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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Application of Pacific Gas and Electric Company  
To Revise Its Electric Marginal Costs, Revenue  
Allocation, and Rate Design.

Application No. 13-04-012  
(Filed: April 18, 2013)

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**MOTION OF SETTLEMENT PARTIES FOR ADOPTION OF STREETLIGHT RATE  
DESIGN SUPPLEMENTAL SETTLEMENT AGREEMENT, INCLUDING A  
REVISED 2014 DIMMABLE STREETLIGHT PILOT PROGRAM**

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DATED: August 29, 2014

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**MOTION OF SETTLEMENT PARTIES FOR ADOPTION OF STREETLIGHT RATE DESIGN  
SUPPLEMENTAL SETTLEMENT AGREEMENT, INCLUDING A REVISED 2014  
DIMMABLE STREETLIGHT PILOT PROGRAM**

**I. INTRODUCTION**

Pursuant to Rule 11.1 of the California Public Utilities Commission’s (Commission) Rules of Practice and Procedure, Pacific Gas and Electric Company (PG&E) submits this motion, on behalf of the Streetlight Settling Parties, respectfully requesting Commission approval of the attached Supplemental Settlement Agreement that resolves rate design issues relating to streetlight rate design, and requesting adoption of a “Network Controlled Dimmable Streetlight Rate 2014 Pilot Program” (Streetlight Settlement Agreement).

The Streetlight Settling Parties are: the California City-County Street Light Association (CAL-SLA), the City and County of San Francisco (CCSF) and PG&E. For the reasons set forth below, the Streetlight Settlement Agreement is reasonable in light of the whole record, consistent with law, and in the public interest, and, therefore, should be adopted without modification.

**II. PROCEDURAL HISTORY**

The procedural and settlement history of this proceeding is set forth in the Settlement on Marginal Cost and Revenue Allocation, filed on July 16, 2014 (MC/RA Settlement Agreement), and is incorporated herein by reference.

**III. SETTLEMENT TERMS**

The Streetlight Settlement Agreement, memorialized in the settlement document appended to this motion, is supplemental to the MC/RA Settlement Agreement. The Streetlight Settlement

Agreement uses the revenue allocation agreed to in the MC/RA Settlement Agreement, and addresses rate design issues that were not resolved in that initial settlement. The Streetlight Settling Parties request that the complementary outcomes of this supplemental Streetlight Settlement Agreement and the MC/RA Settlement Agreement be consolidated into the Commission's final decision in this GRC Phase II proceeding.

**A. IMPROVED NETWORK CONTROLLED DIMMABLE STREETLIGHT RATE 2014 PILOT PROGRAM**

The Streetlight Settling Parties agree that it is reasonable for the Commission to adopt a Network Controlled Dimmable Streetlight Rate 2014 Pilot Program (2014 Dimmable Pilot Program), which is set forth in detail in Appendix 1 to the Streetlight Settlement Agreement.

The proposed 2014 Dimmable Pilot Program is a revision of the 2011 Dimmable Pilot Program the Commission adopted in its decision resolving PG&E's 2011 Phase II GRC (D. 11-12-053). The 2011 Pilot Program was adopted to explore the usage reduction potential of new networked dimmable streetlight control devices, and to permit participating public entities to timely realize any related energy savings. However, although the 2011 Dimmable Pilot Program could accommodate more cities, the City of San Jose ended up being the only public entity to participate. In light of the limited participation in the 2011 Dimmable Pilot Program, the Streetlight Settling Parties agree that it is reasonable to adopt the new and improved 2014 Dimmable Pilot Program, with revisions that address lessons learned and are anticipated to help attract additional public entity participants.

The 2014 Dimmable Pilot Program will provide dimmable streetlight service as an option to Schedule LS-2 that is expected to be simpler and provide participants with some certainty that they will benefit from related energy savings in a timely and mutually workable way. Among other benefits, the agreed revisions for the 2014 Dimmable Pilot Program will: (1) allow greater certainty of rate savings as an input to local governments' decisions as to whether to install a dimmable streetlight control system; (2) make the rate more economically feasible for smaller jurisdictions, in that the 2014 Dimmable Pilot will be scalable; and (3) reduces the administrative cost and burden for local governments and for PG&E, as compared with the 2011 Dimmable Pilot Program.

The proposed 2014 Dimmable Pilot Program represents a compromise between PG&E's

proposal (set forth in PG&E Exhibit 4, Chapter 7, Volume 1 at pages 7-9 through 7-12), and CAL-SLA's proposed modifications (set forth in testimony dated December 13, 2013, at pages 17 through 21). Thus, this Streetlight Settlement Agreement, which resulted from robust arms-length negotiations, represents a reasonable compromise of Streetlight Settling Parties' positions relating to the 2014 Dimmable Pilot Program that should be adopted.

## **B. STREETLIGHT SETTLEMENT RATES**

The Streetlight Settling Parties agree that it is reasonable for the Commission to adopt rates Schedules LS-1, LS-2, LS-3, OL-1, and CCSF, set forth in Appendix 2 and Appendix 3 of the Streetlight Settlement Agreement. Appendix 2 of the Streetlight Settlement Agreement provides the non-energy facility charge rates for Schedules LS-1, LS-2, OL-1 and CCSF to be implemented over a three year period: (a) The non-energy facility charge rates for Schedules LS-1, LS-2, OL-1 and CCSF shown in Appendix 2, Table 1, will become effective with the rate change implementing a decision approving this Streetlight Settlement Agreement; (b) On January 1, 2016, the non-energy facility charge rates shown in Appendix 2, Table 2, will be placed into effect; and (c) On January 1, 2017, non-energy facility charge rates shown in Appendix 2, Table 3, will become effective and shall remain in effect until the effective date of the rate change implementing PG&E's next GRC Phase II proceeding. This three-year phase-in plan for non-energy facility charge rates is reasonable because it mitigates the rate impact on customers served on Schedule LS-1 and CCSF customers while still moving significantly toward cost for non-energy facility charge rates.

Appendix 3 provides the total illustrative rates for LS-1, LS-2, LS-3 and OL-1, consistent with the revenue allocation results provided in the MC/RA Settlement Agreement which were based on rates effective May 1, 2013. Appendix 3 does not apply to CCSF rates schedules, which are contained fully in Appendix 2. The Streetlight Settling Parties agree that while the non-energy facility charge rates shown in Appendix 2 are the actual rates that will be implemented beginning with a decision in this proceeding, the total rates shown in Appendix 3 are illustrative.

Further, the Streetlight Settling Parties agree that the actual total rates derived at the time of implementation of this Streetlight Settlement Agreement, once adopted by the Commission, shall be

designed on an overall revenue-neutral basis to collect the then-required revenue allocated to the Streetlight rate classes under the MC/RA Settlement Agreement. Therefore, for rate schedules other than those for CCSF, the actual total rates that will result when the Phase II rate changes are implemented will vary from those shown in Appendix 3. However, these actual rates shall be based on the adopted non-energy facility charge rates and rate design methods used to develop the illustrative rates in Appendix 3 of the Streetlight Settlement Agreement.

The total illustrative rates presented in Appendix 3 of this Streetlight Settlement Agreement are based on PG&E's proposal for the electric rates for the streetlight customer class (set forth in PG&E Exhibit 4, Chapter 7, Volume 1 at pages 7-2 through 7-9, and includes development of a customer charge (for LS-3 only), non-energy facility charges (for CCSF, LS-1, LS-2 and OL-1), and energy charges applicable to all streetlight rates except those of CCSF. CAL-SLA's testimony (set forth in testimony dated December 13, 2013, at pages 12 through 17) comments on PG&E's proposed streetlight rates, and CCSF's testimony (set forth in testimony dated December 13, 2013, at pages 4 through 10) identified several proposed modifications to the streetlight rate schedules. This Streetlight settlement, therefore, represents a reasonable compromise of the Streetlight Settling Parties' positions relating to the streetlight class, and should be adopted.

### **C. SCHEDULE LS-1 LED STREETLIGHT CONVERSION PROGRAM**

In Phase I of PG&E's 2014 GRC, PG&E proposed and the Commission approved a LED Conversion Program to allow customers to elect to have PG&E replace existing PG&E-owned non-decorative High Pressure Sodium Vapor streetlights under Schedule LS-1 with more energy efficient LED technology. Under the program, eligible customers would pay a new, monthly incremental facility charge and the facility charge for Schedule LS-1 through the current rate case cycle, and would receive the benefit of lower total energy charges resulting from lower usage associated with LED technology. A determination of the need to continue the incremental facility charge would be made in PG&E's 2017 GRC.

The total LED rate prior to implementation of a decision in this Phase II proceeding will be equal to the LS-1 base facility charge approved by the Commission in the 2011 GRC Phase II proceeding, plus

the incremental facility charge a from Phase I of the 2014 GRC, plus the then-current Streetlight energy charge based on the lower LED usage. Once a Decision in Phase II is implemented, the LED rate will be equal to the LS-1 base facility charge from this Phase II proceeding, plus the incremental facility charge from Phase I of the 2014 GRC, plus the Streetlight energy charge effective with the rate change implementing a decision approving this Streetlight Settlement Agreement based on the lower LED usage. As the streetlight energy charge changes and as the Schedule LS-1 facility charge changes each year as provided in the phase in plan discussed above, so will the total LED rate.

The Streetlight Settling Parties agree that any optional incremental facilities charge negotiated for CCSF rate schedules and approved by the CPUC will be applied to the then-current CCSF facility charges in a manner similar to the paragraph above.

#### **D. SCHEDULE OL-1 TARIFF REVISIONS**

Currently, the non-energy and energy portions of total lamp rate are presented separately for each lamp type in tariffs for Schedules LS-1 and LS-2. However, only the total lamp rate for each lamp type is presented in Schedule OL-1 (i.e., energy and non-energy lamp rates are not separately listed). The Streetlight Settling Parties agree to align the presentation of rates in Schedules LS-1, LS-2 and OL-1 by modifying Schedule OL-1 to separately display the non-energy and energy portions of the total lamp rate. This change will allow PG&E the flexibility to introduce LED lamp types without overly complicating the lamp rate presentation format.

### **IV. THE COMMISSION SHOULD ADOPT THE STREETLIGHT SETTLEMENT AGREEMENT**

#### **A. COMMISSION POLICY FAVORS SETTLEMENTS**

The Commission has a history of supporting settlement of disputes if they are fair and reasonable in light of the whole record.<sup>1/</sup> As the Commission has reiterated over the years, the “Commission favors settlement because they generally support worthwhile goals, including reducing the expense of litigation, conserving scarce Commission resources, and allowing parties to reduce the risk that litigation

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<sup>1/</sup> D.05-03-022, mimeo, pp. 7-8, *citing* D.88-12-083 (30 CPUC 2d 189, 221-223) and D.91-05-029 (40 CPUC 2d. 301, 326).

will produce unacceptable results.”<sup>2/</sup> This strong public policy favoring settlements weighs in favor of the Commission resisting the temptation to alter the results of the negotiation process. As long as a settlement taken as a whole is reasonable in light of the record, consistent with the law, and in the public interest, it should be adopted.<sup>3/</sup>

Each portion of this Streetlight Settlement Agreement is dependent upon the other portions of that same agreement. Changes to one portion of the Streetlight Settlement Agreement would alter the balance of interests and the mutually agreed upon compromises and outcomes contained in the Streetlight Settlement Agreement. As such, the Streetlight Settling Parties request that this Streetlight Settlement Agreement be adopted as a whole by the Commission, without modification.

**B. THE STREETLIGHT SETTLEMENT AGREEMENT IS REASONABLE IN LIGHT OF THE RECORD, CONSISTENT WITH LAW, AND IN THE PUBLIC INTEREST.**

The Commission should adopt this Streetlight Settlement Agreement as reasonable in light of the entire record, as it represents reasonable compromises after careful review and discussion by all interested parties of the streetlight rate design proposals discussed above, after incorporating appropriate revisions and updates. The Streetlight Settling Parties fairly represent the interests of streetlight customers, and they reached settlement after filing testimony and carefully analyzing each of the issues in this settlement. This Streetlight Settlement Agreement was reached only after substantial give-and-take in arms-length negotiation, and after each party has made significant concessions to resolve issues in a manner that reflects a reasonable compromise of their litigation positions.<sup>4/</sup>

In addition, this Streetlight Settlement Agreement is consistent with current law, as it complies with all applicable statutes and prior Commission decisions. These include Public Utilities Code Section 451, which requires that utility rates must be just and reasonable.

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<sup>2/</sup> D.10-12-035, 2010 Cal PUC LEXIS 467 at \*87; *and see* D.05-03-022, mimeo, p. 8, citing D.92-12-019, 46 CPUC 2d 538, 553. *See also* D.10-12-051, 2010 Cal. PUC LEXIS 566 at \*55 (Commission decisions “express the strong public policy favoring settlement of disputes if they are fair and reasonable”); D.10-11-035, 2010 Cal. PUC LEXIS 495 at \*17 (the Commission’s longstanding policy favoring settlement...reduces litigation expenses, conserves scarce Commission resources...) *and see* D.10-11-011, 2010 Cal. PUC LEXIS 533 at \*50 (“There is a strong public policy favoring the settlement of disputes to avoid costly and protracted litigation.”)

