

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



October 10, 2011

Advice Letter 3874-E

Brian K. Cherry
Vice President, Regulation and Rates
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

**Subject: New Electric Sample Form 79-1129: Special Contract for
Unmetered Service – Limited Pilot Program for Network
Controlled Dimmable Streetlight Systems**

Dear Mr. Cherry:

Advice Letter 3874-E is effective September 22, 2011 per Resolution E-4421.

Sincerely,

A handwritten signature in blue ink, appearing to read "Julie A. Fitch".

Julie A. Fitch, Director
Energy Division



Brian K. Cherry
Vice President
Regulation and Rates

Pacific Gas and Electric Company
77 Beale St., Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

Fax: 415-973-6520

July 15, 2011

Advice 3874-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: New Electric Sample Form 79-1129: Special Contract for
Unmetered Service - Limited Pilot Program for Network
Controlled Dimmable Streetlight Systems**

Pursuant to the terms of the filed Motion of the Settling Parties for Adoption of Streetlight Rate Design Supplemental Settlement Agreement in Application ("A.") 10-03-014, Pacific Gas and Electric Company's ("PG&E") General Rate Case ("GRC") 2011, Phase 2, PG&E hereby submits for approval, as a deviation from the standard provisions of Electric Rate Schedule LS-2, "Customer Owned Street and Highway Lighting," a Special Contract for Unmetered Service for a limited pilot program establishing rate adjustments for network controlled dimmable streetlight systems. The parties request that the CPUC expedite approval of this advice letter, given that the City of San Jose expects its network controlled dimmable streetlight system may become operable as early as August 2011, and wishes to begin concurrently receiving rate adjustments per this Pilot Program so that any cost saving benefits can be realized as soon as possible.

Purpose

PG&E requests California Public Utilities Commission ("CPUC" or "Commission") approval for a Pilot Program, limited in the number of participants, scope and duration, that will allow PG&E to provide adjustments to account for unmetered energy saved by Pilot Program participants who install Network Controlled Dimmable Streetlights. The pilot will last for three years or until a decision is issued in PG&E's next GRC Phase 2 and will accommodate up to 5 cities or counties during this pilot period. The Pilot will also provide PG&E and participants the opportunity to test and evaluate these newly emerging control system technologies as well as the methods for PG&E to provide billing adjustments to account for the unmetered energy savings allowed when the customer dims streetlights, such as during low traffic periods after midnight.

Background

On June 3, 2011, the settling parties in PG&E's 2011 GRC, Phase 2 proceeding filed with the Commission a motion for adoption of a Streetlight Rate Design Supplemental Settlement Agreement ("Streetlight Settlement Agreement").

The terms of this Streetlight Settlement Agreement address rate design issues that were not resolved in PG&E's Motion for Approval of Settlement on Marginal Cost and Revenue Allocation, filed with the Commission in Docket No. A.10-03-014 on March 14, 2011. The Supplemental Settlement Agreement also identifies the time urgency associated with implementing the Limited Pilot Program for network controlled dimmable streetlight systems that is the subject of this Advice Letter.

The October 6, 2010, testimony of the California City-County Street Light Association ("CAL-SLA"), served in Phase 2 of PG&E's 2011 GRC proceeding, proposed a new rate for expected upcoming installations of an emerging network controlled dimmable streetlight technology. The testimony included chapters authored by the Cities of San Jose and Oakland which are each pursuing installation of such technology. Specifically, the City of San Jose has expressed that its installation of such technology is expected as early as August 2011. To that end, the City of San Jose has already received vendor and manufacturer responses to a Request for Bids for the installation of network controls.

Rapid advancement has occurred in the capabilities of control technology for street lighting systems. Controls are now becoming available for lighting systems that are network based and remotely programmable. Some of these systems are capable of tracking and reporting energy consumed by the lighting fixture. Unfortunately, no industry standards for these control systems have yet been established, and questions about accuracy and reliability in communicating with the controls and in receiving regular reporting data from them still remain unanswered.

In addition, the variable patterns of dimmable streetlights' energy usage pose complex challenges for utility billing. PG&E's existing streetlight energy billing system and billing processes for Schedule LS-2 -- under which all the streetlights in question currently take service -- are currently programmed assuming constant usage patterns and would need significant, costly and time-consuming modifications in order to accommodate energy use adjustments made possible by application of emerging streetlight dimming technology.

The Streetlight Settlement Agreement includes discussion of technical and cost concerns associated with the creation of a new rate schedule, which PG&E discussed with the settling parties during settlement negotiations.

Following lengthy but constructive settlement discussions with CAL-SLA and the

Cities of San Jose and Oakland, the settling parties agreed that, for this rate case cycle, it was reasonable for the CPUC to adopt a Pilot Program for Network Controlled Dimmable Streetlights under existing Rate Schedule LS-2, with details as set forth in the Special Contract and associated attachments as filed with this Advice Letter. PG&E and the Pilot Program participants will use the test period to evaluate the technology as well as to develop, implement and evaluate methods of providing energy use adjustments and audit the Pilot Program after its first year. The results of the Pilot Program could then become the basis for proposals in PG&E's 2014 GRC Phase 2 proceeding by any party wishing to seek alternative approaches to billing for network controlled dimmable streetlights.

