77	0.02230	0.00526	0.09724	(0.00239)	2.77	0.12241	49
50	245.01-250	0.01656	2.80	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.80	0.02230	0.00526	0.09724	(0.00239)	2.80	0.12241	50
51	250.01-255	0.01656	2.83	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.83	0.02230	0.00526	0.09724	(0.00239)	2.83	0.12241	51
52	255.01-260	0.01656	2.86	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.86	0.02230	0.00526	0.09724	(0.00239)	2.86	0.12241	52
53	260.01-265	0.01656	2.89	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.89	0.02230	0.00526	0.09724	(0.00239)	2.89	0.12241	53
54	265.01-270	0.01656	2.92	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.92	0.02230	0.00526	0.09724	(0.00239)	2.92	0.12241	54
55	270.01-275	0.01656	2.95	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.95	0.02230	0.00526	0.09724	(0.00239)	2.95	0.12241	55
56	275.01-280	0.01656	2.98	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	2.98	0.02230	0.00526	0.09724	(0.00239)	2.98	0.12241	56
57	280.01-285	0.01656	3.01	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.01	0.02230	0.00526	0.09724	(0.00239)	3.01	0.12241	57
58	285.01-290	0.01656	3.04	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.04	0.02230	0.00526	0.09724	(0.00239)	3.04	0.12241	58
59	290.01-295	0.01656	3.07	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.07	0.02230	0.00526	0.09724	(0.00239)	3.07	0.12241	59
60	295.01-300	0.01656	3.10	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.10	0.02230	0.00526	0.09724	(0.00239)	3.10	0.12241	60
61	300.01-305	0.01656	3.13	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.13	0.02230	0.00526	0.09724	(0.00239)	3.13	0.12241	61
62	305.01-310	0.01656	3.16	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.16	0.02230	0.00526	0.09724	(0.00239)	3.16	0.12241	62
63	310.01-315	0.01656	3.19	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.19	0.02230	0.00526	0.09724	(0.00239)	3.19	0.12241	63
64	315.01-320	0.01656	3.22	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.22	0.02230	0.00526	0.09724	(0.00239)	3.22	0.12241	64
65	320.01-325	0.01656	3.25	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.25	0.02230	0.00526	0.09724	(0.00239)	3.25	0.12241	65
66	325.01-330	0.01656	3.28	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.28	0.02230	0.00526	0.09724	(0.00239)	3.28	0.12241	66
67	330.01-335	0.01656	3.31	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.31	0.02230	0.00526	0.09724	(0.00239)	3.31	0.12241	67
68	335.01-340	0.01656	3.34	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.34	0.02230	0.00526	0.09724	(0.00239)	3.34	0.12241	68
69	340.01-345	0.01656	3.37	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.37	0.02230	0.00526	0.09724	(0.00239)	3.37	0.12241	69
70	345.01-350	0.01656	3.40	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.40	0.02230	0.00526	0.09724	(0.00239)	3.40	0.12241	70
71	350.01-355	0.01656	3.43	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.43	0.02230	0.00526	0.09724	(0.00239)	3.43	0.12241	71
72	355.01-360	0.01656	3.46	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.46	0.02230	0.00526	0.09724	(0.00239)	3.46	0.12241	72
73	360.01-365	0.01656	3.49	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.49	0.02230	0.00526	0.09724	(0.00239)	3.49	0.12241	73
74	365.01-370	0.01656	3.52	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.52	0.02230	0.00526	0.09724	(0.00239)	3.52	0.12241	74
75	370.01-375	0.01656	3.55	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.55	0.02230	0.00526	0.09724	(0.00239)	3.55	0.12241	75
76	375.01-380	0.01656	3.58	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.58	0.02230	0.00526	0.09724	(0.00239)	3.58	0.12241	76
77	380.01-385	0.01656	3.61	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.61	0.02230	0.00526	0.09724	(0.00239)	3.61	0.12241	77
78	385.01-390	0.01656	3.63	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.63	0.02230	0.00526	0.09724	(0.00239)	3.63	0.12241	78
79	390.01-395	0.01656	3.66	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.66	0.02230	0.00526	0.09724	(0.00239)	3.66	0.12241	79
80	395.01-400	0.01656	3.69	0.00480	0.00041	0.00003	0.00029	0.00021	0.00000	3.69	0.02230	0.00526	0.09724	(0.00239)	3.69	0.12241	80
81																	81
82																	82
83																	83
84	Monthly Service Fee (\$/Month)		10.22							10.22					10.22		84
85	Energy Charges (\$/kWh)																85
86	Summer																86
87	On-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.27405	(0.00239)	0.36523	87	
88	Semi-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.11393	(0.00239)	0.22511	88	
89	Off-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.07672	(0.00239)	0.18790	89	
90																	90
91	Winter																91
92	On-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.08814	(0.00239)	0.19932	92	
93	Semi-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.07750	(0.00239)	0.18868	93	
94	Off-Peak	0.02837	0.06077	0.01703	0.00041	0.00108	0.00038	0.00027	0.00000		0.10831	0.00526	0.06700	(0.00239)	0.17818	94	

Street Lighting Ancillary Device Rate Option:

Rate Component	Rate (\$/Month)
Monthly Service Fee (\$/Month)	10.22
Energy Charges (\$/kWh)	
Summer	
On-Peak	0.02837
Semi-Peak	0.02837
Off-Peak	0.02837
Winter	
On-Peak	0.02837
Semi-Peak	0.02837
Off-Peak	0.02837