<sup>3/</sup> *See, generally*, D.05-03-022, mimeo, pp. 7-13.

<sup>4/</sup> D.13-11-003, mimeo, pp. 6-7; D. 13-07-029, mimeo, pp. 7-8; D.13-12-045, mimeo, pp. 10-11.



**SUPPLEMENTAL SETTLEMENT AGREEMENT  
IN PG&E'S GENERAL RATE CASE PHASE II (APPLICATION 13-04-012) ON  
STREETLIGHT RATE DESIGN ISSUES  
(INCLUDING A REVISED NETWORK CONTROLLED DIMMABLE STREETLIGHT RATE  
2014 PILOT PROGRAM)**

**I. INTRODUCTION**

In accordance with Article 12 of the Rules of Practice and Procedure of the California Public Utilities Commission (CPUC), the parties to this Streetlight Rate Design Settlement Agreement (Streetlight Settling Parties) agree on a mutually acceptable outcome to all of the rate design issues for the streetlight class presented in Application (A.) 13-04-012, Application of Pacific Gas and Electric Company to Revise Its Electric Marginal Costs, Revenue Allocation, and Rate Design.<sup>6/</sup> The details of this Settlement Agreement are set forth herein.

This Settlement Agreement is a direct result of Administrative Law Judge (ALJ) Long's and Assigned Commissioner Peevey's encouragement to the active parties to meet and seek a workable compromise. Although the active parties held differing views on numerous aspects of streetlight rate design, they bargained earnestly and in good faith to seek a compromise and to develop this Settlement Agreement concerning streetlight rate design (Streetlight Settlement Agreement), which is the product of arms-length negotiations among the Settling Parties on a number of disputed issues. These negotiations considered the interests of all active parties on streetlight rate design issues, and the Streetlight Settlement Agreement addresses each of these issues in a fair and balanced manner.

The Streetlight Settling Parties (*see* Section II) crafted this Streetlight Settlement Agreement by mutually accepting concessions and trade-offs among themselves. Thus, the various elements and sections of this Streetlight Settlement Agreement are intimately interrelated, and should not be altered, as the Streetlight Settling Parties intend that the Streetlight Settlement Agreement be treated as a package solution that strives to balance and align the interests of each party. Accordingly, the Streetlight Settling Parties respectfully request that the Commission approve each and every aspect of

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<sup>6/</sup> The Streetlight customer class encompasses and is defined as: Schedules LS-1, LS-2, LS-3 and OL-1, and City and County of San Francisco (CCSF) Streetlight rates, as described in PG&E's August 16, 2013 Update Exhibit PGE-4, Volume 1, Chapter 7.

the Streetlight Settlement Agreement without modification. Any material change to this Streetlight Settlement Agreement shall render it null and void, unless all of the Streetlight Settling Parties agree in writing to such changes.

This Streetlight Settlement Agreement is supplemental to the Marginal Cost and Revenue Allocation Settlement in A. 13-04-012, filed with the CPUC on July 16, 2014 (MC/RA Settlement Agreement), in that it uses the revenue allocation agreed to in the MC/RA Settlement Agreement and addresses Streetlight issues that were not resolved in the MC/RA Settlement Agreement. The Streetlight Settling Parties request that the complementary outcomes of this Streetlight rate design Settlement Agreement and the MC/RA Settlement Agreement be consolidated in the Commission's final decision in this proceeding.

## **II. STREETLIGHT SETTLING PARTIES**

The Streetlight Settling Parties are as follows:

- Pacific Gas and Electric Company (PG&E)
- City and County of San Francisco (CCSF)
- California City-County Street Light Association (CAL-SLA)

CAL-SLA represents cities and counties throughout California, including in PG&E's service territory. Specifically, CAL-SLA's membership includes the City of San Jose, who submitted testimony in Phase II (CAL-SLA Exhibit 2) seeking a dimmable network controlled streetlight rate. The City of San Jose participated in and was directly involved in settlement discussions in addition to staff for CAL-SLA itself. In signing this Streetlight Settlement Agreement, CAL-SLA is representing the interests of the City of San Jose.

## **III. STREETLIGHT SETTLEMENT CONDITIONS**

This Streetlight Settlement Agreement resolves the issues raised by the Streetlight Settling Parties in A.13-04-012 on streetlight rate design, subject to the conditions set forth below:

1. This Streetlight Settlement Agreement embodies the entire understanding and agreement of the Streetlight Settling Parties with respect to the matters described, and it supersedes prior oral or written agreements, principles, negotiations, statements, representations, or

understandings among the Streetlight Settling Parties with respect to those matters. This Streetlight Settlement Agreement builds on the underlying marginal cost and revenue allocation in the MC/RA Settlement Agreement and incorporates that agreement by reference.

2. This Streetlight Settlement Agreement represents a negotiated compromise among the Streetlight Settling Parties' respective litigation positions on the matters described, and the Streetlight Settling Parties have assented to the terms of this Streetlight Settlement Agreement only to arrive at the agreement embodied herein. Nothing contained in this Streetlight Settlement Agreement should be considered an admission of, acceptance of, agreement to, or endorsement of any disputed fact, principle, or position previously presented by any of the Streetlight Settling Parties on these matters in this proceeding.
3. This Streetlight Settlement Agreement does not constitute and should not be used as a precedent regarding any principle or issue in this proceeding or in any future proceeding.
4. The Streetlight Settling Parties agree that this Streetlight Settlement Agreement is reasonable in light of the testimony submitted, consistent with law, and in the public interest.
5. The Streetlight Settling Parties agree that the language in all provisions of this Streetlight Settlement Agreement shall be construed according to its fair meaning and not for or against any Settling Party because that Settling Party or its counsel or advocate drafted the provision.
6. This Streetlight Settlement Agreement may be amended or changed only by a written agreement signed by the Streetlight Settling Parties.
7. The Streetlight Settling Parties shall jointly request Commission approval of this Streetlight Settlement Agreement and shall actively support its prompt approval. Active support shall include written and oral testimony if testimony is required, briefing if briefing is required, comments and reply comments on the proposed decision,<sup>7/</sup> advocacy

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<sup>7/</sup> Any oral and written testimony or briefing that might be required by the CPUC, or comments on a Proposed Decision, may be prepared and submitted jointly by parties whose interests are similar.

to Commissioners and their advisors as needed, and other appropriate means as needed to obtain the requested approval.

8. The Streetlight Settling Parties intend that the terms of the Streetlight Settlement Agreement are to be interpreted and treated as a unified, integrated agreement incorporating the MC/RA Settlement Agreement, which forms the foundation for the Streetlight rate design agreed to herein. In the event the Commission rejects or modifies any portion of this Streetlight Settlement Agreement or the underlying MC/RA Settlement Agreement, the Streetlight Settling Parties reserve their rights under CPUC Rule 12.4, and the Streetlight Settlement Agreement should not be admitted into evidence in this or any other proceeding.

#### **IV. PROCEDURAL AND SETTLEMENT HISTORY**

The overall procedural and settlement history of A.13-04-012 is set forth in Section IV and Section V of the MC/RA Settlement Agreement filed in this proceeding on July 16, 2014, to which this Streetlight Settlement Agreement is supplemental, and which is incorporated herein by reference.

#### **V. SETTLEMENT TERMS**

##### **A. General Terms**

Considering and both recognizing and compromising the litigation positions taken by the individual parties, the Streetlight Settling Parties agree to the rate design set forth in this Streetlight Settlement Agreement, including the proposal for the Network Controlled Dimmable Streetlight Rate 2014 Pilot Program (2014 Dimmable Pilot Program). The rate design proposals presented in the Streetlight Settlement Agreement are reasonable in light of the entire record in this proceeding, and reflect a fair and balanced compromise of Streetlight Settling Parties' proposals.

The Streetlight Settling Parties agree that all testimony served prior to the date of this Streetlight Settlement Agreement that addresses the issues resolved by this Streetlight Settlement Agreement should be admitted into evidence without cross-examination by the Streetlight Settling Parties. The Streetlight Settling Parties further agree that this Streetlight Settlement Agreement resolves all Streetlight rate design issues in A. 13-04-012.

## **B. Network Controlled Dimmable Streetlight Rate Program**

The Streetlight Settling Parties agree that the revised and improved 2014 Dimmable Pilot Program, which is set forth in detail in Appendix 1 to this Streetlight Settlement Agreement, is reasonable and should be adopted.

The 2014 Dimmable Pilot Program revises and continues the intent of the 2011 Dimmable Pilot Program that the Commission adopted in its decision resolving PG&E's Phase II GRC in 2011 (D.11-12-053). The 2011 Pilot Program was adopted to explore the usage reduction potential of new networked dimmable streetlight control devices. The 2011 Pilot Program encountered challenges – the City of San Jose was the only participant and data gathering and auditing provided more difficult than expected. The 2014 Dimmable Pilot Program, with revisions that address the lessons learned from the 2011 Pilot, is anticipated to help attract additional public entity participants. The 2014 Dimmable Pilot Program allows smaller cities to participate and it significantly reduces the administrative and data collection burden for both local governments and for PG&E.

## **C. Streetlight Settlement Rates**

The Streetlight Settling Parties agree that it is reasonable for the Commission to adopt rate Schedules LS-1, LS-2, LS-3, OL-1, and CCSF, as set forth in Appendix 2 and Appendix 3 to this Streetlight Settlement Agreement. Appendix 2 of the Streetlight Settlement Agreement provides the non-energy facility charge rates for Schedules LS-1, LS-2, OL-1 and CCSF to be implemented over a three year period: (a) The non-energy facility charge rates for Schedules LS-1, LS-2, OL-1 and CCSF shown in Appendix 2, Table 1, will become effective with the rate change implementing a decision approving this Streetlight Settlement Agreement; (b) On January 1, 2016, non-energy facility charge rates shown in Appendix 2, Table 2, will be placed into effect; and (c) On January 1, 2017, the non-energy facility charge rates shown in Appendix 2, Table 3, will become effective and shall remain in effect until the effective date of the rate change implementing PG&E's next GRC Phase II proceeding.

Appendix 3 provides the total illustrative rates for LS-1, LS-2, LS-3 and OL-1, consistent with the revenue allocation results provided in the MC/RA Settlement Agreement which were based on rates effective May 1, 2013. Appendix 3 does not apply to CCSF rate schedules, which are

contained fully in Appendix 2. The Streetlight Settling Parties agree that while the non-energy facility charge rates shown in Appendix 2 are the actual rates that will be implemented beginning with the rate change implementing a decision in this proceeding, the total rates shown in Appendix 3 are illustrative. Further the Streetlight Settling Parties agree that the actual total rates derived at the time of implementation of this Streetlight Settlement Agreement, once adopted by the Commission, shall be designed on an overall revenue-neutral basis to collect the then-required revenue allocated to the Streetlight rate classes under the MC/RA Settlement Agreement. Therefore, for rate schedules other than those for CCSF, the actual total rates that will result when the Phase II rate changes are implemented will vary from those shown in Appendix 3. However, these actual rates shall be based on the adopted non-energy facility charge rates from Appendix 2 and rate design methods used to develop the illustrative rates in Appendix 3 to this Streetlight Settlement Agreement.

The total illustrative rates presented in Appendix 3 of this Streetlight Settlement Agreement are based on PG&E's proposal for the electric rates for the streetlight customer class (set forth in PG&E Exhibit 4, Chapter 7, Volume 1 at pages 7-2 through 7-9, and includes development of a customer charge (for LS-3 only), non-energy facility charges (for CCSF, LS-1, LS-2 and OL-1), and energy charges applicable to all streetlight rates except those of CCSF. CAL-SLA's testimony (set forth in testimony dated December 13, 2013, at pages 12 through 17) comments upon PG&E's proposed streetlight rates, and CCSF's testimony (set forth in testimony dated December 13, 2013, at pages 4 through 10), identified several proposed modifications to the streetlight rates. This Streetlight Settlement Agreement, therefore, represents a reasonable compromise of the Streetlight Settling Parties' positions relating to the streetlight class.

#### **D. LS-1 LED Streetlight Conversion Program**

In Phase I of PG&E's 2014 GRC, PG&E proposed and the Commission approved a LED Conversion Program to allow customers to elect to have PG&E replace existing PG&E-owned non-decorative High Pressure Sodium Vapor streetlights under Schedule LS-1 with more energy efficient LED technology. Under the program, eligible customers would pay a new, monthly incremental facility charge and the facility charge for Schedule LS-1 through the current rate case cycle, and would receive

the benefit of lower total energy charges resulting from lower usage associated with LED technology. A determination of the need to continue the incremental facility charge would be made in PG&E's 2017 GRC.

The total LED rate prior to implementation of a decision in this Phase II proceeding will be equal to the LS-1 base facility charge approved by the Commission in the 2011 GRC Phase II proceeding, plus the incremental facility charge from Phase I of the 2014 GRC, plus the then-current Streetlight energy charge based on the lower LED usage. Once a Decision in Phase II is implemented, the LED rate will be equal to the LS-1 base facility charge from this Phase II proceeding, plus the incremental facility charge from Phase I of the 2014 GRC, plus the Streetlight energy charge effective with the rate change implementing a decision approving this Streetlight Settlement Agreement based on the lower LED usage. As the streetlight energy charge changes and as the LS-1 facility charge changes each year as provided in the phase-in plan discussed above, so will the total LED rate.

