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July 10, 2014

ADVICE LETTER 2622-E (U 902-E)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

SUBJECT: Request for Approval of Electric Schedule PEVSP (Plug-In Electric Vehicle

Submetering Pilot; Phase I) and Related Agreements in Compliance with

Commission Decision 13-11-002 and Resolution E-4651

San Diego Gas & Electric Company (SDG&E) hereby submits for approval the following revisions to its electric tariffs as shown in the enclosed Attachment A.

PURPOSE

In compliance with Ordering Paragraph (OP) 2 of California Public Utilities Commission ("Commission") Resolution E-4651 approved on June 26, 2014, SDG&E is filing this advice letter to request approval of: 1) Electric Schedule PEVSP, Plug-In Electric Vehicle Submetering Pilot (Phase I); 2) Electric Form 183-1000, PEV Submetering Pilot Customer Enrollment Agreement; and 3) Electric Form 183-2000, Submeter MDMA (Meter Data Management Agent) Registration Agreement.

BACKGROUND

Decision ("D") 11-07-029 in Rulemaking ("R.") 09-08-009 established requirements for the three large electric investor-owned utilities ("IOUs"), including SDG&E, to develop rules to incorporate customer-owned submeters into their billing and metering system for Plug-In Electric Vehicles ("PEV"). D.13-11-002, issued November 19, 2013, modified the PEV Submetering Protocol requirements set forth in D.11-07-029, adopting the Energy Division Staff PEV Submetering Roadmap for a two-phase pilot project.

OPs 2, 3, and 6 of D.13-11-002 required the IOUs to submit a Tier 2 advice letter ("AL") consider Alternative-Fueled Vehicle Programs, Tariffs, and Policies. Southern California Edison ("SCE") filed a joint AL on behalf of the IOUs on January 21, 2014 ("Joint AL") to implement a PEV Sub-Metering Pilot¹. The joint AL received several protests and was suspended by the

¹ SCE AL 2993-E, Pacific Gas & Electric AL 4343-E, and SDG&E AL 2566-E.

Energy Division on January 28, 2014. On April 21, 2014, Draft resolution E-4651 was mailed to parties for comments and final Resolution E-4651 was approved during the Commission's June 26, 2014 meeting. The Resolution approves the IOUs Schedule Plug-in Electric Vehicle Submetering Pilot tariffs with modifications and requires the IOUs to file revised tariffs within 14 days of the effective date of the Resolution.

SUMMARY

Based on final Resolution E-4651, below are modifications to the proposed tariff schedule and forms submitted in the Joint AL.

Schedule PEVSP (Schedule Plug-In Electric Vehicle Submetering Pilot (Phase I))

- Applicability (Sheet #1): Modified to allow participation by Community Choice Aggregator (CCA) customers.
- PEV Pilot Enrollment Incentive Payment (Sheet #2): Changed the one-time enrollment fee from \$200 per customer to \$210 per customer and a monthly submetering data management performance payment from \$10/month per customer to \$17.50/month.
- PEV Pilot Enrollment Incentive Payment (Sheet #2): Updated Phase I Pilot completion date to reflect "February 28, 2016".
- Added section on Commercial & Industrial Time-of-Use Tariff Customer Payment (Sheet #2)
- Special Condition (SC) 1 Pilot Term (Sheet 2): Updated dates for Phase I to reflect "beginning September 1, 2014 and ending February 28, 2016".
- SC2 Pilot Participation Cap (Sheet #2): Reduced the limit on Net Energy Metering (NEM) customer participation to 100 of total eligible submeters for Phase 1 of the Pilot and changed term "disenroll" to "un-enroll".
- SC4 Customer Enrollment (Sheet #2): Updated form number to reflect "Form 183-1000".
- SC5 Enrollment Period (Sheet #3): Corrected length of the Enrollment Period to 6 months.
- SC6 MDMA Services for the PEV Submeter (Sheet #3): Updated document name, included SDG&E form number 183-2000, and updated MDMA date to show "by July 11, 2014".
- SC9 Disenrollment, Change of Address (Sheet #4): Added notification to the customer if submetering service is terminated and allow them to complete the remainder of the Pilot Participation Period subject to completing the requirements to re-enroll with an alternative provider. Also updated 5 business days to reflect "10 business days" and included customers re-enrollment clause if change of address.
- SC10 Pilot Eligibility (Sheet #4): Extended pilot eligibility to Direct Pay Plan and Level Pay Plan customers if the submeter service does not involve remitting payments to be credited against their account. Additionally, noted that customers currently enrolled

- with Direct Pay Plan and Level Pay Plan are eligible to participate in the pilot, but must un-enroll from the programs for the duration of the pilot.
- SC11 Programs Availability (Sheet #4): Added new SC to reflect current IOU programs.
- SC12 Submeter (Sheet #4): Increased the limit to 19 submeters per primary meter (from 5 submeters initially proposed) and restricted participants from using multiple levels of submeters.
- SC13 Submeter MDMA (Sheet #4): Removed "CPUC approved" prior to validation.
- SC14 Definitions (Sheet #5): Updated Submeter definition to replace "its Submeter MDMA" with a more generic "third party"; updated Primary Meter Billed Amount definition and Submeter Billed Amount definition to remove "maximum".