Pursuant to the terms of the Streetlight Settlement Agreement, participation in the proposed Pilot Program is limited to a maximum of five qualified cities and/or counties. The terms of the Streetlight Settlement Agreement address details related to the eligibility requirements and how a potential participant may reserve a position in the Pilot Program or establish a position on a waiting list for program participation. While the new form submitted with this Advice Letter will be included (after Commission approval) in PG&E's Web Tariff Book, PG&E will file a subsequent Advice Letter to remove the form when the cap on participants is reached or after the final day available for an applicant to be enrolled as a participant in the Pilot Program (December 31, 2012), whichever is earlier.

The Pilot Period is proposed to continue, unless otherwise terminated or suspended per the Settlement Agreement's terms, for a period of three years or until the CPUC issues a final decision in Phase 2 of PG&E's 2014 GRC, whichever comes later.

The streetlights that will be controlled by the new systems will be existing lights presently served under the provisions of Rate Schedule LS-2. In most cases the existing light will be replaced with a new, more energy-efficient, lighting source which is capable of being "dimmed" to use less energy with reduced light output, and a network control that is capable of being remotely programmed to provide dimming functions and subsequently report the energy used by the light.

Energy charges within Rate Schedule LS-2 are based on fixed-use assumptions where the total annual energy consumed by the fixture's particular lamp type is equally divided among the twelve months of the year. The programming for the current LS-2 schedule does not allow for direct billing of varying amounts of energy based on actual use in each month, as would be needed for network controlled dimmable systems.

Although PG&E's existing Rate Schedule LS-3, "Customer Owned Street and Highway Lighting Electrolier Meter Rate," provides for billing varying amounts of energy based on actual use, application of this schedule would require that a meter be installed at each service delivery point for controlled lighting, potentially

including numerous meter installations on single light connections. PG&E concluded that such an approach would be impractical, and the settling parties concurred that individual metering of each streetlamp would not prove to be cost-effective and could not provide a timely enough billing solution for early adopter cities like San Jose whose system may become effective as early as August 2011.

New Tariff

Submitted herewith is Electric Sample Form 79-1129, "Special Contract for Unmetered Service - Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights - Limited Pilot Program," and associated attachments to the contract that identify proposed terms, conditions and implementation details.

Protests

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, by facsimile or electronically, any of which must be received no later than **August 4, 2011**, which is 20 days after the date of this filing. Protests should be mailed to:

CPUC Energy Division
Tariff Files, Room 4005
DMS Branch
505 Van Ness Avenue
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: jnj@cpuc.ca.gov and mas@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest also should be sent via U.S. mail (and by facsimile and electronically, if possible) to PG&E at the address shown below on the same date it is mailed or delivered to the Commission:

Brian K. Cherry
Vice President, Regulation and Rates
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-6520
E-mail: PGETariffs@pge.com

Effective Date

PG&E requests that this Tier 3 advice filing become effective upon Commission approval.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the service list for A.10-03-014. Address changes to the General Order 96-B service list and all electronic approvals should be directed to PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Advice letter filings can also be accessed electronically at <http://www.pge.com/tariffs>.

A handwritten signature in cursive script that reads "Brian Cherry". The signature is written in black ink and includes a date "7/15/11" at the end.

Vice President – Regulation and Rates

Attachments

CALIFORNIA PUBLIC UTILITIES COMMISSION

ADVICE LETTER FILING SUMMARY ENERGY UTILITY

MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 M)**

Utility type:

ELC

GAS

PLC

HEAT

WATER

Contact Person: Greg Backens

Phone #: (415) 973-4390

E-mail: GAB4@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric

GAS = Gas

PLC = Pipeline

HEAT = Heat WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **3874-E**

Tier: 3

Subject of AL: **New Electric Sample Form 79-1129: Special Contract for Unmetered Service - Limited Pilot Program for Network Controlled Dimmable Streetlight Systems**

Keywords (choose from CPUC listing): Street Lights, Forms

AL filing type: Monthly Quarterly Annual One-Time Other _____

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: N/A

Does AL replace a withdrawn or rejected AL? No. If so, identify the prior AL: N/A

Summarize differences between the AL and the prior withdrawn or rejected AL: N/A

Is AL requesting confidential treatment? No. If so, what information is the utility seeking confidential treatment for: N/A

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: N/A

Resolution Required? Yes No

Requested effective date: Effective the date of the Commission No. of tariff sheets: 1

Resolution approving Advice 3874-E

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected: (New) Electric Sample Form 79-1129 – Special Contract for Unmetered Service – Agreement for Energy Use Adjustments for Network Controlled Dimmable Streetlights

Service affected and changes proposed:

Protests, dispositions, and all other correspondence regarding this AL are due no later than 20 days after the date of this filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division