The Streetlight Settling Parties agree that any optional incremental facility charge negotiated for CCSF rate schedules and approved by the CPUC will be applied to the then-current CCSF facility charges in a manner similar to the paragraph above.

#### **E. OL-1 Tariff Revisions**

Currently, the non-energy and energy portions of total lamp rate are presented separately for each lamp type in tariffs for Schedules LS-1 and LS-2. However, only the total lamp rate for each lamp type is presented in Schedule OL-1 (i.e., energy and non-energy lamp rates are not separately listed). The Settling Parties agree to align the presentation of rates in Schedules LS-1, LS-2 and OL-1 by modifying Schedule OL-1 to separately display the non-energy and energy portions of the total lamp rate. This change will allow PG&E the flexibility to introduce LED lamp types without overly complicating the lamp rate presentation format.

## **VI. TIMING OF RATE CHANGES**

The provisions regarding the timing of this GRC rate change and rate changes between General Rate Cases agreed to in the MC/RA Settlement Agreement shall apply to this Streetlight Settlement Agreement, unless specifically noted above.

To the extent that any elements of this Streetlight Settlement Agreement will require employee training and/or changes to PG&E systems beyond those required for a normal change in rate value, these structural and system changes will be implemented by PG&E diligently as time permits in a manner consistent with smooth operations of the systems involved. The Streetlight Settling Parties recognize that these changes could take several months to implement.

## **VII. SETTLEMENT EXECUTION**

This Streetlight Settlement Agreement may be executed in separate counterparts by different Streetlight Settling Parties hereto and all so executed will be binding and have the same effect as if all the Streetlight Settling Parties had signed one and the same document. Each such counterpart will be deemed to be an original, but all of which together shall constitute one and the same instrument, notwithstanding that the signatures of all the Streetlight Settling Parties do not appear on the same page of this Streetlight Settlement Agreement. This Streetlight Settlement Agreement shall become effective among the Streetlight Settling Parties on the date the last Settling Party executes the Streetlight Settlement Agreement, as indicated below. In witness whereof and intending to be legally bound by the Terms and Conditions of this Streetlight Settlement Agreement as stated above, the Streetlight Settling Parties duly execute this Streetlight Settlement Agreement on behalf of the Streetlight Settling Parties they represent, as follows:

The undersigned represent that they are authorized to sign on behalf of the Party represented, for the purposes of this 2014 GRC Phase II Streetlight Settlement Agreement.

California City-County Street Light Association

By: \_\_\_\_\_ /s/ \_\_\_\_\_

Title: Attorney for CAL-SLA \_\_\_\_\_

Date: 8/28/14 \_\_\_\_\_

The undersigned represent that they are authorized to sign on behalf of the Party represented, for the purposes of this 2014 GRC Phase II Streetlight Settlement Agreement.

City and County of San Francisco

By: \_\_\_\_\_ /s/ \_\_\_\_\_

Title: Assistant General Manager

Date: 8/29/14

The undersigned represent that they are authorized to sign on behalf of the Party represented, for the purposes of this 2014 GRC Phase II Streetlight Settlement Agreement.

Pacific Gas and Electric Company

By:                     /s/                      
                    Darren Roach

Title: Attorney/Law Department

Date: August 29, 2014

**Appendix 1: 2014 Pilot Program for Network Controlled Dimmable Streetlights**

# **Streetlight Rate Design Settlement Agreement Appendix 1**

## **Network Controlled Dimmable Streetlight Rate 2014 Pilot Program**

## **NETWORK CONTROLLED DIMMABLE STREETLIGHT RATE 2014 PILOT PROGRAM**

### **I. Preamble**

Following review of the results and experiences from the Network Controlled Dimmable Streetlight Pilot Program adopted as part of settlement of PG&E's 2011 GRC Phase II, PG&E and CAL-SLA (Settling Parties) propose to adopt a 2014 Pilot Program. The new and revised Pilot Program will begin on the effective date of the tariffs implementing the CPUC's decision in PG&E's 2014 GRC Phase II proceeding, and end on December 31, 2017, or on the effective date of a CPUC final decision in PG&E's 2017 GRC Phase II proceeding, whichever comes later.

The 2014 Pilot Program will be extended to all governmental jurisdictions served on Schedule LS-2 that have installed acceptable network controllable streetlight devices, and executed a Special Contract for Unmetered Service for Dimmable Streetlights (Special Contract). These jurisdictions (referred to as "Customers") will be billed at an optional and simplified LS-2 rate option that will allow these Customers to have some certainty that they will benefit from related energy savings in a timely, mutually workable way that:

1. **Allows greater certainty of rate savings** as an input to local governments' decisions as to whether to install a dimmable streetlight control system in the first place;
2. **Is more economically feasible for smaller jurisdictions, in that the 2014 Pilot will be scalable**, such that there is **no limit to the number of Customers** and **no minimum number of streetlights** per Customer;
3. **Reduce the administrative cost and burden** for participating jurisdictions and for PG&E, as compared with the 2011 Pilot Program;
4. **Starts to capture additional energy savings** as soon as possible after dimmable technology is installed on each streetlight;
5. **Ensures, through annual audits and verification** from actual usage reported through data loggers, that each participating dimmable light is in fact being operated, on a monthly average basis, within the parameters initially identified as a basis for the selection of the discount level;
6. **Works within the existing structure of PG&E's IT/Billing System and the terms of Schedule LS-2**, as well as within the work schedule constraints of participating Customers;
7. **Ensures that energy used by the dimming equipment** and associated communication devices used to operate the controls is accounted for (other non-

streetlight or parasitic load will continue to be under separate agreements in accordance with Schedule LS-2);

8. **Drives systems standardization** for these emerging technologies;
9. **Continues to provide data and experience** from early adopters that will allow all Customers to define and evaluate the viability of potential modifications in a longer-term approach to dimmable streetlight rates; and
10. **Revises the interim “pilot” program, for a defined term**, which will then be reviewed during the 2017 GRC Phase II proceeding for possible adoption as a permanent rate option, continuation as a pilot program, discontinuation in its entirety, or other resolution.

## **II. LS-2/Dimmable Rate Option**

The proposed option for Schedule LS-2 will be created through a decision in PG&E's 2014 Phase II proceeding adopting the Streetlight Settlement Agreement implementing the 2014 Pilot.

### **1. Eligibility Requirements**

A Customer's effective starting date in the 2014 Pilot Program shall be the latter of the date that the Customer and PG&E execute the Special Contract (see Attachment IV). Participation in the 2014 Pilot Program will be open to any Customer that satisfies the eligibility requirements:

1. A Customer must provide to PG&E sufficient evidence, in PG&E's sole determination, that it has deployed a network controlled streetlight system that meets the minimum technical requirements for accuracy of data recording and reporting, as set forth further below, and comply with reasonable requests for information sufficient for PG&E to identify potential issues or problems with the system's workability for purposes of this rate. Without limitation, documentation can include technical specifications for energy consumption for both luminaires, control devices, and network components.
2. A Customer's network control/monitoring system must include vendor documentation substantiating network control system data logger accuracy within +/- 2 percent, consistent with Rule 17 and the Direct Access Standards (DASMMD).
3. A Customer's network control/monitoring system must include the capability to record energy consumption values at hourly intervals.
4. A Customer shall have 30 calendar days from the installation date of any network controlled streetlight device(s) in the field to notify PG&E of the

installation. Data files supplying this information are to follow a format to be provided by PG&E. Data files will be emailed to a dedicated PG&E mailbox to be specified by PG&E.

5. A Customer must inform PG&E in writing how many new lights it plans to include in the 2014 Pilot as it makes that determination. The Customer will provide specific information on the streetlights as they are installed, including, but not limited to: the model and manufacturer of the luminaire and the model and manufacturer of the monitor/control system.
6. Customers can revise the number of lights included in the 2014 Pilot Program at any time, through inclusion in the monthly inventory file and by providing the streetlight specific information detailed in Attachment I, section 1.A. However, after establishment of the final dimming schedule (as defined in Attachment I, section 1.A.ii.7.), changes to the dimming schedule are limited to once every 12 months, with the exception of streetlights that are being either completely de-energized or returned to a non-dimming operational state.
7. All other non-streetlight or parasitic load must be accounted for and billed under separate agreements, including network components of the streetlight network system, such as unmetered network gateways, that are served from PG&E's distribution system via non-metered connections.
8. A Customer's application must include technical specifications for energy consumption of luminaires, control devices, network components, and any other parasitic load not recorded by a PG&E metering point.
9. Each control device must record its own usage, or, per agreement, for total device consumption greater than one watt, the Customer and PG&E may determine the estimated usage of each device and agree to a fixed adjustment in advance.
10. The provision of information to PG&E will be for purposes of compliance with this 2014 Pilot Program, and does not insert PG&E as an evaluator of the network controllable streetlight technology selected by a Customer. Rather, the Customer or prospective Customer understands and accepts the risk of any harm potentially resulting from a failure of a network controllable streetlight system to meet PG&E's qualifications for participation or continued participation in the 2014 Pilot Program.
11. A Customer must satisfy all of the eligibility requirements for the 2014 Pilot Program at all times during the Pilot. If at any time PG&E determines that a Customer does not meet all eligibility requirements, PG&E shall provide a notice of ineligibility to that Customer specifying each and every requirement it has been found not to meet. If the Customer cannot

document that it has cured each deficiency and meets all eligibility requirements within 60 days of such notice, it shall be removed from this 2014 Pilot Program. The Customer may seek reinstatement through adequate demonstration, in the sole judgment of PG&E, that the Customer's streetlight system satisfies all of the eligibility requirements detailed in this section (Section A) and meets the conditions of service in Section F.1, below, for a consecutive thirty day period.

12. PG&E retains the sole discretion, at any time and for any reason, to revise the minimum requirements for a network controllable streetlight system to qualify for the 2014 Pilot Program, including but not limited to minimum technical requirements for accuracy of data recording and reporting. A Customer already participating in the 2014 Pilot Program will not need to satisfy revised qualifications for continued participation in the Program.

If a permanent LS-2 rate option is created as a result of the 2014 Pilot, the Customer in may elect to receive service under that permanent rate option, the rate option it received during the 2014 Pilot, or the standard applicable streetlight rates.

13. Nothing relating to the 2014 Pilot shall be read to in anyway limit PG&E's sole and unfettered discretion and judgment to establish rate schedules affecting streetlights.

## **2. Establishment of Initial Estimated Average Dimming Level**

A Customer shall submit lamp installs/retrofits to PG&E via the monthly inventory report as detailed in Attachment I, section I. The establishment of the initial estimated average dimming level for each lamp shall be established according to the following terms and conditions.

1. To facilitate the Customers' efforts to establish an acceptable lighting level for its constituents, PG&E will initially establish any controls equipped lamps in its billing system without a Half-Hour Adjustment Value, and will bill the lamp without any credits and at the Total Energy Charge Rate from Schedule LS-2 during the first 90 days that lamp is in service. For purposes of the 2014 Pilot, the half-hour adjustment value is the number of 30-minute increments of usage required to reduce energy usage for 11 hours of operation for a typical "all night" light, to the energy usage for a light that is on a specific dimming schedule. The product of the half-hour adjustment value and the half-hour adjustment rate is equal to the bill credit for a lamp operating on a dimming schedule.
2. The Customer will have a 90-day period from the initial install/retrofit date of the lamp to determine and establish the final dimming schedule for the lamp. The initial and final dimming schedules (if different from initial) will

be submitted to PG&E in the next monthly inventory report immediately following the end of the initial 90-day period.

3. PG&E will retroactively adjust previous billings for the lamp to credit the Customer for previous energy reductions due to dimming, with the credit to be determined by two calculations: a) the difference between the initial dimming schedule from the lamp install date to the date of implementation of the final dimming schedule, if any; and b) the difference between the period from the final dimming schedule implementation to the end date of the latest customer energy statement.
4. Within 30 days following notification by the Customer, to be provided in a monthly inventory report, PG&E will calculate and post any credits for the initial and final dimming activities during the initial 90-day period.
5. Credits derived from application of the Half-Hour Adjustment Value will be applied for each subsequent billing period until notification by the customer that dimming activities have been discontinued or modified.
6. Credits derived from application of the Half-Hour Adjustment Value will be provided as an aggregate value on the energy statement at the service agreement level, and in total as a single line item adjustment at the account level equal to the aggregate of the individual service agreement values.

A Customer failure to conform to this procedure will subject that customer to all charges and fees accrued for the each lamp during the initial 90-day install period.

If a Customer leaves the 2014 Pilot Program, Customer shall provide PG&E with requested documentation reasonably necessary for PG&E to conduct an audit and include information related to Customer's use of controls to evaluate dimmable streetlight technology.

### **3. Customer's Opportunities to Change Estimated Average Dimming**

After expiration of the initial 90-day period following installation or retrofit of a lamp, as described in the immediately preceding Section (Section B), then once per year, during a predetermined date period [beginning on the Customer's anniversary of its effective starting date in the 2014 Pilot Program, and ending on 6 p.m. on the 30th day thereafter], a Customer may provide written notice to PG&E that it has changed its estimated average dimming selection for each light that is used to determine its savings under this optional rate. Once a Customer provides its estimate, that estimate shall be binding for one year, as a necessary measure for Program stability.