Electric Form 183-1000, Customer Enrollment Agreement

- Section A, Purpose and Overview of the Phase I Pilot (pages 1-2):
 - a) Replaced "its Submeter MDMA" with a more generic "third party";
 - b) Updated NEM participation limit to reflect 20% of the participation cap;
 - c) Updated Pilot start date to September 1, 2014; and
 - d) Included suggested language to describe customer's experience during survey testing.
- Section B, Eligibility (page 2):
 - a) Removed the restriction for Community Choice Aggregation (CCA) customers in #5; and
 - b) Added #6 to describe qualifications for Level Pay Plan and Electronic Payment customers.
- Section C, Duties and Obligations of SDG&E (page 2):
 - a) Moved item #4 from Section E, Termination, to Section C (#4); and
 - b) Added "only where the Submeter MDMA action is the cause of the data transmission failure" to item #4 pursuant to E-4651 (pg. 22).
- Section D, Duties and Obligations of Participant/Participant or its agent will (page 3):
 - a) Inserted "or have installed" after "install" in item #1;
 - b) Added #5 to require the Submeter MDMA to report a customer dropout or change of address to SDG&E within 10 days.
- Section D, Duties and Obligations of Participant/Participant will (page 3)
 - a) Inserted item #4 to reflect options for customers that move to another address within the same service territory or relocate to another IOUs service territory; and
 - b) Moved item #5 from Section E, Termination (#5), and removed "Customer will" language.

- Section E, Termination (page 3):
 - a) Moved prior items #4 and #5 to Sections C and D as noted above.
 - b) Added item #5 to notify the customer if Submeter MDMA service is terminated and how customers may complete the remainder of the Pilot; and
- Section F, Notices (page 4): Added SDG&E contact information.
- Section G, Limitation of Liability (page 4): Updated language.
- Sections J & K (page 5): Re-lettered Section J to reflect "Entire Agreement" and Section K to reflect "Applicable SDG&E Rates for Pilot Phase I" to remediation Section J in initial filing.
- Section J, Entire Agreement (page 5): Revised to remove suggestion that customers search the IOU website to determine their participation in the pilot.
- Customer Enrollment Agreement Instructions (page 6): Removed #2 which required customers to call SDG&E;
- Authorization to Release Customer Information & Act on a Customer's Behalf (page 7):
 - a) Added "Yes" and "No" Checkboxes for simplicity;
 - b) Added SDG&E form number 185-1000, Customer Information Service Request Form; and
 - c) Included statement regarding specific billing requirements for Level Pay Plan customers and Electronic Payment Plan customers.
- Section 3, Submeter Information (page 8): Included note regarding the need for separate sheets for each submeter, up to 19, and noted that multiple level submeters are not allowed pursuant to E-4651 (pgs. 18-19).

Electric Form 183-2000, Submeter MDMA Registration Agreement

- Background (Page 1):
 - a) Updated dates to accurately reflect July 11, 2014 for Registration Agreement and February 28, 2016 for the end of the Phase I pilot; and
 - b) Replace "IOU standards" to indicate that the performance standards are "Energy Division standards".
- Registration Agreement (Page 1): Replaced "approving entity" with "ED".
- Requirements (Page 1): Updated item #2 to remove sentence allowing the Energy Division to delegate the review/approval to the Utilities.
- Requirements (Page 2):
 - a) Added item #4 regarding 10 day notification to the utility of a customer drop out or change of address; and
 - b) Added item #5 to require Submeter MDMA to notify Energy Division and all IOUs to which they're providing services in the event they terminate service prior to end of Pilot term.

- Submeter MDMA Registration Process (Page 2):
 - a) Updated date in item #1 to require Registration Agreement to the relevant Energy Division contacts by July 11, 2014; and
 - b) Updated date in item #2 to reflect September 1, 2014.
- Submeter Testing and Calibration (Page 2): Updated language pursuant to E-4651 (pgs. 26-27).
- Security and Confidentiality (Page 3): Updated Electric "Rule 33" and removed reference to its attachment.
- Indemnification (Page 3): Included language to reflect "and provided such Utility action is consistent with applicable CPUC orders, tariffs and regulations" pursuant to E-4651 (pg. 42).
- Section 2.0 Submeter MDMA Registration Agreement (Page 5): Updated the expiration date for Phase I to reflect "February 28, 2016".
- Section F Submeter MDMA Qualification (Page 11): Removed "shown below" as SDG&E will not show the Submeter MDMA Registration Form.
- Section H Meter System Testing (Pages 11-12): Updated language pursuant to E-4651 (pgs. 28-29).