Tariff Files, Room 4005

DMS Branch

505 Van Ness Ave., San Francisco, CA 94102

ijnj@cpuc.ca.gov and mas@cpuc.ca.gov

Pacific Gas and Electric Company

Attn: Brian K. Cherry, Vice President, Regulation and Rates

77 Beale Street, Mail Code B10C

P.O. Box 770000

San Francisco, CA 94177

E-mail: PGETariffs@pge.com

**ATTACHMENT 1
Advice 3874-E**

**Cal P.U.C.
Sheet No.**

Title of Sheet

**Cancelling Cal
P.U.C. Sheet No.**

30503-E** ELECTRIC SAMPLE FORM 79-1129
SPECIAL CONTRACT FOR UNMETERED
SERVICE
Sheet 1

30504-E** ELECTRIC TABLE OF CONTENTS
Sheet 1

30371-E

30505-E** ELECTRIC TABLE OF CONTENTS
SAMPLE FORMS
Sheet 28

29916-E



ELECTRIC SAMPLE FORM 79-1129
 SPECIAL CONTRACT FOR UNMETERED SERVICE

Sheet 1 (N)
 (N)

AGREEMENT FOR ENERGY USE ADJUSTMENTS FOR (N)
 NETWORK CONTROLLED DIMMABLE STREETLIGHTS (N)

LIMITED PILOT PROGRAM (N)



**Special Contract for Unmetered Service
Agreement for Energy Use Adjustments for Network Controlled Dimmable
Streetlights
Limited Pilot Program ***

This Agreement between _____
(the Customer) and Pacific Gas and Electric Company (the Company) is to establish and govern the provisions of a limited 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 are currently served without electric meters and 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 customer groups have confirmed that it would not be 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 limited pilot program as identified in Attachment C, 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.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.

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

1. All controlled streetlights subject to this agreement will be grouped in a single Account and multiple Service Agreements for bill adjustment on an aggregated basis. The new Account will be created under Rate Schedule LS-2 (Customer Owned Street and Highway Lighting). Individual Service Agreements will be created for different lighting technologies and fixture wattages. The Service Agreements and Account will be assigned to a billing cycle according to Attachment A.



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2. The effective date for the assignment of a controlled light to the new Account and appropriate Service Agreement will be the later of the date of the control device installation as reported by the Customer, or the date the Account is established.
3. Notification to the Company of controls deployment by the Customer.
 - a. The Customer shall have 5 calendar days from the installation date of any network controlled streetlight device(s) in the field to notify the Company of the installation. Data files supplying this information are to follow a format to be agreed upon between the Company and the Customer. Data files will be sent by electronic mail to a dedicated Company electronic mailbox to be specified at the time the single Account addressed in Paragraph 1 of this Agreement is established. (See pilot workflow timeline in Attachment B hereto.)
 - b. For purposes of calculating the bill adjustment, installations received by the Company with dates less than 5 calendar days from the next billing cycle end date, will not be processed and adjusted in the current month's billing cycle, but will be retroactively adjusted from the install date forward in the following bill cycle.
 - c. Installations provided to the Company with dates greater than 5 calendar days since install shall received a bill adjustment for the billing cycle in which they are received, and will include retroactively applied adjustments back to the date of installation.
4. The Company shall specify a time schedule relative to the Customer's billing schedule (i.e. within three calendar days of the end of each monthly billing cycle hereto) for lights included in this pilot program, each and every month during the pilot program the Customer must report to PG&E, by electronic mail to be sent to the Company electronic mail mailbox identified in Paragraph 3 of this Agreement, the information from the Customer's control system showing the daily energy consumed by each participating streetlight fixture operating under the control and monitoring system (both by streetlight as well as aggregated), and other data meeting the requirements/format specified in Attachment A hereto:
 - a. Customer reports energy consumed by each control device, adjustment made when control device's demand exceeds 1.0 Watts
 - b. Equipment Changes: For lights included in the pilot, the Customer will report all changes to lighting fixtures (fixtures added or removed, or a change in fixture size or type) within 5 calendar days of installation to the Company electronic mail mailbox specified at the time the new single Account addressed in Paragraph 1 of this Agreement is established. The Customer will use a reconciliation spreadsheet provided by the Company to report all lighting changes. (See Attachment A). If the Customer requires that the network controlled data logger be removed from a streetlight, the Customer must notify the Company within 5 calendar days of removal.



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The Company will then move this streetlight off the pilot Account and back onto regular service under Schedule LS-2.

5. Upon receipt of the Customer's monthly data, the Company will promptly perform a set of validations on the submitted data to ensure completeness and accuracy, and, if deemed usable, will utilize that data to create a credit/adjustment to the standard LS-2 tariff charges to be included in the Customer's bill on a bi-monthly basis (as set forth in Paragraph 6).
 - a. If data is missing, inaccurate, or otherwise found by the Company to be unusable for this purpose (see Paragraph 8), the Company will promptly communicate that to the Customer and request re-submittal, and may take other action as specified below.
 - b. If the Customer has timely submitted daily cumulative usage measurements from its network controlled data loggers, which the Company has found to be accurate and usable for this purpose, the Company will calculate the total kilowatt hour usage from the first day of the billing cycle through the last day of the billing cycle by subtraction (see Paragraph 6).