If a Customer leaves the 2014 Pilot Program, Customer shall provide PG&E with requested documentation reasonably necessary for PG&E to conduct an audit and include information related to Customer's use of controls to evaluate dimmable streetlight technology.

**4. Bill**

1. Following receipt of the Customer's installed lamp type, wattage, installation date, hours of operation, and dimming percentage (as reported in the Inventory file defined in Attachment I below), PG&E will determine a corresponding Half-Hour Adjustment Value that provides the same or similar cost reduction, within a range of +/- 10% of the predicted cost reduction based on avoided energy usage through dimming. (See Dimming Percentage to Half-Hour Adjustment Conversion Table in Attachment II).
2. PG&E will enter this Half-Hour Adjustment Value in the billing system as of the reported installation date as provided on the Customer's submitted inventory file.
3. From the effective starting date, and until otherwise informed by the Customer that dimming percentage and/or hours of operation have changed, PG&E will apply the calculated half-hour adjustment value to the otherwise applicable half-hour adjustment rate from Schedule LS-2.
4. Customer's monthly bill will reflect an adjustment value equal to the assigned Half-Hour Adjustment Value times the number of lamps assigned that value, on an aggregate basis.
5. For illustrative purposes only, and not a guarantee or representation of any Customer's anticipated actual monthly bill, an example of potential billing under the 2014 Pilot Program is at Attachment III.

**5. Audit**

1. PG&E will conduct an audit of each Customer to determine whether actual, reported usage from the network control system's data loggers is accurate. This audit will normally be conducted after the first full year of operation from the Customer's effective start date in the 2014 Pilot, or one year from the date that at least 50% of the Customer's stated inventory of lights has been installed and operating. However, PG&E reserves the sole discretion to conduct an audit of any Customer at any time and for any reason.
2. Each Customer must cooperate with PG&E, including but not limited to, providing data and information requested by PG&E (such as any changes in operating schedule), providing on-site access (including waiver of costs of access, permitting fees, etc.) to the streetlight network control system software for purposes of accessing individual energy consumption values for selected streetlights and control devices, and providing access to and the ability to test the lights, circuitry and loggers and other equipment used for the operation of the participating Customer's program, including information from suppliers of equipment and/or services for the Customer's program.

3. Audits will generally be scheduled during the standard work week, between 8 AM and 5 PM. The Customer may attend and observe an audit, at its own expense.
4. The Customer must promptly meet with PG&E, if requested, to evaluate the Pilot Program, discuss proposed adjustments, if any, and discuss potential longer-term billing solutions (cost, structure, etc.), if data logger output has been found to be inconsistent with both Rule 17 and Direct Access standards (DASMMD). Audit requirements and basic outline are included in Attachment I.
5. The Customer, at its discretion and cost, may also test data logger devices to ensure proper reporting of energy consumption (e.g. whether it is recording data to within +/- 2% accuracy).
6. The Customer must monitor its software reports for anomalies (e.g. system alarm and error messages indicating errors in energy consumption recording functions). If any of the Customer's tests or monitoring confirms any such anomalies, the Customer shall report such findings to PG&E within 5 days.
7. The Customers' responsibility for costs associated with PG&E conducting an audit is as follows:
  - a. Level 1 audit (office/network operations site visit): At this stage, PG&E will conduct an audit at a Customer's streetlight network operations center. PG&E anticipates most audits to be satisfactorily completed at this level, with no additional follow up required. PG&E will absorb the costs of these audits that consist of an office/network operations site visit. An audit will exclude lights that were installed within three months of the scheduled audit. PG&E will provide the Customer five-business days' notice of a visit conducted under this section.
  - b. Level 2 audit (on-site, ground-level, visual inspection of dimmable streetlights): If for any reason, PG&E in its sole discretion determines that a Level 2 audit is necessary, then PG&E's audit will consist of a visual inspection at the site(s) where dimmable lights are physically located. PG&E will consider an alternative audit method that achieves the same purposes of an audit under this section, however, PG&E's determination shall be final. PG&E will absorb the cost of the first such Level 2 audit of a Customer. PG&E will provide Customers 48 hours' notice of a visit conducted under this section.

In the 12-month period following the day PG&E announces it has completed a Level 2 audit, the Customer shall bear the costs of any additional Level 2 audit that PG&E, in its sole discretion,

determines is warranted, unless PG&E determines that the cause(s) leading it to conduct that second Level 2 audit is due to an error attributable to PG&E.

- c. Level 3 audit (physical inspection of dimmable streetlights): If for any reason, PG&E in its sole discretion determines that physical inspection of enrolled dimmable streetlights is warranted, then a Level 3 audit will consist of physical access and inspection of the streetlights enrolled in the Pilot Program. The Customer agrees that it will be responsible for the all costs for any audit that requires physical inspection of the dimmable streetlights, including waiver of costs/fees the Customer may normally impose to access site(s) where the lights are located. PG&E will provide Customers ten-business days' notice of a visit conducted under this section.
- d. At the time PG&E notifies the Customer of any Level 2 or Level 3 audit, PG&E and the Customer agree to consult regarding the circumstances leading to the decision to conduct the audit. PG&E and the Customer agree to exercise good faith in considering mutually agreeable alternative methods of completing the audit, as long as the method of audit selected achieves the purposes of the audit to PG&E's satisfaction. PG&E at all times retains the sole discretion to determine the timing to begin and complete the audit, consistent with the notice provisions outlined in sections b. and c. above, to determine the course and scope of the audit, and to select the methods necessary for the audit.

PG&E will provide to the customer a non-binding estimate of the cost to the Customer. The Customer shall have five business days to review the non-binding estimate, and it may refuse to pay the cost of the audit before the date of the audit. Should the Customer refuse to pay for the cost of the audit, the Customer shall be subject to removal from the Pilot program. Such removal shall not diminish PG&E's right to audit the Customer for the period the customer took service under the pilot program, provided however, the customer shall not be charged for PG&E's audit cost. Further, the Customer shall still be responsible to provide necessary access and, for Level 3 audits, waive any costs/fees the Customer may normally impose to access the site(s) where the lights are located. Customers removed from the program pursuant to this term shall not be allowed to enroll in the 2014 Pilot Program.

For purposes of the 2014 Pilot only, the Customer's responsibility to fund PG&E's audit costs will be limited to \$10,000 annually. This limitation on the Customer's cost responsibility for Level 2 and Level 3 audits is intended to provide a reasonable level of certainty

to the participating Customer while additional program experience is acquired.

- e. While PG&E anticipates that most of its audits will be completed by the three-level process described in this section, the foregoing is in no way a limitation upon PG&E's sole discretion and judgment to (a) determine the scope of its audits, and (b) in any way tailor its audits as it solely deems is warranted. By way of example only, and not a limitation on PG&E's discretion, PG&E reserves the sole discretion and judgment to proceed directly to a level 3 audit without completion of a Level 1 or a Level 2 audit.

## **6. Conditions of Service**

1. If PG&E determines that more than 5% of the expected data logger readings are missing, inaccurate or otherwise unusable for any period (either consecutive or not) during the 2014 Pilot Program, PG&E reserves the right in its sole discretion to determine that the Customer is ineligible for future participation. The Customer may seek reinstatement through demonstrated resolution of these deficiencies.
2. If PG&E determines that less than 5% of the expected data logger readings of the electrical usage are either missing, inaccurate, or otherwise unusable, PG&E will notify the Customer that they have 15 business days to either provide the data in question, resolve the system deficiency preventing the receipt of reads by the network system on a forward basis such that future reads will be available for auditing of the lamp(s) in question, or demonstrate that the problem is not on the Customer side.
3. Missing, inaccurate and unusable data on electrical consumption shall be deemed to include:
  - Missing: The Customer's network control system does not have the requisite data necessary to verify, for audit purposes, the energy reduction through dimming on the streetlight.
  - Inaccurate: The read delivered by the Customer's network control system yielded a usage value outside anticipated tolerance for the dimming schedule submitted by Customer, and based on the luminaire type and wattage.
  - Unusable: The read as delivered by the Customer's network control system was not usable for purposes of PG&E's audit.

## **7. Audit Results**

If the results of PG&E's audit of the data loggers or readings within the Customer's system are not sufficient to verify dimming activities consistent with the Customer's stated dimming schedule (as reported in the inventory report as described in Attachment I), PG&E reserves the right to find the Customer ineligible for further participation in the 2014 Pilot Program, and bill that Customer/light at the standard LS-2 charges and fixed kilowatt hour amounts, including retroactive billing, for any period previously credited up to 3 years consistent with CPUC rules. PG&E will meet and confer with the Customer before taking this action. If the Customer is able to demonstrate, to the satisfaction of PG&E, that the problem with the data logger has been corrected, and the Customer wishes to resume participation in the pilot, the Customer shall be reinstated.

## **8. Review/Assessment of the 2014 Pilot Program**

PG&E will assess the results of the 2014 Pilot Program in its 2017 GRC Phase II proceeding, including review of Customer data to the extent available. Its assessment may include recommendations to continue, revise or remove the pilot status of the Pilot, or to discontinue the Pilot and its rate option under Schedule LS-2. Such a proposal would be based in part on the success of the Pilot in properly capturing each Customer's usage, as well as an assessment with regard to whether the Pilot as designed is sustainable going forward.

## **9. Termination of 2014 Pilot Program**

The 2014 Pilot Program is a temporary Pilot that will begin on the effective date of the tariffs implementing CPUC's decision in PG&E's 2014 GRC Phase II proceeding, and will automatically terminate on December 31, 2017, or on the effective date of a CPUC final decision in PG&E's 2017 GRC Phase II proceeding, whichever comes later. No representation made in this Final Term Sheet, or any other representation regarding the 2014 Pilot Program, should be interpreted to extend any term of the 2014 Pilot Program beyond the operative dates of the 2014 Pilot.

## **10. Request for CPUC Adoption**

PG&E will prepare, circulate and, once signed, file a non-precedential Settlement Agreement under Rule 12.1 which would resolve all Streetlight issues in PG&E's 2014 GRC Phase II. All Settling Parties agree to support CPUC approval of the motion for adoption of settlement necessary to implement this new option for dimmable streetlights under Schedule LS-2.<sup>8/1</sup>

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<sup>8/</sup> While the City of San Jose is represented by CAL-SLA and is not a separate party to PG&E's Phase II proceeding, a San Jose representative participated in settlement discussions regarding the 2014 Pilot program, and San Jose has provided its support for this settlement.

## ATTACHMENT I – DATA, SCHEDULING & AUDIT REQUIREMENTS

### I. DATA SUBMITTAL REQUIREMENTS

To be eligible for streetlight control billing adjustments, participating local governmental jurisdictions (Customers) must submit monthly inventory files to PG&E (based on Detailed Schedule for Data Reporting discussed in the “PG&E Network Controlled Dimmable Streetlight Rate – 2014 Pilot,” or Term Sheet above as well as set forth below) that each contain:

#### **A. Mandatory Data Fields for Monthly Reporting**

##### **(i) Base Data Fields from PG&E Records -- Provided Initially by PG&E but Included with Each Month Report by Customer**

1. PG&E Account ID: Provided for each streetlight data row
2. PG&E Service Agreement ID (SAID): Provided for each streetlight data row
3. PG&E Service Point ID: Provided for each streetlight data row
4. Streetlight ID: The current PG&E or Customer assigned pole number identifying streetlight(s) with controls matching Badge Number included in PG&E billing record, required condition of LS-2 service.

##### **(ii) Data to be Supplied with Each Monthly Report by Customer:**

1. Install Date: The date the streetlight control was installed.
2. Wattage Rating of Control: The total wattage of installed control and monitoring equipment. <Required for energy use adjustment if control does not monitor own use and if control uses more than 1.0 Watt. Will be disregarded if control tests show less than 1 watt or if control reports its own use.>
3. Control Device Identification: Each control device shall be separately numbered and the assigned number reported to PG&E. Subsequent replacement or removal of the control device will be reported to PG&E including the date the new device was installed and the identification number if changed.
4. Lamp Wattage and Type: The type of fixture installed and wattage of the installed lamp (PG&E will adjust for ballast wattage if applicable, does not apply to LED or Induction).
5. Initial Dimming Hours of Operation: The effective date of the implementation of the initial dimming schedule, to include the hours per day the lamp is dimmed, and the percentage to which the lamp is dimmed during these hours.
6. Equipment Changes: Customer will report any change to equipment during the period, including lamp size, fixture, monitoring and control equipment changes, and all information included in items 1 - 5 above. Changes to dimming percentages and/or hours of operation can be submitted for any individual streetlight within the first 90 days of installation/retrofit, and thereafter, annually, as set forth in the Term Sheet.

7. Final Dimming Hours of Operation: The effective date of the implementation of the final dimming schedule, to include the hours per day the lamp is dimmed, and the percentage to which the lamp is dimmed during these hours.
8. Customers wishing to remove controls equipped lamps from participation in the pilot shall submit the effective date of the removal as detailed in item 6 above, and supply a dimming schedule of zero (0) hours per day and a dimming percentage of zero (0).