EFFECTIVE DATE

This filing is classified as a Tier 1 (effective pending disposition) pursuant to GO 96-B. SDG&E respectfully requests that this filing become effective July 10, 2014, the date filed, in accordance with OP 2 of Resolution E-4651.

PROTEST

Anyone may protest this Advice Letter to the California Public Utilities Commission. The protest must state the grounds upon which it is based, including such items as financial and service impact, and should be submitted expeditiously. The protest must be made in writing and must be received no later than July 30, 2014 which is 20 days of the date this Advice Letter was filed with the Commission. There is no restriction on who may file a protest. The address for mailing or delivering a protest to the Commission is:

CPUC Energy Division Attention: Tariff Unit 505 Van Ness Avenue San Francisco, CA 94102

Copies of the protest should also be sent via e-mail to the attention of the Energy Division at EDTariffUnit@cpuc.ca.gov. A copy of the protest should also be sent via both e-mail and facsimile to the address shown below on the same date it is mailed or delivered to the Commission.

Attn: Megan Caulson Regulatory Tariff Manager 8330 Century Park Court, Room 32C San Diego, CA 92123-1548 Facsimile No. (858) 654-1879

E-mail: mcaulson@semprautilities.com

NOTICE

A copy of this filing has been served on the utilities and interested parties shown on the attached list, including interested parties to service list R.09-08-009 and R.13-11-007, by either providing them a copy electronically or by mailing them a copy hereof, properly stamped and addressed.

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Address changes should be directed to SDG&E Tariffs by facsimile at (858) 654-1879 or by email at SDG&ETariffs@semprautilities.com.

CLAY FABER Director – Regulatory Affairs

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. SAN DIEGO GAS & ELECTRIC (U 902)				
tility type: Contact Person: Megan Caulson				
⊠ ELC ⊠ GAS	Phone #: (858) <u>65</u>	54-1748		
☐ PLC ☐ HEAT ☐ WATER	PLC HEAT WATER E-mail: mcaulson@semprautilities.com			
EXPLANATION OF UTILITY TY	/PE	(Date Filed/ Received Stamp by CPUC)		
ELC = Electric GAS = Gas PLC = Pipeline HEAT = Heat WATER = Water				
Advice Letter (AL) #: 2622-E				
		PEVSP (Plug-In Electric Vehicle Submetering th Decision 13-11-002 and Resolution E-4651		
Keywords (choose from CPUC listing):	Electric Vehicle, I	Forms		
AL filing type: Monthly Quarterl	y Annual 🛛 On	e-Time 🗌 Other		
If AL filed in compliance with a Commi	ission order, indicat	te relevant Decision/Resolution #:		
D.13-11-002 and E-4651				
Does AL replace a withdrawn or rejected	ed AL? If so, identi	fy the prior AL		
Summarize differences between the AL	. and the prior with	drawn or rejected AL¹: <u>N/A</u>		
Does AL request confidential treatmen	t? If so, provide exp	planation:		
Resolution Required? Yes No		Tier Designation: ⊠ 1 □ 2 □ 3		
Requested effective date: 7/10/2014		No. of tariff sheets: <u>11</u>		
Estimated system annual revenue effect	ot: (%): <u>N/A</u>			
Estimated system average rate effect (9	%): <u>N/A</u>			
When rates are affected by AL, include (residential, small commercial, large C.		showing average rate effects on customer classes nting).		
Tariff schedules affected: <u>Electric Sc</u>	<u>hedule PEVSP, Ele</u>	ctric Forms 183-1000 and 183-2000, Table of		
Contents				
Service affected and changes proposed ¹ : N/A				
Pending advice letters that revise the same tariff sheets: N/A				
Protests 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		San Diego Gas & Electric		
Attention: Tariff Unit 505 Van Ness Ave.,		attention: Megan Caulson 3330 Century Park Ct, Room 32C		
San Francisco, CA 94102 San Diego, CA 92123				
EDTariffUnit@cpuc.ca.gov		mcaulson@semprautilities.com		

 $^{^{\}rm 1}$ Discuss in AL if more space is needed.

General Order No. 96-B ADVICE LETTER FILING MAILING LIST

cc: (w/enclosures)