IMPLEMENTATION COSTS BREAKDOWN
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT
 2016 GENERAL RATE CASE (GRC) PHASE 2 A.15-04-012

Start-Up Implementation Costs Summary

Project Totals	Project Capital
Internal Labor	\$2,570
Contract Labor	\$1,107
Hardware	\$92
Software	\$39
Other (Incidentals)	\$0
Administrative & General Loader	\$80
SubTotal Estimate	\$3,888
AFUDC	\$209
SubTotal Estimate + AFUDC	\$4,097

Start-Up Implementation Costs Annual Total

Annual Totals (Rounded in Thousands)	2017	2018	2019	2020	2021	Remaining Years Total	Total
Project Capital (Loaded+A&G,no contingency,no AFUDC)	\$2,642	\$367	\$0	\$0	\$0	\$0	\$3,639
Capital Contingency (Loaded, no A&G, no AFUDC)	\$772	\$107	\$0	\$0	\$0	\$0	\$1,060
Project Capital + Capital Contingency SubTotal	\$3,414	\$474	\$0	\$0	\$0	\$0	\$3,888

Ongoing Maintenance Implementation Costs Annual Totals

Post Project Annual Hard / Avoided Cost Benefits and O&M Cost				
Annual Totals (Rounded In Thousands)			Functional Area / Cost Center(s) \$	2019
O&M Cost (Unloaded, no A&G, no AFUDC)	Business	Labor	Customer Ops, CSF & Smart Mtr Ops Support	\$651
		Non Labor		\$0
	IT	Labor	Application Services Support	\$93
		Non Labor		\$0
Benefits (Unloaded, no A&G, no AFUDC)	Business	Labor		\$0
		Non Labor		\$0
	IT	Labor		\$0
		Non Labor		\$0

ATTACHMENT D

IMPLEMENTATION COSTS BREAKDOWN
 SAN DIEGO GAS AND ELECTRIC COMPANY - ELECTRIC DEPARTMENT
 2016 GENERAL RATE CASE (GRC) PHASE 2 A.15-04-012

Start-Up Implementation Costs - Detailed

Role/Sub-System	Internal Labor			Non-Labor					Admin & General			Estimate		
	Labor	Contingency (CFNC)	Subtotal (Labor + CFNC)	Labor Loader	Labor Labor Total	Non-Labor	Contingency (CFNC)	Subtotal (Non-Labor + CFNC)	Non-Labor Loader	Subtotal (Non-Labor + CFNC + Non-Labor Loader)	Property Tax Loader		Non-Labor Admin & General	Labor Admin & General
Initial Environment Setup	\$11,000	\$3,300	\$14,300	\$13,932	\$28,232	\$0	\$0	\$0	\$0	\$0	\$0	\$450	\$450	\$28,683
Meter Data Management System (MDM) (Interval Data Processing and Validation)	\$154,500	\$46,350	\$200,850	\$195,688	\$396,538	\$329,450	\$98,835	\$428,285	\$3,212	\$431,497	\$0	\$6,327	\$6,327	\$847,853
Billing System Changes	\$77,950	\$23,385	\$101,335	\$98,731	\$200,066	\$48,935	\$14,681	\$63,616	\$477	\$64,093	\$0	\$3,192	\$2,004	\$269,354
Revenue System Changes	\$17,950	\$5,385	\$23,335	\$22,735	\$46,070	\$6,845	\$2,054	\$8,899	\$67	\$8,965	\$0	\$735	\$280	\$56,051
Finance System Changes	\$38,450	\$11,535	\$49,985	\$48,700	\$98,685	\$26,495	\$7,949	\$34,444	\$258	\$34,702	\$0	\$1,575	\$1,085	\$136,047
Service Orders System Changes	\$79,900	\$23,970	\$103,870	\$101,201	\$205,071	\$29,400	\$8,820	\$38,220	\$287	\$38,507	\$0	\$3,272	\$1,204	\$248,053
System Testing	\$0	\$0	\$0	\$0	\$0	\$133,418	\$40,025	\$173,443	\$1,301	\$174,744	\$0	\$0	\$5,463	\$180,208
Service Integration	\$0	\$0	\$0	\$0	\$0	\$63,000	\$18,900	\$81,900	\$614	\$82,514	\$0	\$0	\$2,580	\$85,094
Project Management	\$60,000	\$18,000	\$78,000	\$75,995	\$153,995	\$120,000	\$36,000	\$156,000	\$1,170	\$157,170	\$0	\$2,457	\$4,914	\$318,536
Project Team	\$561,500	\$168,450	\$729,950	\$711,190	\$1,441,140	\$88,000	\$26,400	\$114,400	\$858	\$115,258	\$0	\$22,993	\$3,604	\$1,582,995
Hardware	\$0	\$0	\$0	\$0	\$0	\$70,000	\$21,000	\$91,000	\$683	\$91,683	\$455	\$0	\$2,867	\$95,004
Software/Licensing	\$0	\$0	\$0	\$0	\$0	\$30,000	\$9,000	\$39,000	\$293	\$39,293	\$0	\$0	\$1,229	\$40,521
Projected SubTotal	\$1,001,250	\$300,375	\$1,301,625	\$1,268,173	\$2,569,798	\$945,543	\$283,663	\$1,229,206	\$9,219	\$1,238,425	\$455	\$41,001	\$38,720	\$3,888,399