6. The Company will provide the Customer with a credit/adjustment, calculated from the validated energy measurements provided by the Customer's streetlight control and monitoring system for that month, as an adjustment to the Customer's monthly bill under the applicable LS-2 tariff energy charges. Application of the adjustment will be made every other month (bimonthly), with a monthly report to also be provided by the Company itemizing the basis for adjustment. The adjustment will appear on the bill as a lump sum adjustment to the otherwise applicable LS-2 charges. The Customer will receive adjustments starting with the date of installation or the date of onset of the pilot whichever date is later.
 - a. The Company will sum the validated daily usage values in watt hours or kilowatt hours, submitted by the Customer, from the first day of the billing cycle through the last day of the two-month billing adjustment cycle to establish total usage for the period.
 - b. Using the validated total kilowatt hour values, for each individual streetlight, the Company will calculate an adjustment equal to the product of the applicable LS-2 energy charge multiplied by the difference between the standard LS-2 usage (all night) and the reported usage (per dimming).
 - c. The cumulative calculated adjustment for the two prior months will be displayed on the bill every other month at both the individual service agreement level (for the number of lights contained on that service agreement) and at the account level for all lights contained on that account, both of which will be single, aggregated dollar values for the combined number of control equipped lights for which the participating customer has submitted validated data.



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- d. The Customer will then pay the net amount equal to the LS-2 energy charge and facility charge less or in addition to the adjustment reflecting validated streetlight operation data.
- e. In addition to and shortly after the Company issues the billing statement, the Company shall also provide the Customer with a bi-monthly electronic report detailing, for each individual streetlight, the validated measured kilowatt hour usage, and the amount of the adjustment calculated, for each separate billing cycle month.
- f. For any light with data receipt failure or other data issue that prevents recording or reporting of accurate usage information for a reporting period (see Paragraph 8), the base monthly LS-2 tariff rate will be applied without adjustment. If missing data is subsequently made available within the period specified in Electric Rule 17.1, billing adjustments will be made based on reported data.
- g. Where a change in electric rates occurs within a reporting period, daily load information will be used to calculate adjustments based on the effective date of the rate change.
- h. The cumulative calculated adjustment will be displayed on the bill every other month at both the individual service agreement level (for the number of lights contained on that service agreement) and at the account level for all lights contained on that account, both of which will be single, aggregated dollar values for the combined number of control equipped lights for which the Customer has submitted validated data. The bi-monthly adjustments will be provided to the Customer on the bills that nominally end in the following, "even numbered" months:
 - i. August
 - ii. October
 - iii. December
 - iv. February
 - v. April
 - vi. June

For the other, "odd-numbered" months (July, September, November, January, March and May) the participant will be billed under Schedule LS-2 and shall timely pay its bill without a contemporaneous adjustment for any usage reductions due to streetlight dimming through the network controller.

- 7. During the second year of the pilot program, the Company will conduct an audit to determine whether actual, reported usage from the network control system's data loggers is accurate. The Customer will cooperate with the Company, including but not limited to, providing data and information requested by the Company (such as any changes in operating schedule), and providing access to and the ability to test the lights, circuitry and loggers and other



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equipment used for the operation of the Customer's program, including information from suppliers of equipment and/or services for the Customer's program. The Company shall provide the Customer with no less than 48 hours' advance notice of any intended site visit. The site visit will be scheduled during the standard work week, between 8 AM and 2 PM. At its own expense, the Customer may attend and observe the field audit.

- a. All pilot program participants, including the Company and the Customer, will meet after the audit to: evaluate the first year of the pilot program, discuss proposing any mid-term adjustments, and begin to discuss potential longer-term billing solutions (cost, structure, etc.), if data logger output has been found to be consistent with both Rule 17 and Direct Access standards (DASMMD). Audit requirements and basic outline are included in Attachment A.
 - b. At the sole discretion of the Customer, the Customer may also test data logger devices to ensure proper reporting of energy consumption (e.g. whether it is recording data to within +/- 2% accuracy). The Customer will also monitor its software reports for anomalies (e.g. system alarm and error messages). If any of the Customer's tests or monitoring ever reveals any such anomalies, within 5 days the Customer shall report such findings to the Company.
8. The following requirements are specific conditions of service required to maintain participation in the pilot program:
- a. Missing, Inaccurate or Otherwise Unusable Data
 - i. If during monthly operation of the pilot the Company determines that more than 5% of the expected data logger readings of the electrical usage are either missing, inaccurate, or otherwise unusable, the Company will alert the Customer of the specific streetlights and records involved. If the nature of the problem is data-related, the Customer will have 5 days to provide the data in question or demonstrate that the problem is not a Customer problem. If the nature of the problem is hardware related, the Company will afford the Customer two weeks to test its equipment (control and luminaire) and review its maintenance records. The Customer shall provide the Company with the results of its test and other efforts, in writing. Until any such data-related or hardware-related problems are cured, the Company shall bill the problem service accounts at the standard LS-2 charges and fixed kilowatt hour amounts, without adjustment. When the Customer is able to demonstrate that the problem service accounts have been cured, the Company will once again adjust those bills in accordance with the data logger readings. If the Customer is able to demonstrate to the Company's satisfaction that the problem relates solely to the Company's processing of Customer data, the



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Company will adjust the Customer's bill in accordance with the customer's usage reports when the next bi-monthly bill adjustment is made.