Public Utilities Commission Douglass & Liddell Solar Turbines DRA D. Douglass F. Chiang S. Cauchois D. Liddell Sutherland Asbill & Brennan LLP R. Pocta G. Klatt K. McCrea Southern California Edison Co. W. Scott Duke Energy North America **Energy Division** M. Gillette M. Alexander Dynegy, Inc. P. Clanon K. Cini S. Gallagher J. Paul K. Gansecki D. Lafrenz Ellison Schneider & Harris LLP H. Romero M. Salinas E. Janssen TransCanada CA. Energy Commission **Energy Policy Initiatives Center (USD)** R. Hunter F. DeLeon S. Anders D. White Energy Price Solutions R. Tavares **TURN** Alcantar & Kahl LLP A. Scott M. Hawiger Energy Strategies, Inc. K. Cameron **UCAN** American Energy Institute K. Campbell D. Kelly M. Scanlan U.S. Dept. of the Navy C. King APS Energy Services Goodin, MacBride, Squeri, Ritchie & Day K. Davoodi B. Cragg J. Schenk N. Furuta J. Heather Patrick BP Energy Company L. DeLacruz Utility Specialists, Southwest, Inc. J. Zaiontz J. Squeri Goodrich Aerostructures Group Barkovich & Yap, Inc. D. Koser B. Barkovich M. Harrington Western Manufactured Housing **Bartle Wells Associates** Hanna and Morton LLP Communities Association R. Schmidt N. Pedersen S. Dev Braun & Blaising, P.C. Itsa-North America White & Case LLP L. Cottle S. Blaising L. Belew California Energy Markets J.B.S. Energy J. Nahigian Interested Parties

Luce, Forward, Hamilton & Scripps LLP

Manatt, Phelps & Phillips LLP

J. Leslie

D. Huard

R.09-08-009 R.13-11-007

S. O'Donnell C. Sweet California Farm Bureau Federation K. Mills California Wind Energy N. Rader Children's Hospital & Health Center T. Jacoby City of Poway R. Willcox City of San Diego J. Cervantes G. Lonergan M. Valerio Commerce Energy Group V. Gan CP Kelco A. Friedl Davis Wright Tremaine, LLP E. O'Neill

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M. Clark

Dept. of General Services

R. Keen Matthew V. Brady & Associates M. Brady Modesto Irrigation District C. Mayer Morrison & Foerster LLP P. Hanschen MRW & Associates D. Richardson Pacific Gas & Electric Co. J. Clark M. Huffman S. Lawrie E. Lucha Pacific Utility Audit, Inc. E. Kelly San Diego Regional Energy Office S. Freedman J. Porter School Project for Utility Rate Reduction M. Rochman Shute, Mihaly & Weinberger LLP O. Armi

ATTACHMENT A ADVICE LETTER 2622-E

Cal. P.U.C. Sheet No.	Title of Sheet	Canceling Cal. P.U.C. Sheet No.
Original 25237-E	SCHEDULE PEVSP, PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I), Sheet 1	
Original 25238-E	SCHEDULE PEVSP, PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I), Sheet 2	
Original 25239-E	SCHEDULE PEVSP, PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I), Sheet 3	
Original 25240-E	SCHEDULE PEVSP, PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I), Sheet 4	
Original 25241-E	SCHEDULE PEVSP, PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I), Sheet 5	
Original 25242-E	SAMPLE FORMS, FORM 183-1000, Sheet 1	
Original 25243-E	SAMPLE FORMS, FORM 183-2000, Sheet 1	
Revised 25244-E	TABLE OF CONTENTS, Sheet 1	Revised 25224-E
Revised 25245-E	TABLE OF CONTENTS, Sheet 5	Revised 25225-E
Revised 25246-E	TABLE OF CONTENTS, Sheet 12	Revised 25176-E
Revised 25247-E	TABLE OF CONTENTS, Sheet 13	Revised 24853-E



Original	Cal. P.U.C. Sheet No.	25237-E

Cal. P.U.C. Sheet No. Canceling

SCHEDULE PEVSP

Sheet 1

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PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I)

APPLICABILITY

This Schedule is applicable to Bundled Service customers on Residential, Commercial and Industrial rate schedules, and Community Choice Aggregation (CCA) customers, as defined in the Utility's Electric Rule 27, who charge a plug-in electric vehicle (PEV) which is connected to the same meter that registers usage of the customer's primary load and where the connected PEV load is measured by a customer or third-party owned PEV submeter (submeter load) and subtracted from the customer's primary meter and billed on an applicable utility PEV rate schedule.

This schedule contains provisions to implement the first phase of a two-phase PEV Submetering Pilot (Pilot) to evaluate customer demand for and benefits of a PEV submetering arrangement. The first phase of the Pilot is intended to evaluate billing integration and communication standards associated with submetered

Customers must have a SDG&E Smart Meter or interval data recorder (IDR) type meter as their primary meter to participate in this Pilot.

The PEV submeter must be used for the sole purpose of measuring electricity used to charge PEVs.

TERRITORY

Within the entire territory served.

RATES

All charges and provisions of the customer's otherwise applicable tariff (OAT) shall apply to the primary meter, except that the PEV usage, as measured by the submeter, will be billed on an applicable PEV rate schedule.

PEV Submeter Usage Billing:

Where the Primary Meter qualifies for Residential Service:

All PEV submeter usage will be billed on Schedule EV-TOU

Where the Primary Meter qualifies for Commercial/Industrial Service with demands less than 20 kW:

PEV submeter usage will be billed on Schedule A

Where the Primary Meter qualifies for Commercial/Industrial Service with demands of 20 kW and above:

PEV submeter usage and demand will be billed on Schedule AL-TOU

Net Energy Metering (NEM) rate schedules may be a rider, as applicable, to this Schedule.