**B. PG&E Establishment of Half-Hour Adjustment Value-- Monthly**

- Based on the submitted dimming schedule and percentage, PG&E will establish a Half-Hour Adjustment Value for each project lamp. Adjustment value will remain on lamp unless customer submits a revised dimming schedule, dimming percentage, or change to luminaire type and/or wattage. The timing for submittal of changes to dimming schedule and percentages are set forth in the Term Sheet.

**Additional Required Information**

1. Other System Collected Data: Upon request and assuming vendor system can provide it, PG&E is entitled to also receive Power (wattage), calculated burn hours, amperage, and voltage for each light, as well as certain system generated status, alarm, fault, or exception telemetry that would assist PG&E in verifying data accuracy.

**II. Detailed Schedule for Data Reporting (for Monthly Billing Adjustments)**

1. PG&E and the customer will utilize the existing bill cycle schedule for the customer's existing streetlight account(s), unless a change is mutually agreed to by both PG&E and the Customer in writing and executed by an authorized representative of each party. Customer will submit to PG&E an inventory file, as detailed in section I.A above, each month providing all retrofits completed in the preceding 30 days. PG&E will process the file as soon as practical following receipt. Lamps and/or controls installed during the current bill cycle but submitted to PG&E after the close of the current bill cycle will be processed in the following bill cycle or subsequent bill cycles (dependent on when the individual streetlight record is received by PG&E) however retroactive adjustment of the bill for both the lamp type and/or wattage change and half-hour adjustment will be calculated and credited from the actual installation date.
2. PG&E will perform data validation processing on the submitted inventory file and provide the customer with notification of missing or unusable data (if any) within 30 days of receipt. Inventory records lacking complete or usable data will not be processed pending receipt of corrected data or verification of the accuracy of received data by the Customer.
3. The bill for the Account and Service Agreement included in the pilot program will be produced and mailed within 2-3 days of the close of the Billing Window.

### **III. AUDIT REQUIREMENTS**

Each year, PG&E will audit data logging/reporting accuracy for each Customer, including but not limited to the following:

1. Customer will provide appropriate vendor documentation, such as specification sheets, applicable certification testing and compliance documentation, 3rd party evaluations, etc., for each vendor technology detailing the energy consumption of the controls devices, network components, and any ancillary equipment consuming power from PG&E's distribution lines that is installed or intended to be installed as unmetered.
2. PG&E will require a small number (to be determined and agreed upon later) of samples of each vendor control and monitoring technology for testing by PG&E the first time a customer seeks to deploy a network control system or when they change vendors or technology.
3. Customer will provide, at PG&E's request, periodic on-site or remote access to vendor system during the audit period to verify that system-resident readings for selected streetlight sample demonstrates energy usage reductions consistent with the dimming percentage and hours of operation reported by the customer in the inventory file.
4. PG&E may field-verify a sample of installed fixtures during the audit period to ensure a) fixture type and wattage agrees with the Customer's data file, and b) existence of control/monitoring devices there. This verification may also be accomplished through an alternative method deemed acceptable to PG&E, in its sole judgment and discretion.
5. PG&E shall evaluate whether the network control system's data loggers meet specified utility revenue quality standards under both Rule 17 and the Direct Access standards (DASMMD).

**ATTACHMENT II  
DIMMING PERCENTAGE TO HALF-HOUR ADJUSTMENT CONVERSION TABLE**

**Attachment 2: Dimming Percentage to Half-Hour Adjustment Conversion Table.**

Dimming Hours Per Night	Dimming Percentage					
	15%	25%	40%	50%	60%	75%
2	1	1	2	2	2	3
4	1	2	3	4	5	6
6	2	3	5	6	7	9
7	2	4	6	7	8	11
8	2	4	6	8	10	12
10	3	5	8	10	12	15
11	3	6	9	11	13	17

\*For purposes of application of the hour-hour adjustment, PG&E assumes a linear relationship between dimming percentage and reduction in energy consumption (e.g. a 25% dimming percentage will equate to a half-hour adjustment value approximating a 25% reduction in usage as applied to the LS2 tariff consumption value for that lamp type and wattage).

**ATTACHMENT III  
SAMPLE CALCULATION UNDER 2014 PILOT PROGRAM**

Customer intends to operate dimmable lamp on a 7 hour dimming schedule at 50% reduction.

150 Watt LED								
	AN-Hours	Hours Per Month	Tariff KWH	Cost Per KWH	Energy Cost	Facility Cost	Total Cost	
Standard Cost	11	341.6667	50.4	\$0.13840	\$ 6.975	\$ 0.206	\$ 7.18	
50% Dimming 10PM to 5AM						Half Hour Adjustment Value	Half Hour Adjustment Credit	
						Dimming Credit	-7	\$ 0.314
								\$ (2.20)
							Net Cost	\$4.98



**Attachment IV**  
**Special Contract for Unmetered Service**  
**Agreement for Energy Use Adjustments for**  
**Network Controlled Dimmable Streetlights -**  
**2014 Pilot Program**

This Agreement between \_\_\_\_\_  
(the Customer) and Pacific Gas and Electric Company (PG&E or the Company) is to establish and govern the provisions of a 2014 pilot program to evaluate, and provide billing adjustments to reflect actual energy used by streetlights that have been equipped with network controls that allow the lights to be dimmed under operating schedules established by the Customer.

WHEREAS, the streetlights in question are owned by the Customer and would otherwise be subject to the standard provisions of the Company's Electric Rate Schedule LS-2; and

WHEREAS, the technology available for use in remotely programmed network control systems for streetlights has advanced to the point where the systems are now capable of logging and reporting energy used by the streetlights; and

WHEREAS, the Customer and the Company agree that the current provisions of Electric Rate Schedule LS-2 do not provide sufficient flexibility to accommodate energy use adjustments for dimming schedules made possible by the use of remotely programmed network control systems; and

WHEREAS, the Company has determined that it would be impractical, and typically not cost-effective, for customers to pay to install individual meters at each service delivery point for streetlights or streetlight circuits supporting controlled lights subject to this Agreement; and

WHEREAS, the Company agrees that the Customer has met the eligibility requirements to allow participation in this pilot program as identified in Attachment 4, including the ability of the Customer's network control system to monitor, log and report energy consumption data for the controlled streetlights; and

WHEREAS, pursuant to the Company's electric Preliminary Statement Part A, Description of Service Area and General Requirements, Section 6.a, the Customer and the Company agree that, in lieu of installing meters at each service delivery point, the Company shall provide unmetered electric service as provided herein.



## **Attachment IV Special Contract for Unmetered Service Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights - 2014 Pilot Program**

NOW THEREFORE, in consideration of the terms and covenants contained herein, the Customer and the Company hereby agree as follows:

### **A. Establishment of Initial Estimated Average Dimming Level**

A Customer shall submit lamp installs/retrofits to PG&E via the monthly inventory report as detailed in Attachment 1, section I. The establishment of the initial estimated average dimming level for each lamp shall be established according to the following terms and conditions.

1. PG&E will initially establish any controls equipped lamps in its billing system without a Half-Hour Adjustment Value, and will bill the lamp without any credits and at the Total Energy Charge Rate from Schedule LS-2 during the first 90 days that lamp is in service. For purposes of the 2014 Pilot, A half-hour adjustment value is the number of 30-minute increments of usage required to reduce energy usage for 11 hours of operation per night for a typical "all night" light, to the energy usage for a light that is on a specific dimming schedule. The product of the half-hour adjustment value and the half-hour adjustment rate is equal to the bill credit for a lamp operating on a dimming schedule.
2. The Customer will have a 90-day period from the initial install/retrofit date of the lamp to determine and establish the final dimming schedule for the lamp. The initial and final dimming schedules (if different from initial) will be submitted to PG&E in the next monthly inventory report immediately following the end of the initial 90-day period.
3. PG&E will retroactively adjust previous billings for the lamp to credit the Customer for previous energy reductions due to dimming, with the credit to be determined by two calculations: a) the difference between the initial dimming schedule from the lamp install date to the date of implementation of the final dimming schedule, if any; and b) the difference between the period from the final dimming schedule implementation to the end date of the latest customer energy statement.
4. Within 30 days following notification by the Customer, to be provided in a monthly inventory report, PG&E will calculate and post any credits for the initial and final dimming activities during the initial 90-day period.
5. Credits derived from application of the Half-Hour Adjustment Value will be applied for each subsequent billing period until notification by the customer that dimming activities have been discontinued or modified.
6. Credits derived from application of the Half-Hour Adjustment Value will be provided as an aggregate value on the energy statement at the service agreement level, and in total as a single line item adjustment at the account level equal to the aggregate of the individual service agreement values.



## **Attachment IV Special Contract for Unmetered Service Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights - 2014 Pilot Program**

A Customer's failure to conform to this procedure will subject that customer to all charges and fees accrued for the each lamp during the initial 90-day install period.

If a Customer leaves the 2014 Pilot Program, Customer shall provide PG&E with requested documentation reasonably necessary for PG&E to conduct an audit and include information related to Customer's use of controls to evaluate dimmable streetlight technology.

### **B. Customer's Opportunities to Change Estimated Average Dimming**

After expiration of the initial 90-day period following installation or retrofit of a lamp, as described in the immediately preceding Section (Section A), then once per year, during a predetermined date period [beginning on the Customer's anniversary of its effective starting date in the 2014 Pilot Program, and ending on 6 p.m. on the 30th day thereafter], a Customer may provide written notice to PG&E that it has changed its estimated average dimming selection for each light that is used to determine its savings under this optional rate. Once a Customer provides its estimate, that estimate shall be binding for one year, as a necessary measure for Program stability.

If a Customer leaves the 2014 Pilot Program, Customer shall provide PG&E with requested documentation reasonably necessary for PG&E to conduct an audit and include information related to Customer's use of controls to evaluate dimmable streetlight technology.

### **C. Bill**

1. Following receipt of the Customer's installed lamp type, wattage, installation date, hours of operation, and dimming percentage (as reported in the Inventory file defined in Attachment 1 below), PG&E will determine a corresponding Half-Hour Adjustment Value that provides the same or similar cost reduction, within a range of +/- 10% of the predicted cost reduction based on avoided energy usage through dimming. (See Dimming Percentage to Half-Hour Adjustment Conversion Table in Attachment 2).
2. PG&E will enter this Half-Hour Adjustment Value in the billing system as of the reported installation date as provided on the Customer's submitted inventory file.
3. From the effective starting date, and until otherwise informed by the Customer that dimming percentage and/or hours of operation have changed, PG&E will apply the calculated half-hour adjustment value to the otherwise applicable half-hour adjustment rate from Schedule LS-2.
4. Customer's monthly bill will reflect an adjustment value equal to the assigned Half-Hour Adjustment Value times the number of lamps assigned that value, on an aggregate basis.
5. For illustrative purposes only, and not a guarantee or representation of any Customer's anticipated actual monthly bill, an example of potential billing under the 2014 Pilot Program is at Attachment 3.



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### **D. Audit**

1. PG&E will conduct an audit of each Customer to determine whether actual, reported usage from the network control system's data loggers is accurate. This audit will normally be conducted after the first full year of operation from the Customer's effective start date in the 2014 Pilot, or one year from the date that at least 50% of the Customer's stated inventory of lights has been installed and operating. However, PG&E reserves the sole discretion to conduct an audit of any Customer at any time and for any reason.
2. Each Customer must cooperate with PG&E, including but not limited to, providing data and information requested by PG&E (such as any changes in operating schedule), providing on-site access (including waiver of costs of access, permitting fees, etc.) to the streetlight network control system software for purposes of accessing individual energy consumption values for selected streetlights and control devices, and providing access to and the ability to test the lights, circuitry and loggers and other equipment used for the operation of the participating Customer's program, including information from suppliers of equipment and/or services for the Customer's program.
3. Audits will generally be scheduled during the standard work week, between 8 AM and 5 PM. The Customer may attend and observe an audit, at its own expense.
4. The Customer must promptly meet with PG&E, if requested, to evaluate the Pilot Program, discuss proposed adjustments, if any, and discuss potential longer-term billing solutions (cost, structure, etc.), if data logger output has been found to be inconsistent with both Rule 17 and Direct Access standards (DASMMD). Audit requirements and basic outline are included in Attachment 1.
5. The Customer, at its discretion and cost, may also test data logger devices to ensure proper reporting of energy consumption (e.g. whether it is recording data to within +/- 2% accuracy).
6. The Customer must monitor its software reports for anomalies (e.g. system alarm and error messages indicating errors in energy consumption recording functions). If any of the Customer's tests or monitoring confirms any such anomalies, the Customer shall report such findings to PG&E within 5 days.
7. The Customers' responsibility for costs associated with PG&E conducting an audit is as follows:
  - a. Level 1 audit (office/network operations site visit): At this stage, PG&E will conduct an audit at a Customer's streetlight network operations center. PG&E will absorb the costs of these audits that consist of an office/network operations site visit. An audit will exclude lights that were installed within three months of the scheduled audit. PG&E will provide the Customer five-business days' notice of a visit conducted under this section.