- ii. If more than 5% of the expected data logger readings continue to be missing, inaccurate or otherwise unusable for any 4 months or greater period (either consecutive or not) during any 12 month period within the pilot's term, the Company reserves the right in its sole discretion to suspend pilot participation for the Customer. The Customer may seek reinstatement through demonstration of resolution of these deficiencies.
- iii. If during monthly operation of the pilot the Company determines that less than 5% of the expected data logger readings of the electrical usage are either missing, inaccurate, or otherwise unusable, the Company will notify the Customer that they have 5 days to provide the data in question or demonstrate that the problem is not on the Customer side. During this period the Company will delay issuing the customer's adjusted bill with the expectation of data submission. If the Company has not received the requested data within this 5-day period, the Company will bill the Customer at the standard LS-2 charges and fixed kilowatt hour amounts. If the data is provided after this bill, the Company will credit the Customer in a subsequent bill. If the participant is able to demonstrate to the Company's satisfaction that that the problem relates solely to the Company's processing of the customer's data, the Company will make the adjustment for the Customer on the basis of logger readings supplied by the Customer.
- iv. Should the audit reveal that, based on the Company's actual administrative costs during the audit period, the projected total pilot costs are likely to exceed \$150,000 before the pilot concludes, the Company and the Customer and all other pilot program participants will reach an agreement on a cost-sharing arrangement relating to the expected administrative costs per month to participate during the remainder of the pilot. If the parties cannot agree on mutually acceptable terms for cost-sharing, the participating customers have the option of withdrawing from the pilot, and the Company has the option of suspending participation in the pilot program for such participants.
- v. Within a reasonable time after completion of the audit, the Company will provide the Customer and all other pilot program participants with a status report on PG&E's actual costs for the pilot to date and its projected costs to administer the pilot for the remainder of its term. Thereafter, the Company shall provide to the Customer and all other pilot program participants, upon the request of any participant, a similar status report on total pilot costs, up to a maximum of one such report per quarter.



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vi. In circumstances where pilot participants pay the Company's administrative costs after the Company's total expenditures has reached \$150,000, the Company will submit to the Customer and all other participants a separate statement reflecting the agreed monthly administrative costs for that participant's continued participation in the pilot. As to any participant that does not pay such costs in a timely manner, the Company may, in its sole discretion, suspend participation for any participant and bill without adjustment under LS-2 during that period. If and when the participant later pays such costs, the Company shall resume making adjustments for the next bi-monthly adjustment period.

vii. Missing, inaccurate and unusable data on electrical consumption shall be deemed to include:

Missing: The participant did not deliver expected read(s) for a data logger in service for that streetlight.

Inaccurate: The read delivered by the participant yielded a usage value outside anticipated tolerance on high / low validation

Unusable: The read delivered by the participant was not usable in PG&E's calculation process (e.g., expected 5 dial read received 4 dial, etc.)

b. **Audit Results**: If the results of the Company's audit of the data loggers or readings within the Customer's system indicate that the data previously used to credit the participant was inaccurate or otherwise unusable, the Company reserves the right to suspend the pilot for the Customer, and bill the Customer 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 Company's tariffs as on file with the Commission. The Company will meet and confer with the Customer before taking this action. If the Customer is able to demonstrate, to the satisfaction of the Company, 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.

c. **Overall Term of Pilot Agreement**: Unless otherwise terminated or suspended by operation of other provisions, the agreements under pilot program shall expire at the end of three years or when the Commission issues a final decision in Phase 2 of the Company's 2014 General Rate Case, whichever comes later.

9. The Company will provide annually, within 90 days of the end of each calendar year of the limited pilot program following the first full year of the pilot, a report of the Company's actual and projected administrative costs associated with the program in the form of an Advice Letter filed with the Commission. In the event that pilot participants pay the Company's



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additional administrative costs (per terms included in paragraph 8.vi. above), a breakdown of each participant's contribution will be included in the report.

10. 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.
11. 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.
12. 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.
13. 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.
14. 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. Before it may 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.
15. 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, with the exception of the separately identified electronic mail box identified in Paragraph 3 and used for data reporting and equipment changes, and share with the other party appropriate contact information for the identified individual. The identity and contact information for the primary contact individual



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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.

16. 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.

17. 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.

APPROVED:

Customer: _____

Pacific Gas and Electric Company

Title: _____

Title: _____

Name _____

Name _____

Signature: _____

Signature: _____

Date: _____

Date: _____

Attachment A
Attachment B
Attachment C



**Special Contract for Unmetered Service
Agreement for Energy Use Adjustments for Network Controlled Dimmable
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Limited Pilot Program ***

Attachment A

**REQUIREMENTS
PG&E's DATA, SCHEDULING & AUDIT REQUIREMENTS for PILOT PROGRAM**

I. DATA SUBMITTAL REQUIREMENTS

To be eligible for streetlight control billing credits, the Customer must submit monthly data files to PG&E (based on Detailed Schedule for Data Reporting discussed in the 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 Company 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 Company 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. Lamp Wattage and Type: The type of fixture installed and wattage of the installed lamp (Company will adjust for ballast wattage if applicable, does not apply to LED or Induction).
4. Individual Day: To facilitate the most accurate possible adjustment for the customer for the measurement period, and to avoid proration issues if a rate change occurs during the quarter, data for each lamp is to be reported for each individual day within the reporting period.
5. Read Date/Time: Date (MMDDYYYY) and time (HHMMSS) of each daily read for the reporting period.
6. Period Read: Native, unaltered cumulative watt hour reading from control system for the measurement period; or native, unaltered usage value for the measurement period and all succeeding usage values for entire measurement period.
7. Equipment Changes: Customer will report any change to equipment during the period, including lamp size, fixture, or monitoring and control changes, and all information included in items 1 - 6 above.