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		(Continued)		
1C10		Issued by	Date Filed	Jul 10, 2014
Advice Ltr. No.	2622-E	Lee Schavrien	Effective	Jul 10, 2014
		Senior Vice President		
Decision No.	D.13-11-002	Regulatory Affairs	Resolution No.	E-4651

(Continued)



Original	Cal. P.U.C. Sheet No.	25238-E		

Canceling ____ Cal. P.U.C. Sheet No.

SCHEDULE PEVSP

Sheet 2

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PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I)

PLUG-IN ELECTRIC VEHICLE PILOT ENROLLMENT INCENTIVE PAYMENT

A one-time enrollment payment of \$210 will be provided to the Submeter Meter Data Management Agent (Submeter MDMA) for each participant enrolled in this Pilot. This payment will be made by the Utility to the Submeter MDMA within 60 days after the participant's completed enrollment. Additionally, \$17.50 per month will be provided to the Submeter MDMA for performance of its data management and exchange responsibilities in compliance with Pilot requirements for each month the customer remains on the Pilot. These payments will be made by the Utility to the Submeter MDMA within 60 days of the first two successful billing cycles for a given customer, and within 30 days after billing cycles thereafter. The Utility may petition the CPUC's Energy Division to terminate this ongoing incentive, with no cost, liability, or further obligation, if Submeter MDMA fails to meet its performance requirements. These incentive payments are applicable only for Phase 1 of the Pilot, which ends after 12 billing cycles for a customer participant, and no later than February 28, 2016.

COMMERCIAL/INDUSTRIAL TIME-OF-USE TARIFF CUSTOMER PAYMENT

Commercial/Industrial customers with submeter usage billed under a Time-of-Use tariff, shall receive a payment applied as a bill credit of \$20/month per submeter. The Utility may petition the CPUC's Energy Division to terminate this ongoing customer payment, with no cost, liability, or further obligation, if Submeter MDMA fails to meet its performance requirements. These payments are applicable only for Phase 1 of the Pilot, which ends after 12 billing cycles for a customer participant and no later than February 28, 2015.

SPECIAL CONDITIONS

- 1. Pilot Term: Phase I duration is 18 months beginning September 1, 2014 and ending February 28, 2016.
- 2. Pilot Participation Cap: On a first-come, first-served basis, a maximum of 500 submeters may be enrolled in each phase of the Pilot. Of the 500 submeters, a limit of 100 submeters may be related to NEM accounts.
- 3. Pilot Participation Period: Customers may participate for up to 12 consecutive billing cycles. Customers may un-enroll from the Pilot at any time, but may not re-enroll in Phase 1 of the Pilot unless they are relocating in one of the IOU's service territories as discussed in Special Condition 9.
- 4. Customer Enrollment: The Submeter MDMA is responsible to enroll eligible customers and such enrollment will become effective with the start date of the customer's next billing cycle. The Submeter MDMA must notify the Utility of a customer's enrollment by submitting a completed PEV Submetering Pilot Customer Enrollment Agreement (Form 183-1000) at least 5 business days prior to the start date of the customer's next billing cycle.

		(Continuea)		
2C10		Issued by	Date Filed	Jul 10, 2014
Advice Ltr. No.	2622-E	Lee Schavrien	Effective	Jul 10, 2014
		Senior Vice President		
Decision No.	D.13-11-002	Regulatory Affairs	Resolution No.	E-4651



San Diego Gas & Electric Company San Diego, California

Original	Cal. P.U.C. Sheet No.	25239-E		

Canceling _____ Cal. P.U.C. Sheet No.

SCHEDULE PEVSP

Sheet 3

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PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I)

SPECIAL CONDITIONS (Continued)

- 5. Enrollment Period: The enrollment period is for the first 6 months of the Phase 1 Pilot, September 1, 2014 February 28, 2015 or until the maximum of 500 submeters is reached, whichever is earlier (Enrollment Period). Once enrollment of 500 submeters is reached, Phase 1 of this Pilot will be closed for enrollment. For the first 3 months of the Enrollment Period (Exclusivity Period), each Submeter MDMA will have "Exclusivity Rights" to enroll a pre-determined number of submeters into the Pilot. This number will be determined by dividing the Pilot's enrollment cap of 500 by the number of Submeter MDMAs participating in the Pilot. Exclusivity Rights expire at the end of the third month of the Exclusivity Period.
- 6. MDMA Services for the PEV Submeter: Program participants or their Submeter MDMAs are required to provide, own, and maintain the submeters used in this Pilot. The standards for qualified meters are contained in the EV Submeter Phase 1 Performance Standards for Metering and Meter Data Management Agents. Additionally, accuracy requirements are set at +/- 5% for this Pilot, which is below accuracy standards required by the Utility for its own meters. For purposes of this Pilot, the Utility will bill participating customers as if the submeters satisfied the Utility's accuracy requirements.