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- b. Level 2 audit (on-site, ground-level, visual inspection of dimmable streetlights): If for any reason, PG&E in its sole discretion determines that a Level 2 audit is necessary, then PG&E's audit will consist of a visual inspection at the site(s) where dimmable lights are physically located. PG&E will consider an alternative audit method that achieves the same purposes of an audit under this section, however, PG&E's determination shall be final. PG&E will absorb the cost of the first such Level 2 audit of a Customer. PG&E will provide Customers 48 hours' notice of a visit conducted under this section.

In the 12-month period following the day PG&E announces it has completed a Level 2 audit, the Customer shall bear the costs of any additional Level 2 audit that PG&E, in its sole discretion, determines is warranted, unless PG&E determines that the cause(s) leading it to conduct that second Level 2 audit is due an error attributable to PG&E.

- c. Level 3 audit (physical inspection of dimmable streetlights): If for any reason, PG&E in its sole discretion determines that physical inspection of enrolled dimmable streetlights is warranted, then a Level 3 audit will consist of physical access and inspection of the streetlights enrolled in the Pilot Program. The Customer agrees that it will be responsible for the all costs for any audit that requires physical inspection of the dimmable streetlights, including waiver of costs/fees the Customer may normally impose to access site(s) where the lights are located. PG&E will provide Customers ten-business days' notice of a visit conducted under this section.
- d. At the time PG&E notifies the Customer of any Level 2 or Level 3 audit, PG&E and the Customer agree to consult regarding the circumstances leading to the decision to conduct the audit. PG&E and the Customer agree to exercise good faith in considering mutually agreeable alternative methods of completing the audit, as long as the method of audit selected achieves the purposes of the audit to PG&E's satisfaction. PG&E at all times retains the sole discretion to determine the timing to begin and complete the audit, consistent with the notice provisions outlined in sections b. and c. above, to determine the course and scope of the audit, and to select the methods necessary for the audit.

PG&E will provide to the customer a non-binding estimate of the cost to the Customer. The Customer shall have five business days to review the non-binding estimate, and it may refuse to pay the cost of the audit before the date of the audit. Should the Customer refuse to pay for the cost of the audit, the Customer shall be subject to removal from the Pilot program. Such removal shall not diminish PG&E's right to audit the Customer for the period the customer took service under the pilot program, provided however, the customer shall not be charged for PG&E's audit cost. Further, the Customer shall still be responsible to provide necessary access and, for Level 3 audits, waive any costs/fees the



## Attachment IV Special Contract for Unmetered Service Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights - 2014 Pilot Program

Customer may normally impose to access the site(s) where the lights are located. Customers removed from the program pursuant to this term shall not be allowed to enroll in the 2014 Pilot Program. For purposes of the 2014 Pilot only, the Customer's responsibility to fund PG&E's audit costs will be limited to \$10,000 annually.

- e. While PG&E anticipates that most of its audits will be completed by the three-level process described in this section, the foregoing is in no way a limitation upon PG&E's sole discretion and judgment to (a) determine the scope of its audits, and (b) in any way tailor its audits as it solely deems is warranted. By way of example only, and not a limitation on PG&E's discretion, PG&E reserves the sole discretion and judgment to proceed directly to a level 3 audit without completion of a Level 1 or a Level 2 audit.

### **E. Conditions of Service**

1. If PG&E determines that more than 5% of the expected data logger readings are missing, inaccurate or otherwise unusable for any period (either consecutive or not) during the 2014 Pilot Program, PG&E reserves the right in its sole discretion to determine that the Customer is ineligible for future participation. The Customer may seek reinstatement through demonstrated resolution of these deficiencies.
2. If PG&E determines that less than 5% of the expected data logger readings of the electrical usage are either missing, inaccurate, or otherwise unusable, PG&E will notify the Customer that they have 15 business days to either provide the data in question, resolve the system deficiency preventing the receipt of reads by the network system on a forward basis such that future reads will be available for auditing of the lamp(s) in question, or demonstrate that the problem is not on the Customer side.
3. Missing, inaccurate and unusable data on electrical consumption shall be deemed to include:
  - Missing: The Customer's network control system does not have the requisite data necessary to verify, for audit purposes, the energy reduction through dimming on the streetlight.
  - Inaccurate: The read delivered by the Customer's network control system yielded a usage value outside anticipated tolerance for the dimming schedule submitted by Customer, and based on the luminaire type and wattage.
  - Unusable: The read as delivered by the Customer's network control system was not usable for purposes of PG&E's audit.



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### **F. Audit Results**

If the results of PG&E's audit of the data loggers or readings within the Customer's system are not sufficient to verify dimming activities consistent with the Customer's stated dimming schedule (as reported in the inventory report as described in Attachment 1), PG&E reserves the right to find the Customer ineligible for further participation in the 2014 Pilot Program, and bill that Customer/light at the standard LS-2 charges and fixed kilowatt hour amounts, including retroactive billing, for any period previously credited up to 3 years consistent with CPUC rules. PG&E will meet and confer with the Customer before taking this action. If the Customer is able to demonstrate, to the satisfaction of PG&E, that the problem with the data logger has been corrected, and the Customer wishes to resume participation in the pilot, the Customer shall be reinstated.

### **G. Review/Assessment of the 2014 Pilot Program**

PG&E will assess the results of the 2014 Pilot Program in its 2017 GRC Phase II proceeding, including review of Customer data to the extent available. Its assessment may include recommendations to continue, revise or remove the pilot status of the Pilot, or to discontinue the Pilot and its rate option under Schedule LS-2. Such a proposal would be based in part on the success of the Pilot in properly capturing each Customer's usage, as well as an assessment with regard to whether the Pilot as designed is sustainable going forward.

### **H. Termination of 2014 Pilot Program**

The 2014 Pilot Program is a temporary Pilot that will begin on the effective date of the tariffs implementing the CPUC's decision in PG&E's 2014 GRC Phase II proceeding, and end on December 31, 2017, or on the effective date of a CPUC final decision in PG&E's 2017 GRC Phase II proceeding whichever comes later.

### **I. Additional Items**

1. Only duly authorized employees or agents of the Company may connect Customer's electrical loads to, or disconnect the same from, the Company's electric distribution facilities.
2. Neither this Agreement nor conditions of electric service hereunder shall constitute permission or authorization for any use or occupation of the Company's facilities or facilities of any third party by Customer. It shall be sole responsibility and obligation of Customer to secure any rights or permission that may be necessary for the placement and use of Customer's Equipment on private property or within the public right of way.



Pacific Gas and  
Electric Company

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3. Service furnished in accordance with this Agreement shall in all respects be subject to Company's applicable tariffs on file with the Commission and shall at all times be subject to such changes or modifications by the Commission as said Commission may, from time to time, direct in the exercise of its jurisdiction.
4. Whenever Customer owned streetlights, controls or related equipment are attached to Company owned poles or facilities, all such Customer facilities shall be installed, maintained and operated at all times in accordance with all applicable laws, rules and regulations by any governmental authority with jurisdiction, including Commission's General Order 95.
5. If, for any reason, the Customer determines that it is not in its interest to continue its participation in the pilot, the Customer retains the right to opt out subject to the following conditions. In order to opt out, the Customer must first provide written notice to the Company of its decision to opt out, and the Company shall return all of the Customer's network controlled streetlights to their existing non-controlled light bill by lamp type and bill them under Schedule LS-2 in accordance with PG&E Rule 12 provisions for rate changes (i.e., effective the next bill cycle). If the Customer opts out of the pilot, it may not return to service under the pilot for a year, also in accordance with Rule 12. Even after opting out, the Customer shall provide the Company with requested documentation reasonably necessary for the Company to conduct an audit and evaluate the pilot
6. The Company and the Customer will each identify an individual to serve as a primary point of contact for all issues and notices required herein, and share with the other party appropriate contact information for the identified individual. The identity and contact information for the primary contact individual may be changed by the Company or Customer as business needs change, but appropriate contact information will be shared promptly and maintained current at all times.
7. The Customer is solely responsible for streetlight system design, maintenance and operation, including selection of light sources, illumination levels, lighting pattern layout and coverage, and for establishing, implementing and maintaining any dimming schedule used to alter streetlighting output for the purpose of saving energy.
8. The waiver by either Party of any default in the performance, or failure to insist on strict performance, by the other or any covenant or condition contained herein shall not be construed to be a waiver of any preceding or subsequent default of the same or any other covenant contained herein.



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**APPROVED:**

_____ (Customer)	<b>PACIFIC GAS AND ELECTRIC COMPANY</b> _____
_____ (Signature)	_____ (Signature)
_____ (Type/Print Name)	_____ (Type/Print Name)
_____ (Title)	_____ (Title)
_____ (Date)	_____ (Date)

- Attachment 1: Data, Scheduling and Audit Requirements
- Attachment 2: Dimming Percentage to Half-Hour Adjustment Conversion Table
- Attachment 3: Sample Calculation
- Attachment 4: Customer Eligibility Requirements



**Attachment IV**  
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**ATTACHMENT 1 – Data, Scheduling & Audit**  
**Requirements**

**I. DATA SUBMITTAL REQUIREMENTS**

To be eligible for streetlight control billing adjustments, participating local governmental jurisdictions (Customers) must submit monthly inventory files to PG&E (based on Detailed Schedule for Data Reporting discussed in the Agreement for Energy Use Adjustments above as well as set forth below) that each contain:

**A. Mandatory Data Fields for Monthly Reporting**

**(i) Base Data Fields from PG&E Records -- Provided Initially by PG&E but Included with Each Month Report by Customer**

1. PG&E Account ID: Provided for each streetlight data row
2. PG&E Service Agreement ID (SAID): Provided for each streetlight data row
3. PG&E Service Point ID: Provided for each streetlight data row
4. Streetlight ID: The current PG&E or Customer assigned pole number identifying streetlight(s) with controls matching Badge Number included in PG&E billing record, required condition of LS-2 service.

**(ii) Data Supplied with Each Monthly Report by Customer:**

1. Install Date: The date the streetlight control was installed.
2. Wattage Rating of Control: The total wattage of installed control and monitoring equipment. <Required for energy use adjustment if control does not monitor own use and if control uses more than 1.0 Watt. Will be disregarded if control tests show less than 1 watt or if control reports its own use.>
3. Control Device Identification: Each control device shall be separately numbered and the assigned number reported to PG&E. Subsequent replacement or removal of the control device will be reported to PG&E including the date the new device was installed and the identification number if changed.
4. Lamp Wattage and Type: The type of fixture installed and wattage of the installed lamp (PG&E will adjust for ballast wattage if applicable, does not apply to LED or Induction).



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**Requirements**

5. Initial Dimming Hours of Operation: The effective date of the implementation of the initial dimming schedule, to include the hours per day the lamp is dimmed, and the percentage to which the lamp is dimmed during these hours.
6. Equipment Changes: Customer will report any change to equipment during the period, including lamp size, fixture, monitoring and control equipment changes, and all information included in items 1-5 above. Changes to dimming percentages and/or hours of operation can be submitted for any individual streetlight within the first 90 days of installation/retrofit, and thereafter annually, as set forth in the Agreement for Energy Use Adjustments.
7. Final Dimming Hours of Operation: The effective date of the implementation of the final dimming schedule, to include the hours per day the lamp is dimmed, and the percentage to which the lamp is dimmed during these hours.
8. Customers wishing to remove controls equipped lamps from participation in the pilot shall submit the effective date of the removal as detailed in item 6 above, and supply a dimming schedule of zero (0) hours per day and a dimming percentage of zero (0).

**B. PG&E Establishment of Half-Hour Adjustment Value -- Monthly**

- Based on the submitted dimming schedule and percentage, PG&E will establish a Half-Hour Adjustment Value for each project lamp. Adjustment value will remain on lamp unless customer submits a revised dimming schedule, dimming percentage, or change to luminaire type and/or wattage. The timing for submittal of changes to dimming schedule and percentages are set forth in the Agreement for Energy Use Adjustments.

**Additional Required Information**

1. Other System Collected Data: Upon request and assuming vendor system can provide it, PG&E is entitled to also receive Power (wattage), calculated burn hours, amperage, and voltage for each light, as well as certain system generated status, alarm, fault, or exception telemetry that would assist PG&E in verifying data accuracy.



## **Attachment IV Special Contract for Unmetered Service Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights - Pilot Program**

### **ATTACHMENT 1 – Data, Scheduling & Audit Requirements**

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#### **II. Detailed Schedule for Data Reporting (for Monthly Billing Adjustments)**

1. PG&E and the Customer will utilize the existing bill cycle for the Customer's existing streetlight account(s) unless a change is mutually agreed to by both PG&E and the Customer in writing and executed by an authorized representative of each party. Customer will submit to PG&E an inventory file, as detailed in section I.A above, each month providing all retrofits completed in the preceding 30 days. PG&E will process the file as soon as practical following receipt. Lamps and/or controls installed during the current bill cycle but submitted to PG&E after the close of the current bill cycle will be processed in the following bill cycle or subsequent bill cycles (dependent on when the individual streetlight record is received by PG&E), however retroactive adjustment of the bill for both the lamp type and/or wattage change and half-hour adjustment will be calculated and credited from the actual installation date.
2. PG&E will perform data validation processing on the submitted inventory file and provide the Customer with notification of missing or unusable data (if any) within 30 days of receipt. Inventory records lacking complete or usable data will not be processed pending receipt of corrected data or verification of the accuracy of received data by the Customer.
3. The bill for the Account and Service Agreement included in the pilot program will be produced and mailed within 2-3 days of the close of the Billing Window.