B. PG&E Manual Adjustment of Billing -- Monthly



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- Per detailed schedule in Section II, Company will calculate kWh usage for measurement period, and apply tariff charges to produce adjustment (may increase bill during winter months).
- Where report data can't be validated due to data errors, or other technical issues, the base monthly tariff billing per lamp will be billed. If missing data is subsequently made available within the period specified in Rule 17.1, billing adjustments will be made based on reported data.

Additional Required Information

1. Group or Schedule Code: If the Customer operated multiple streetlights on similar dimming schedules, providing intended operating schedule assignment in group code form for each streetlight enhances audit/data quality assurance, for verification of actual operation/use to Agency's intended use.
2. Other System Collected Data: Upon request and assuming vendor system can provide it, Company 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. The Company and the Customer will agree on a monthly billing cycle for the new Service Agreement and Account for lights included in this pilot program. Processes will be implemented so that billing for the new Service Agreement and account will be made based on the following schedule for each billing cycle: The Company and the Customer will agree on a monthly "Bill Cycle." The Bill Cycle will be established, corresponding to PG&E metered account bill cycles, where the period covered by the cycle will be approximately 30 days, and may vary from 27 to 33 days.
2. Following the close of the "Billing Window" (see 4 below) of the prior month Bill Cycle, Company will place a "hold" on the account so that a standard automatic calculation of billing based on standard LS-2 lamp rates will not be performed.
3. For inclusion of newly retrofit lamps in the adjustment for the current "Bill Cycle" Customer must report changes by close of business on the fifth (5th) calendar day prior to the last day of the Bill Cycle. (For example, if the last day of the Bill Cycle is April 19th, the last day for the Customer to be able to report a change is April 15th.)
4. The "Billing Window" for the Account and Service Agreement will be 10 days, and will start on the closing day of the Bill Cycle.
5. Customer must report data from its control and monitoring system to Company within 1 day of the close of the Bill Cycle.



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6. Company will perform data validation processing and adjustment calculations, and provide the Customer with notification of missing or unusable data (if any) within the next 5 days. The close of business on the 5th day following submission of Customer data (the sixth day of the Billing Window) is the deadline for any adjustments to data, and standard LS-2 energy charges will apply for any light for which usable data is not received.
7. One day prior to the close of the Billing Window, Company will release the "hold" placed on the account so that billing may proceed.
8. 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

During pilot's second year, Company will audit data logging/reporting accuracy, 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. This will also include any data security studies and documentation detailing system data integrity features and performance.
2. Company will require a small number (to be determined and agreed upon later) of samples of each vendor control and monitoring technology for testing by Company.
3. Customer will provide, at Company's request, periodic on-site access to vendor system during the audit period to verify that system-resident readings for selected streetlight sample agrees with submitted readings.
4. Company 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.
5. Company shall evaluate whether the network control system's data loggers meet utility revenue quality standards under both Rule 17 and the Direct Access standards (DASMMD).

After audit is complete, all participants will meet to:

- Evaluate the first year of the pilot program
- Discuss proposing any mid-term adjustments to the pilot, and
- Begin to discuss potential longer-term billing solutions, the nature of which will depend on whether the data loggers have been found to meet both Rule 17 and Direct Access standards (DASMMD).

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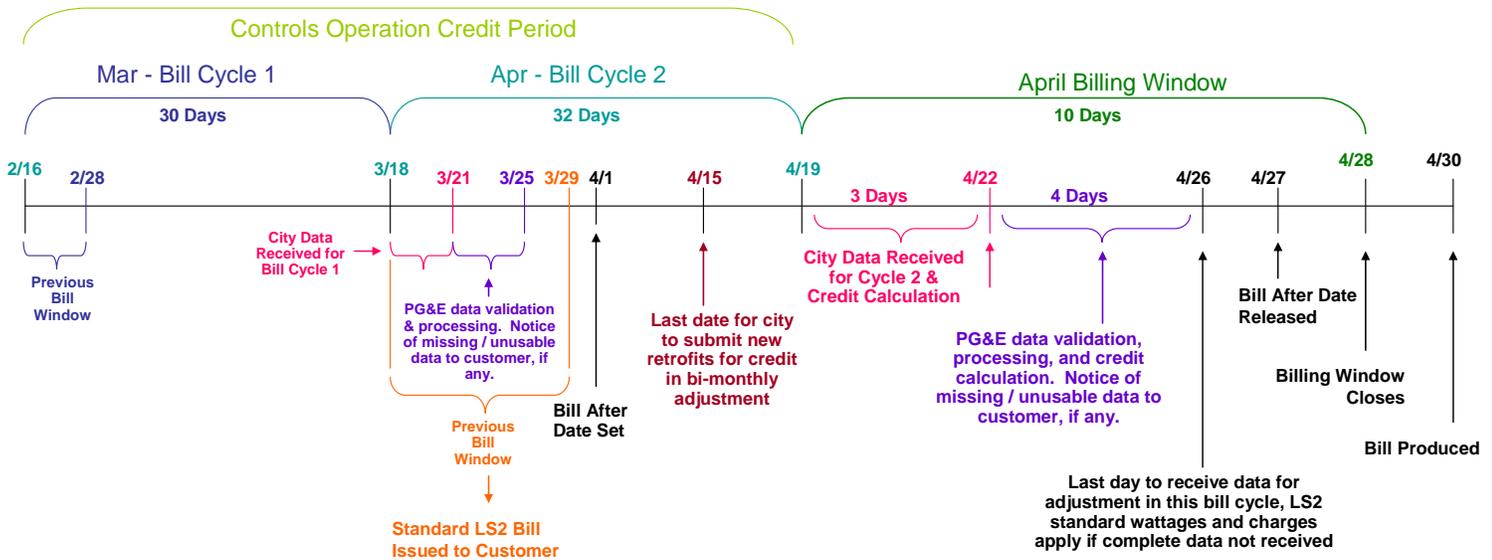
Attachment B