Submeter MDMAs are required to perform meter data management services (Submeter MDMA services) related to providing properly formatted, accurate, and timely data submission to the Utility. These requirements are listed in the EV Submeter Phase 1 Performance Standards for Metering and Meter Data Management Agents. The Submeter MDMA is required to submit a completed Submeter MDMA Registration Agreement (Form 183-2000) for approval to participate in this Pilot by July 11, 2014. This agreement requires the Submeter MDMA to state (1) the number of submeters that have agreed to participate as of the date it submits the Agreement, and (2) the total number of submeters that it plans to enroll, with expected breakdown of customer class (Residential, Commercial & Industrial), and NEM participation.

- 7. Primary Meter and Submeter Bill Calculation: All customers served under this Schedule will be provided separate primary meter bill charges and PEV submeter bill charges on a single billing statement. The customer's primary metered usage and demand, as applicable, are billed according to the customer's current tariff, and the customer's submeter PEV usage and demand, as applicable, are billed according to the applicable residential or commercial & industrial PEV rate schedule. The primary meter billed amount calculation excludes the PEV submeter usage and demand, as applicable. The PEV submeter billed amount will be based upon data delivered to the Utility by the Submeter MDMA pursuant to the MDMA Performance Standards and applicable Data transfer template.
- 8. Billing Adjustments: Billing adjustments will not be made pursuant to Rule 18 on either the primary or submeter account due to revisions or adjustments provided by the Submeter MDMA.

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3C10
Advice Ltr. No. 2622-E

Decision No. D.13-11-002

Issued by
Lee Schavrien
Senior Vice President
Regulatory Affairs

Date Filed Effective Jul 10, 2014 Jul 10, 2014

Resolution No.

E-4651



Original	Cal. P.U.C. Sheet No.	25240-E

Canceling Cal. P.U.C. Sheet No.

SCHEDULE PEVSP

Sheet 4

PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I)

SPECIAL CONDITIONS (Continued)

- 9. Disenrollment, Changes of Address: The Submeter MDMA or customer must report all Pilot program drop-outs to the Utility within ten business days of disenrollment from the Pilot. As of the effective date of the drop out or change of address, the Utility will default to using the current tariff of the primary meter for all load at that premises. For customers that are involuntarily disenrolled due to termination of submetering service by Submeter MDMA, the Utility will notify the customers of the involuntary termination and allow the customers to complete the remainder of their Pilot Participation Period subject to completing the requirements to re-enroll with an alternative Submeter MDMA. The Utility will effectuate any required rate and billing changes coincident with the start of the next billing cycle. Customers who drop out of this Pilot after enrollment will continue to be counted against the enrollment cap. For customers that relocate within the service territory: 1) their MDMA must submit a separate Customer Enrollment Agreement for their new service address at least five days before the end of the current billing period; and 2) they are eligible to reenroll in the Pilot after the Enrollment Period. Similarly, for customers that relocate to another IOU's service territory, they may reenroll if the IOU's 500 submeter limit has not been met.
- 10. Pilot Eligibility: If a customer's Submeter MDMA remits payments directly to the Utility on the customer's behalf, the customer cannot participate in either the Level Pay Plan or Electronic Payment options offered by the Utility for the duration of the customer's participation in this Pilot. Customers already enrolled in these plans must un-enroll for the duration of their participation in this Pilot.
- 11. Programs Availability: Programs such as My Account, Green Button, Energy Use Alerts, Peak Time Rebate, and on-line rate comparison tools may be available to customers participating in this Pilot but the data accuracy of these programs will be contingent upon the availability and the timeliness of the submeter data.
- 12. Submeter: The submeter may be embedded within the EVSE (as defined below) or may be standalone. The submeter must be located at a fixed point anywhere between the primary meter and the PEV. All submeters must meet UL safety requirements or be embedded within a device that meets UL safety requirements, or comply with the Utility's specific safety requirements. The Utility shall limit customers to 19 submeters per primary meter and restrict participants from using multiple levels of submeters.
- 13. Submeter Meter Data Management Agent (Submeter MDMA): The Submeter MDMA is the entity that retrieves, processes, and submits PEV data using validation, editing and estimating methods, as determined by the Utility and MDMAs, and provides this information to the Utility for billing purposes. Whether the Submeter MDMA, the Customer, or other third party owns the submeter, the Submeter MDMA is responsible for obtaining authorization from the Customer to access and submit this information on the Customer's behalf. The Submeter MDMA must submit a completed Customer Enrollment Agreement to the Utility. The Submeter MDMA cannot be the Customer of Record (COR).