#### **III. AUDIT REQUIREMENTS**

Each year, PG&E will audit data logging/reporting accuracy for each customer, including but not limited to the following:

1. Customer will provide appropriate vendor documentation, such as specification sheets, applicable certification testing and compliance documentation, 3rd party evaluations, etc., for each vendor technology detailing the energy consumption of the controls devices, network components, and any ancillary equipment consuming power from PG&E's distribution lines that is installed or intended to be installed as unmetered.
2. PG&E will require a small number (to be determined and agreed upon later) of samples of each vendor control and monitoring technology for testing by PG&E the first time a customer seeks to deploy a network control system or when they change vendors or technology.



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**ATTACHMENT 1 – Data, Scheduling & Audit  
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3. Customer will provide, at PG&E's request, periodic on-site or remote access to vendor system during the audit period to verify that system-resident readings for selected streetlight sample demonstrates energy usage reductions consistent with the dimming percentage and hours of operation reported by the customer in the inventory file.
4. PG&E may field-verify a sample of installed fixtures during the audit period to ensure a) fixture type and wattage agrees with the Customer's data file, and b) existence of control/monitoring devices there. This verification may also be accomplished through an alternative method deemed acceptable to PG&E, in its sole judgment and discretion.
5. PG&E shall evaluate whether the network control system's data loggers meet specified utility revenue quality standards under both Rule 17 and the Direct Access standards (DASMMD).



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**ATTACHMENT 2 – Dimming Percentage to Half-Hour Adjustment Conversion Table**

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**Attachment 2: Dimming Percentage to Half-Hour Adjustment Conversion Table.**

Dimming Hours Per Night	Dimming Percentage					
	15%	25%	40%	50%	60%	75%
2	1	1	2	2	2	3
4	1	2	3	4	5	6
6	2	3	5	6	7	9
7	2	4	6	7	8	11
8	2	4	6	8	10	12
10	3	5	8	10	12	15
11	3	6	9	11	13	17

\*For purposes of application of the hour-hour adjustment, PG&E assumes a linear relationship between dimming percentage and reduction in energy consumption (e.g. a 25% dimming percentage will equate to a half-hour adjustment value approximating a 25% reduction in usage as applied to the LS2 tariff consumption value for that lamp type and wattage).



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**ATTACHMENT 3 – Sample Calculation Under  
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Customer intends to operate dimmable lamp on a 7 hour dimming schedule at 50% reduction.

150 Watt LED	AN-Hours	Hours Per Month	Tariff KWH	Cost Per KWH	Energy Cost	Facility Cost	Total Cost
<b>Standard Cost</b>	11	341.6667	50.4	\$0.13840	\$ 6.975	\$ 0.206	\$ 7.18
<b>50% Dimming 10PM to 5AM</b>							
			<b>Dimming Credit</b>		-7	\$ 0.314	\$ (2.20)
						<b>Net Cost</b>	<b>\$4.98</b>

**Eligibility for Participation**

A Customer’s effective starting date in the 2014 Pilot Program shall be the latter of the date that the Customer and PG&E execute the Special Contract. Participation in the 2014 Pilot Program will be open to any Customer that satisfies the following eligibility requirements:

1. A Customer must provide to PG&E sufficient evidence, in PG&E’s sole determination, that it has deployed a network controlled streetlight system that meets the minimum technical requirements for accuracy of data recording and reporting, as set forth further below, and comply with reasonable requests for information sufficient for PG&E to identify potential issues or problems with the system’s workability for purposes of this rate. Without limitation, documentation can include technical specifications for energy consumption for both luminaires, control devices, and network components.
2. A Customer’s network control/monitoring system must include vendor documentation substantiating network control system data logger accuracy within +/- 2 percent, consistent with Rule 17 and the Direct Access Standards (DASMMMD).
3. A Customer’s network control/monitoring system must include the capability to record energy consumption values at hourly intervals.



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**ATTACHMENT 3 – Sample Calculation Under  
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4. A Customer shall have 30 calendar days from the installation date of any network controlled streetlight device(s) in the field to notify PG&E of the installation. Data files supplying this information are to follow a format to be provided by PG&E. Data files will be emailed to a dedicated PG&E mailbox to be specified by PG&E.
5. A Customer must inform PG&E in writing how many new lights it plans to include in the 2014 Pilot as it makes that determination. The Customer will provide specific information on the streetlights as they are installed, including, but not limited to: the model and manufacturer of the luminaire and the model and manufacturer of the monitor/control system.
6. Customers can revise the number of lights included in the 2014 Pilot Program at any time, through inclusion in the monthly inventory file and by providing the streetlight specific information detailed in Attachment 1, section 1.A. However, after establishment of the final dimming schedule (as defined in Attachment 1, section 1.A.ii.7, and Agreement for Energy Use Adjustment), changes to the dimming schedule are limited to once every 12 months, with the exception of streetlights that are being either completely de-energized or returned to a non-dimming operational state.
7. All other non-streetlight or parasitic load must be accounted for and billed under separate agreements, including network components of the streetlight network system, such as unmetered network gateways, that are served from PG&E's distribution system via non-metered connections.
8. A Customer's application must include technical specifications for energy consumption of luminaires, control devices, network components, and any other parasitic load not recorded by a PG&E metering point.
9. Each control device must record its own usage, or, per agreement, for total device consumption greater than one watt, the Customer and PG&E may determine the estimated usage of each device and agree to a fixed adjustment in advance.
10. The provision of information to PG&E will be for purposes of compliance with this 2014 Pilot Program, and does not insert PG&E as an evaluator of the network controllable streetlight technology selected by a Customer. Rather, the Customer or prospective Customer understands and accepts the risk of any harm potentially resulting from a failure of a network controllable streetlight system to meet PG&E's qualifications for participation or continued participation in the 2014 Pilot Program.
11. A Customer must satisfy all of the eligibility requirements for the 2014 Pilot Program at all times during the Pilot. If at any time PG&E determines that a Customer does



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**ATTACHMENT 3 – Sample Calculation Under  
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not meet all eligibility requirements, PG&E shall provide a notice of ineligibility to that Customer specifying each and every requirement it has been found not to meet. If the Customer cannot document that it has cured each deficiency and meets all eligibility requirements within 60 days of such notice, it shall be removed from this 2014 Pilot Program. The Customer may seek reinstatement through adequate demonstration, in the sole judgment of PG&E, that the Customer's streetlight system satisfies all of the eligibility requirements detailed in this Attachment 4 and meets the requirements of Section E, Conditions of Service, Part 1, of the Special Contract for Unmetered Service, for a consecutive thirty day period.

12. PG&E retains the sole discretion, at any time and for any reason, to revise the minimum requirements for a network controllable streetlight system to qualify for the 2014 Pilot Program, including but not limited to minimum technical requirements for accuracy of data recording and reporting. A Customer already participating in the 2014 Pilot Program will not need to satisfy revised qualifications for continued participation in the Program.

If a permanent LS-2 rate option is created as a result of the 2014 Pilot, the Customer may elect to receive service under that permanent rate option, the rate option it received during the 2014 Pilot, or the standard applicable streetlight rates.

13. Nothing relating to the 2014 Pilot shall be read to in anyway limit PG&E's sole and unfettered discretion and judgment to establish rate schedules affecting streetlights.

## Appendix 2: Non-Energy Facility Charges

**TABLE 1**

**PACIFIC GAS AND ELECTRIC COMPANY**

**2014 GRC PHASE II PROPOSED NON-ENERGY**

**FACILITY CHARGES FOR STREETLIGHT RATES IN 2015**

	Rate Schedule	Service	Monthly Rate			Total Monthly Facility Charge
			Plant Charge	Universal Charge	O&M Charge	
1	LS-1A	PG&E owns and maintains luminaire, control facilities, support arm, and service wiring on its existing distribution pole, and all lights. Most common lamp type: HPSV 70W.	\$3.499	\$0.206	\$2.713	\$6.418
2	LS-1B	PG&E owns and maintains luminaire, control facilities, support arm, pole or post, foundation and service connection and where customer has paid the estimated installed cost of the luminaire, support arm and control facilities. Most common lamp type: MV 175W (HPSV 70W equivalent).	\$2.300	\$0.206	\$2.713	\$5.219
3	LS-1C	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring as required. (Ownership of pole or post, support arm and foundation by customer where light is the only light on a pole or where this schedule is applied to all lights on the customer owned pole. Also applies to second and all multiple lights on poles or posts owned by PG&E. Most common lamp type: HPSV 70W.	\$2.436	\$0.206	\$2.713	\$5.356
4	LS-1D	PG&E owns and maintains its standard post top luminaire, control facility, internal post wiring, standard galvanized steel post (20-foot mounting height or less) and foundation where customer pays for the estimated and installed cost of the post, support arm (if any) and foundation. Most common lamp type: HPSV 70W.	\$5.150	\$0.206	\$2.713	\$8.070
5	LS-1E	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring, service connection, galvanized steel pole and foundation where the customer has paid to PG&E the estimated installed cost of the pole, support arm and foundation. Most common lamp type: HPSV 70W.	\$5.143	\$0.206	\$2.713	\$8.063
6	LS-1F	PG&E owns and maintains a standard luminaire, control facility, support arm, and service connection on its standard pole or post, installed solely for the luminaire. Most common lamp type: HPSV 70W.	\$4.975	\$0.206	\$2.713	\$7.895
7	LS-2A	City Owned and Maintained		\$0.206		\$0.206
9	LS-2C	City Owned and PG&E Maintained		\$0.206	\$2.713	\$2.919
10	OL-1	Outdoor area lighting service where street lighting schedules are not applicable and where PG&E installs, owns, operates and maintains the complete lighting installation on PG&E's existing wood distribution poles or on customer-owned poles acceptable to PG&E installed by the customer on his private property.	\$3.499	\$0.206	\$2.713	\$6.418
CCSF Standard:						
11		CCSF Rate Schedule No. 1 (LS-1A HPSV 100W)	\$3.532	\$0.206	\$2.713	\$6.452
12		CCSF Rate Schedule No. 3 (LS-1A HPSV 150W)	\$3.534	\$0.206	\$2.713	\$6.453
13		CCSF Rate Schedule No. 4E (LS-1E HPSV 100W)	\$5.142	\$0.206	\$2.713	\$8.062
14		CCSF Rate Schedule No. 4A (LS-1E Mercury Vapor 175W)	\$6.282	\$0.206	\$2.713	\$9.202
15		CCSF Rate Schedule No. 6 (LS-2B)		\$0.206	\$2.713	\$2.919
16		CCSF Rate Schedule No. 7				
CCSF Non-Standard						
CCSF Rate Schedule No. 4A:						
17		Incandescent 295W	\$8.158	\$0.206	\$2.713	\$11.078
18		Mercury Vapor 400W	\$6.521	\$0.206	\$2.713	\$9.441
CCSF Rate Schedule No. 5:						
19		HPSV 100W	\$6.947	\$0.206	\$2.713	\$9.866
20		Incandescent 405W	\$9.088	\$0.206	\$2.713	\$12.008
		CCSF Rate Schedule No. 6A (Chinatown Area) - HSPV 250W	\$69.893	\$0.206	\$2.713	\$72.813
		CCSF Rate Schedule No. 9 (Triangle District)				
HPSV:						
21		150W 16,000 LUMENS DUPLEX (1)	\$37.164	\$0.206	\$2.713	\$40.084
22		150W 16,000 LUMENS DUPLEX (2)	\$0.957	\$0.206	\$2.713	\$3.876
23		CCSF Subtotal	\$4.385	\$0.206	\$2.713	\$7.304

## Appendix 2: Non-Energy Facility Charges

**TABLE 2**

**PACIFIC GAS AND ELECTRIC COMPANY  
2014 GRC PHASE II PROPOSED NON-ENERGY  
FACILITY CHARGES FOR STREETLIGHT RATES IN 2016**