Network Controlled Dimmable Streetlight Pilot Timeline



Bi-Monthly Processing Timeline for Controls Credit

Example: February to March 2011 Controls Operation, with Retroactive Credit Applied in April 2011 Bill Statement.





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**REQUIREMENTS
CUSTOMER ELIGIBILITY REQUIREMENTS for PILOT PROGRAM**

Eligibility for Participation

A limited number of Customers (no more than five) may participate in the pilot, subject to the following eligibility requirements:

A. In consideration of their significant efforts and expenditures of resources to develop this pilot, and to move forward with network controlled streetlights, the Cities of San Jose and Oakland will receive the first two reservations to participate, subject to their meeting all of the other eligibility requirements below. The three remaining slots shall be available to all other eligible potential Customers as of the date the CPUC approves this pilot program.

B. A Customer may secure a “reservation” for one of five slots for potential participation in the pilot program as follows:

i. During its process of preparing and issuing an RFP, each potential Customer, other than San Jose or Oakland, must contact Company to confirm whether there are still any of the remaining three of the total of five pilot reservation slots potentially available.

ii. Once that potential Customer receives a proposal or proposals in response to its RFP or RFB that would enable it to purchase equipment that would result in installation by December 31, 2012 of network control systems for at least 300 networked streetlights (or the difference between the number of networked streetlights previously installed and 300), that potential Customer shall provide written notice to Company attaching the response(s) to its RFP or RFB. Company shall review the responses to RFP or RFB to evaluate whether they have met the requirements set forth in this section (including project installation timeline and minimum number of networked streetlights), and confirm in writing within 14 calendar days of receipt that that potential Customer has qualified to reserve one of the 5 total pilot slots. Reservations will be issued on a first-come-first-served basis. If a potential Customer satisfies all of the above requirements, but its notice is received by Company after five slots have been reserved by other jurisdictions, it shall be placed on the waiting list in the order received and



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Company shall notify it that it has qualified for the waiting list and inform it of its waiting list number.

iii. Each potential Customer who has secured a reservation must, within 90 days of receiving Company's notification of reservation, provide Company with written notice that it has executed a contract with a vendor to install equipment that would result in at least 300 networked streetlights (or the difference between the number of networked streetlights previously installed and 300) by December 31, 2012, and attach to such notice a copy of that contract. Company shall, within 14 calendar days of receipt of such contract, review it and provide notice to the potential Customer as to whether it has qualified as a pilot participant.

iv. If the potential Customer does not fully execute a contract within 90 days of receiving Company's notification of its reservation in the pilot program, or if Company determines that its contract could not result in installation of equipment that would result in at least 300 networked streetlights (or the difference between the number of networked streetlights previously installed and 300) by December 31, 2012, that potential Customer shall lose its reservation and be placed on the end of the pilot waiting list, and Company would invite the next potential participant who can meet these requirements to complete the reservation process.

v. Each Customer that has received a slot in the pilot must still meet all other eligibility requirements set forth herein. If, at any time during the pilot, Company determines that a Customer does not meet all eligibility requirements, Company shall provide a notice of ineligibility to that Customer specifying each and every requirement it has been found not to meet. If it cannot document that it has cured and now meets each and every such eligibility requirement within 60 days of such notice, it shall be removed from the pilot program.

vi. Once a potential Customer has been provided notice that is has qualified for a slot as one of the total of no more than 5 pilot participants, even if that Customer later becomes ineligible or opts out of further participation, its slot in the pilot cannot later be filled by any other potential participant from the waiting list.

vii. The enrolled Customers in the pilot program as of December 31, 2012 shall be the only participants eligible for the pilot, and there shall be no further admittances to the program from the waiting list.