(Continued)

4C10 Date Filed Issued by Lee Schavrien Advice Ltr. No. 2622-E Effective Senior Vice President Decision No. D.13-11-002 Regulatory Affairs

Jul 10, 2014 Jul 10, 2014

Resolution No. E-4651

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San Diego Gas & Electric Company San Diego, California

Original	Cal. P.U.C. Sheet No.	25241-E

Canceling ____ Cal. P.U.C. Sheet No.

SCHEDULE PEVSP

Sheet 5

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PLUG-IN ELECTRIC VEHICLE SUBMETERING PILOT (PHASE I)

SPECIAL CONDITIONS (Continued)

14. Definitions:

- a) Electric Vehicle Service Equipment (EVSE): The conductors, including the ungrounded, grounded, and equipment grounding conductors, the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets or apparatuses installed specifically for the purpose of delivering energy from the premises wiring to the electric vehicle and may include an embedded submeter.
- b) Primary Meter: The interval data recorder meter type owned by the Utility which registers all electricity usage associated with the premises.
- c) Submeter: Submeter in this Schedule only references the meter owned by the customer or a third party, which measures the electrical load associated with charging the electric vehicle.
- d) Primary Meter Billed Amount: The primary meter charges billed to the customer for its non-PEV related usage and demand, as applicable, metered at its premises and billed in accordance with the customer's current tariff.
- e) Submeter Billed Amount: The submeter charges billed to the customer for its PEV usage and demand, as applicable, submetered at its premises, billed as a separate service account and presented as a Summary Bill to the customer.
- f) Customer of Record (COR): The person in whose name service is rendered as evidenced by the signature on the application, contract, or agreement for that service, or, in the absence of a signed instrument, by the receipt and payment of bills or Summary Bills regularly issued in his/her name regardless of the identity of the actual user of the service. A customer may also be a party with whom the Utility is doing business with or without a billing relationship. The entire bill is the responsibility of the Utility's COR. The primary meter customer is the COR for the submeter.

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(Continued) 5C10 Date Filed Jul 10, 2014 Issued by Lee Schavrien Advice Ltr. No. 2622-E Effective Jul 10, 2014 Senior Vice President Decision No. D.13-11-002 Regulatory Affairs Resolution No. E-4651



Original Cal. P.U.C. Sheet No. 25242-E

Canceling Cal. P.U.C. Sheet No. Sheet 1 N **SAMPLE FORMS** FORM 183-1000 N Customer Enrollment Agreement - Electric Vehicle Submetering Pilot (Phase 1) Ν Ν (07/2014)(Please See Attached) Ν

 1C4
 Issued by
 Date Filed
 Jul 10, 2014

 Advice Ltr. No.
 2622-E
 Lee Schavrien
 Effective
 Jul 10, 2014

 Senior Vice President
 Senior Vice President
 Regulatory Affairs
 Resolution No.
 E-4651

Customer Enrollment Agreement - Electric Vehicle Submetering Pilot (Phase 1)

Terms and Conditions

This Participation Agreement ("Agreement"), effective upon the date a Customer Enrollment Agreement is submitted, is entered into between San Diego Gas and Electric (SDG&E), and the customer that receives electric service from SDG&E (hereafter, "Participant," "Customer," or "you"). SDG&E and Participant are referred to jointly as "Parties."

A. Purpose and Overview of the Phase 1 Pilot

SDG&E is conducting a temporary Plug-in Electric Vehicle (EV) Submeter Pilot. To participate in Phase 1 of the Pilot, Customers must read and agree to the terms and conditions of this Agreement and be eligible for an applicable separately-metered EV Rate. The customer enrollment process is described in the Customer Enrollment Agreement.

The applicable EV Rates require a separate meter to measure only the energy used to charge electric vehicles, which will be charged at a different rate than the rest of your residence or business. For this Pilot, the separate meter must be a submeter owned by the Customer or by a third party. This Pilot is available to eligible customers within all of SDG&E's service territory and limited to 500 submeters on a first-come, first-served basis. Customers on a Net Energy Metering (NEM) rate are eligible but will be limited to 20% of the participation cap.

As a Participant in this Pilot, you agree to install an eligible Customer- or third party-owned submeter that meets the California Public Utilities Commission (CPUC)--approved Standards for Metering Products (accuracy and intervals) for the exclusive use of tracking the energy used to charge your electric vehicle to be billed on the applicable submeter Rate. Your Submeter Meter Data Management Agent (Submeter MDMA) will be required to collect and transmit your submeter usage data to SDG&E as scheduled in the required format in compliance with the Submeter MDMA Performance Requirements (copy available upon request). You will retain sole responsibility for paying the entire monthly bill including EV and other charges regardless of any agreement between you and your Submeter MDMA.