	Rate Schedule	Service	Monthly Rate			Total Monthly Facility Charge
			Plant Charge	Universal Charge	O&M Charge	
1	LS-1A	PG&E owns and maintains luminaire, control facilities, support arm, and service wiring on its existing distribution pole, and all lights. Most common lamp type: HPSV 70W.	\$3.009	\$0.206	\$3.251	\$6.466
2	LS-1B	PG&E owns and maintains luminaire, control facilities, support arm, pole or post, foundation and service connection and where customer has paid the estimated installed cost of the luminaire, support arm and control facilities. Most common lamp type: MV 175W (HPSV 70W equivalent).	\$2.410	\$0.206	\$3.251	\$5.867
3	LS-1C	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring as required. (Ownership of pole or post, support arm and foundation by customer where light is the only light on a pole or where this schedule is applied to all lights on the customer owned pole. Also applies to second and all multiple lights on poles or posts owned by PG&E. Most common lamp type: HPSV 70W.	\$2.612	\$0.206	\$3.251	\$6.069
4	LS-1D	PG&E owns and maintains its standard post top luminaire, control facility, internal post wiring, standard galvanized steel post (20-foot mounting height or less) and foundation where customer pays for the estimated and installed cost of the post, support arm (if any) and foundation. Most common lamp type: HPSV 70W.	\$5.439	\$0.206	\$3.251	\$8.896
5	LS-1E	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring, service connection, galvanized steel pole and foundation where the customer has paid to PG&E the estimated installed cost of the pole, support arm and foundation. Most common lamp type: HPSV 70W.	\$5.814	\$0.206	\$3.251	\$9.270
6	LS-1F	PG&E owns and maintains a standard luminaire, control facility, support arm, and service connection on its standard pole or post, installed solely for the luminaire. Most common lamp type: HPSV 70W.	\$4.424	\$0.206	\$3.251	\$7.881
7	LS-2A	City Owned and Maintained		\$0.206		\$0.206
9	LS-2C	City Owned and PG&E Maintained		\$0.206	\$3.251	\$3.457
10	OL-1	Outdoor area lighting service where street lighting schedules are not applicable and where PG&E installs, owns, operates and maintains the complete lighting installation on PG&E's existing wood distribution poles or on customer-owned poles acceptable to PG&E installed by the customer on his private property.	\$3.009	\$0.206	\$3.251	\$6.466
CCSF Standard:						
11		CCSF Rate Schedule No. 1 (LS-1A HPSV 100W)	\$3.016	\$0.206	\$3.251	\$6.473
12		CCSF Rate Schedule No. 3 (LS-1A HPSV 150W)	\$3.013	\$0.206	\$3.251	\$6.470
13		CCSF Rate Schedule No. 4E (LS-1E HPSV 100W)	\$5.721	\$0.206	\$3.251	\$9.178
14		CCSF Rate Schedule No. 4A (LS-1E Mercury Vapor 175W)	\$6.383	\$0.206	\$3.251	\$9.840
15		CCSF Rate Schedule No. 6 (LS-2B)		\$0.206	\$3.251	\$3.457
16		CCSF Rate Schedule No. 7				
CCSF Non-Standard						
CCSF Rate Schedule No. 4A:						
17		Incandescent 295W	\$10.616	\$0.206	\$3.251	\$14.073
18		Mercury Vapor 400W	\$7.064	\$0.206	\$3.251	\$10.521
CCSF Rate Schedule No. 5:						
19		HPSV 100W	\$7.894	\$0.206	\$3.251	\$11.350
20		Incandescent 405W	\$11.081	\$0.206	\$3.251	\$14.537
		CCSF Rate Schedule No. 6A (Chinatown Area) - HSPV 250W	\$67.253	\$0.206	\$3.251	\$70.710
		CCSF Rate Schedule No. 9 (Triangle District)				
HPSV:						
21		150W 16,000 LUMENS DUPLEX (1)	\$47.611	\$0.206	\$3.251	\$51.068
22		150W 16,000 LUMENS DUPLEX (2)	\$0.965	\$0.206	\$3.251	\$4.422
23		CCSF Subtotal	\$4.191	\$0.206	\$3.251	\$7.648

## Appendix 2: Non-Energy Facility Charges

**TABLE 3**

**PACIFIC GAS AND ELECTRIC COMPANY**

**2014 GRC PHASE II PROPOSED NON-ENERGY**

**FACILITY CHARGES FOR STREETLIGHT RATES IN 2017**

	Rate Schedule	Service	Monthly Rate			Total Monthly Facility Charge
			Plant Charge	Universal Charge	O&M Charge	
1	LS-1A	PG&E owns and maintains luminaire, control facilities, support arm, and service wiring on its existing distribution pole, and all lights. Most common lamp type: HPSV 70W.	\$2.519	\$0.207	\$3.788	\$6.514
2	LS-1B	PG&E owns and maintains luminaire, control facilities, support arm, pole or post, foundation and service connection and where customer has paid the estimated installed cost of the luminaire, support arm and control facilities. Most common lamp type: MV 175W (HPSV 70W equivalent).	\$2.519	\$0.207	\$3.788	\$6.514
3	LS-1C	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring as required. (Ownership of pole or post, support arm and foundation by customer where light is the only light on a pole or where this schedule is applied to all lights on the customer owned pole. Also applies to second and all multiple lights on poles or posts owned by PG&E. Most common lamp type: HPSV 70W.	\$2.788	\$0.207	\$3.788	\$6.782
4	LS-1D	PG&E owns and maintains its standard post top luminaire, control facility, internal post wiring, standard galvanized steel post (20-foot mounting height or less) and foundation where customer pays for the estimated and installed cost of the post, support arm (if any) and foundation. Most common lamp type: HPSV 70W.	\$5.728	\$0.207	\$3.788	\$9.723
5	LS-1E	PG&E owns and maintains its standard luminaire, control facility, internal pole wiring, service connection, galvanized steel pole and foundation where the customer has paid to PG&E the estimated installed cost of the pole, support arm and foundation. Most common lamp type: HPSV 70W.	\$6.484	\$0.207	\$3.788	\$10.478
6	LS-1F	PG&E owns and maintains a standard luminaire, control facility, support arm, and service connection on its standard pole or post, installed solely for the luminaire. Most common lamp type: HPSV 70W.	\$3.872	\$0.207	\$3.788	\$7.867
7	LS-2A	City Owned and Maintained		\$0.207		\$0.207
9	LS-2C	City Owned and PG&E Maintained		\$0.207	\$3.788	\$3.994
10	OL-1	Outdoor area lighting service where street lighting schedules are not applicable and where PG&E installs, owns, operates and maintains the complete lighting installation on PG&E's existing wood distribution poles or on customer-owned poles acceptable to PG&E installed by the customer on his private property.	\$2.519	\$0.207	\$3.788	\$6.514
	CCSF Standard:					
11		CCSF Rate Schedule No. 1 (LS-1A HPSV 100W)	\$2.500	\$0.207	\$3.788	\$6.494
12		CCSF Rate Schedule No. 3 (LS-1A HPSV 150W)	\$2.492	\$0.207	\$3.788	\$6.486
13		CCSF Rate Schedule No. 4E (LS-1E HPSV 100W)	\$6.299	\$0.207	\$3.788	\$10.294
14		CCSF Rate Schedule No. 4A (LS-1E Mercury Vapor 175W)	\$6.484	\$0.207	\$3.788	\$10.478
15		CCSF Rate Schedule No. 6 (LS-2B)		\$0.207	\$3.788	\$3.994
16		CCSF Rate Schedule No. 7				
	CCSF Non-Standard					
		CCSF Rate Schedule No. 4A:				
17		Incandescent 295W	\$13.073	\$0.207	\$3.788	\$17.067
18		Mercury Vapor 400W	\$7.608	\$0.207	\$3.788	\$11.602
		CCSF Rate Schedule No. 5:				
19		HPSV 100W	\$8.841	\$0.207	\$3.788	\$12.835
20		Incandescent 405W	\$13.073	\$0.207	\$3.788	\$17.067
		CCSF Rate Schedule No. 6A (Chinatown Area) - HSPV 250W	\$64.613	\$0.207	\$3.788	\$68.608
		CCSF Rate Schedule No. 9 (Triangle District)				
		HPSV:				
21		150W 16,000 LUMENS DUPLEX (1)	\$58.057	\$0.207	\$3.788	\$62.052
22		150W 16,000 LUMENS DUPLEX (2)	\$0.973	\$0.207	\$3.788	\$4.967
23	CCSF Subtotal		\$3.996	\$0.207	\$3.788	\$7.991

### Appendix 3: Total Illustrative Streetlight Rates

LAMP WATTS	LUMENS	AVERAGE kWh Per MONTH	ALL NIGHT RATES PER LAMP PER MONTH									
			LS-2A	LS-2C	LS-1A	LS-1B	LS-1C	LS-1D	LS-1E	LS-1F	OL-1	
<b>MERCURY VAPOR LAMPS</b>												
40	1,300	18	\$2.607									
50	1,650	22	\$3.141									
100	3,500	40	\$5.542	\$8.255	\$11.754			\$10.692				
175	7,500	68	\$9.277	\$11.991	\$15.489	\$14.290	\$14.427		\$17.134	\$16.966	\$16.084	
250	11,000	97	\$13.146	\$15.859	\$19.358	\$18.159	\$18.296					
400	21,000	152	\$20.483	\$23.196	\$26.695	\$25.496	\$25.633					\$28.024
700	37,000	266	\$35.690	\$38.404	\$41.902	\$40.703	\$40.840					
1,000	57,000	377	\$50.498	\$53.211								
<b>INCANDESCENT LAMPS</b>												
58	600	20	\$2.874		\$9.086							
92	1,000	31	\$4.342	\$7.055	\$10.564							
189	2,500	65	\$8.877	\$11.590	\$15.089	\$13.890						
295	4,000	101	\$13.679	\$16.393	\$19.891	\$18.693						
405	6,000	139	\$18.749	\$21.462	\$24.961							
620	10,000	212	\$28.487	\$31.200								
860	15,000	294	\$39.425									
<b>LOW PRESSURE SODIUM VAPOR LAMPS</b>												
35	4,800	21	\$3.008									
55	8,000	29	\$4.075									
90	13,500	45	\$5.209									
135	21,500	62	\$8.477									
180	33,000	78	\$10.611									
<b>HIGH PRESSURE SODIUM VAPOR LAMPS</b>												
<b>AT 120 VOLTS*</b>												
35	2,150	15	\$2.207									
50	3,800	21	\$3.008									
70	5,800	29	\$4.075	\$6.788	\$10.287			\$9.224	\$11.938	\$11.931	\$11.763	\$10.540
100	9,500	41	\$5.676	\$8.389	\$11.887			\$10.825	\$13.539	\$13.532	\$13.364	\$12.246
150	16,000	60	\$8.210	\$10.923	\$14.422			\$13.360	\$16.074	\$16.066	\$15.899	
200	22,000	80	\$10.678		\$17.090			\$16.028	\$18.742	\$18.734	\$18.567	\$17.790
250	28,000	100	\$13.546		\$19.758			\$18.696	\$21.410	\$21.402	\$21.235	
400	50,000	154	\$20.750		\$26.962			\$25.899	\$28.613	\$28.606	\$28.438	
<b>AT 240 VOLTS*</b>												
50	3,800	24	\$3.408									
70	5,800	34	\$4.742	\$7.455	\$10.954							
100	9,500	47	\$6.476	\$9.189	\$12.688			\$11.626	\$14.332	\$14.324	\$14.164	
150	16,000	69	\$9.411	\$12.124	\$15.623			\$14.560	\$17.267	\$17.259	\$17.099	
200	22,000	81	\$11.011	\$13.725	\$17.223			\$16.161	\$18.868	\$18.860	\$18.700	\$17.932
250	28,000	100	\$13.546	\$16.259	\$19.758			\$18.696	\$21.402	\$21.394	\$21.235	\$20.632
310	37,000	119	\$16.081									
360	45,000	144	\$19.416									
400	46,000	154	\$20.750	\$23.463	\$26.962			\$25.899	\$28.606	\$28.438	\$28.308	
<b>METAL HALIDE LAMPS</b>												
70	5,500	30	\$4.208									
100	8,500	41	\$5.676									
150	13,500	63	\$8.610									
175	14,000	72	\$9.811									
250	20,500	105	\$14.213									
400	30,000	162	\$21.817									
1,000	90,000	387	\$51.832									
<b>INDUCTION LAMPS</b>												
23												
40	2,200	14	\$2.074									
50	3,000	18	\$2.607									
55	3,500	19	\$2.741									
70	6,500	27	\$3.808									
80	4,500	28	\$3.941									
85	4,800	30	\$4.208									
90		32	\$4.475									
100	8,000	36	\$5.009									
110		40	\$5.542									
120	8,500	42	\$5.809									
135	9,450	48	\$6.609									
150	10,900	51	\$7.010									
165	12,000	58	\$7.943									
<b>LIGHT EMITTING DIODE (LED) LAMPS</b>												
25		7.7	\$1.233									
30		9.4	\$1.460									
35		11.1	\$1.687									
40		12.8	\$1.914									
50		16.2	\$2.367									
55		17.9	\$2.594									
60		19.6	\$2.821									
65		21.4	\$3.061									
70		23.1	\$3.288									
75		24.8	\$3.514									
80		26.5	\$3.741									
85		28.2	\$3.968									
90		29.9	\$4.195									
95		31.6	\$4.422									
100		33.3	\$4.648									
105		35.0	\$4.875									
110		36.7	\$5.102									
120		40.1	\$5.555									
130		43.6	\$6.022									
135		45.3	\$6.249									
140		47.0	\$6.476									
150		50.4	\$6.929									
160		53.8	\$7.383									
165		55.5	\$7.610									
180		60.6	\$8.290									
185		62.4	\$8.530									
190		64.1	\$8.757									
200		67.5	\$9.211									
205		69.2	\$9.437									
220		74.3	\$10.118									
250		84.6	\$11.492									
305		103.4	\$14.000									
LS-3												
ENERGY CHARGE (\$/kWh)			\$0.13340									
BASIC SERVICE FEE (\$/meter/month)			\$6.00									