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C. Each Customer who has qualified for one of the five pilot slots must have installed equipment that equips at least 300 public streetlights with a working remote control/monitoring system before December 31, 2012; and

D. Each Customer's and potential Customer's control/monitoring system must include revenue-grade data loggers capable of meeting Rule 17 and Direct Access (DASMMD) standards for operational accuracy; and

E. Each Customer and potential Customer must inform Company in writing how many new lights it plans to include in the pilot as it makes that determination. Customers will provide more specific information on the streetlights as they are installed, including, but not limited to: the model and manufacturer of the light and monitor/control system as well as the energy consumption of the monitor/control device (*See also*, Paragraph 3 of the Agreement); and

F. All other non-streetlight or parasitic load must be accounted for and billed under separate agreements; and

G. Each control device must record its own usage, or, per agreement, for total device demand greater than one watt, the participating Customer and Company may determine the estimated usage of each device and agree to a fixed adjustment in advance; and

H. To be eligible to for participation in the pilot the potential Customer must also meet the following initial technology qualifications:

I. Otherwise eligible Customers that have not issued an RFP before this agreement was reached must first, as part of their RFP process:

i. Arrange for each network control system vendor finalist to do a proof of concept demonstration of its network control technology with Company, and

ii. Produce and provide to Company before selection of final vendor:

- A test export of usage data that meets Company's data requirement specifications as set forth below. Company will consider utilizing industry standard communications protocols, such as EDI or IEC-CIM, after conclusion of the pilot and when a new rate schedule is implemented; and



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- Vendor documentation substantiating network control system data logger accuracy within +/- 2 percent, consistent with Rule 17 and the Direct Access Standards (DASMMD); and
- Documentation showing that there will be a vendor/manufacture warranty or other enforceable contractual provision that ensures the network control system would be judged to have failed and be eligible for replacement if it does not perform to within +/- 2% throughout the pilot period.

iii. Otherwise eligible Customers that have completed their purchasing process before this settlement agreement was executed shall work with Company and shall ensure that the above technical qualification provisions do not pose a barrier to participation in the pilot.

iv. The provision of information to Company under this initial technology qualification section for the pilot program does not insert Company as an evaluator of finalists for the RFP itself, rather if the potential participant, who is still solely responsible for its own RFP process, selects a vendor that does not meet the above technical qualification provisions, it does so at its own risk of non-eligibility for the pilot program.



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79-1078	Agreement for Unmetered Electric Service to Wireless Devices Energized by Connection to Pacific Gas and Electric Company Street Light Facilities.....	25450-E
79-1105	Agreement for Unmetered Electric Service to Seasonal Lighting Loads Connected to Festoon Outlets on Pacific Gas and Electric Company's Street Light Facilities.....	27571-E
79-1129	Special Contract for Unmetered Service – Agreement for Energy Use Adjustment for Network Controlled Dimmable Streetlights - Limited Pilot Program.....	30503-E**
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		(N)
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79-285	Special Agreement for Electrical Standby Service (Schedule S)	28248-E
79-726	Electric Standby Service Log Sheet (Schedule S)	11484-E
79-1110	Reactive Demand Charge Exemption Form (Schedule S).....	28249-E

(Continued)

**PG&E Gas and Electric
Advice Filing List
General Order 96-B, Section IV**

AT&T	Department of Water Resources	North Coast SolarResources
Alcantar & Kahl LLP	Dept of General Services	Northern California Power Association
Ameresco	Douglass & Liddell	Occidental Energy Marketing, Inc.
Anderson & Poole	Downey & Brand	OnGrid Solar
Arizona Public Service Company	Duke Energy	Praxair
BART	Economic Sciences Corporation	R. W. Beck & Associates
Barkovich & Yap, Inc.	Ellison Schneider & Harris LLP	RCS, Inc.
Bartle Wells Associates	Foster Farms	Recurrent Energy
Bloomberg	G. A. Krause & Assoc.	SCD Energy Solutions
Bloomberg New Energy Finance	GLJ Publications	SCE
Boston Properties	GenOn Energy, Inc.	SMUD
Braun Blaising McLaughlin, P.C.	Goodin, MacBride, Squeri, Schlotz & Ritchie	SPURR
Brookfield Renewable Power	Green Power Institute	San Francisco Public Utilities Commission
CA Bldg Industry Association	Hanna & Morton	Seattle City Light
CLECA Law Office	Hitachi	Sempra Utilities
CSC Energy Services	In House Energy	Sierra Pacific Power Company
California Cotton Ginners & Growers Assn	International Power Technology	Silicon Valley Power
California Energy Commission	Intestate Gas Services, Inc.	Silo Energy LLC
California League of Food Processors	Lawrence Berkeley National Lab	Southern California Edison Company
California Public Utilities Commission	Los Angeles Dept of Water & Power	Spark Energy, L.P.
Calpine	Luce, Forward, Hamilton & Scripps LLP	Sun Light & Power
Cardinal Cogen	MAC Lighting Consulting	Sunshine Design
Casner, Steve	MBMC, Inc.	Sutherland, Asbill & Brennan
Chris, King	MRW & Associates	Tabors Caramanis & Associates
City of Palo Alto	Manatt Phelps Phillips	Tecogen, Inc.
City of Palo Alto Utilities	McKenzie & Associates	Tiger Natural Gas, Inc.
City of San Jose	Merced Irrigation District	TransCanada
Clean Energy Fuels	Modesto Irrigation District	Turlock Irrigation District
Coast Economic Consulting	Morgan Stanley	United Cogen
Commercial Energy	Morrison & Foerster	Utility Cost Management
Consumer Federation of California	NLine Energy, Inc.	Utility Specialists
Crossborder Energy	NRG West	Verizon
Davis Wright Tremaine LLP	Navigant Consulting	Wellhead Electric Company
Day Carter Murphy	Norris & Wong Associates	Western Manufactured Housing Communities Association (WMA)
Defense Energy Support Center	North America Power Partners	eMeter Corporation