This Pilot will begin on September 1, 2014. Any Customer enrolled in the Pilot will be eligible to participate for no more than 12 consecutive billing cycles; however the Customer may terminate participation in the pilot at any time. When Pilot participation ends, the submeter Rate will be terminated for the submetered account. Thereafter, any future electric vehicle charging will be billed at the Customer's otherwise applicable tariff rate for the primary meter. Customers are encouraged to contact SDG&E to discuss available electric vehicle rates.

In addition, you agree to provide an independent evaluator paid by the Investor Owned Utilities (IOUs) with feedback on your experiences with Pilot participation, including enrollment, equipment installation, and billing. In accordance with the CPUC's instruction, this survey will not be burdensome. Additionally, you may be required to provide access to your home or facility for the evaluator to perform tests on your submeter. Such submeter testing is only required of 5% of participating customers. If your submeter is selected for testing, tests will be arranged at a convenient time, and your MDMA may be

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present. No adjustments to your primary or submetered accounts billed over the course of your participation in the Pilot will be made regardless of whether the submeter is found to violate CPUC meter accuracy standards.

B. ELIGIBILITY

To be eligible to participate in the Pilot, Participants must:

- 1. Have an active SDG&E service account;
- 2. Have an eligible SDG&E interval data recorder (IDR) meter;
- 3. Charge a plug-in electric vehicle at that account;
- 4. Have an approved submeter installed for the exclusive use of tracking the energy used to charge your electric vehicle;
- 5. Be a Bundled Service customer or Community Choice Aggregation (CCA) customer (i.e. does not participate in Direct Access (DA)).
- 6. Not participate in either the Level Pay Plan or Electronic Payment options offered by SDG&E for the duration of their participation in this pilot if their submeter MDMA remits payments directly to SDG&E on their behalf. If Participant is already enrolled in one of these plans, they must unenroll for just the duration of their participation in this pilot.

C. DUTIES AND OBLIGATIONS OF SDG&E:

SDG&E will:

- 1. Enroll you in the Pilot beginning with your next SDG&E billing period, provided that you or your Submeter MDMA has submitted your complete customer enrollment form at least five (5) business days prior to the end of your current billing period.
- 2. Receive your submeter EV usage information from your Submeter MDMA;
- 3. Use this information to separately calculate your usage for charging your electric vehicle on the applicable EV rate and the rest of your home or business usage on your current rate. Accuracy of your bill is dependent on receiving timely and accurate information from your Submeter MDMA and the accuracy of the submeter itself.
- 4. Late or incomplete EV submeter usage information will be disregarded (treated as if there was no EV usage for the time interval(s) involved) only where the Submeter MDMA action is the cause of the data transmission failure. As a result, any actual EV charging during these intervals will be billed at your current rate and will not be adjusted in any future bills if any EV usage data is subsequently received.
- 5. Provide you a summary bill reflecting all of your charges, including your submetered EV usage;
- 6. After 12 consecutive billing cycles SDG&E will close your submeter account. Your entire usage will then be charged at your otherwise applicable rate.
- 7. Commercial/Industrial customers with submeter usage billed under a Time-of-Use tariff, shall receive a payment applied as a bill credit of \$20/month per submeter. The Utility may petition the CPUC's Energy Division to terminate this ongoing customer payment, with no cost, liability, or further obligation, if Submeter MDMA fails to meet its performance requirements. These payments are applicable only for Phase 1 of the Pilot, which ends after 12 billing cycles for a customer participant and no later than February 28, 2015.

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D. DUTIES AND OBLIGATIONS OF PARTICIPANT:

Participant or its agent will:

- 1. Install or have installed a qualified submeter¹ for the exclusive use of tracking the energy used to charge your electric vehicle;
- 2. Own the EV submeter and be entirely responsible for its ongoing maintenance and services.
- 3. Request the submeter to be placed on an applicable EV rate schedule for its electric vehicle charging usage during the Pilot.
- 4. Have a Submeter MDMA provide SDG&E with your submeter usage data as scheduled in the required format in compliance with the MDMA performance requirements (copy available upon request).
- 5. The Submeter MDMA must report a customer drop out or change of address to SDG&E within 10 days.

Participant will:

- 1. Provide an independent third party evaluator with feedback on your experiences with Pilot participation, including enrollment, equipment installation, and billing.
- Acknowledge that the EV submeter usage information may not meet the accuracy standards
 required by SDG&E for billing purposes, though for purposes of the Pilot Participant's EV usage
 will be billed based on the submeter data provided by the Submeter MDMA, who is solely
 responsible for the accuracy and timely delivery to SDG&E of submeter usage information.
- 3. If selected, provide access and assistance to facilitate random meter testing by an independent 3rd Party Evaluator.
- 4. In the event the Participant has a change of address, be allowed to re-enroll for the remainder of Participant's pilot term. For customers that relocate within the service territory: 1) their MDMA must submit a separate Customer Enrollment Form for their new service address at least five days before the end of the current billing period; and 2) they are eligible to reenroll in the Pilot after the Enrollment Period. Similarly, for customers that relocate to another IOU's service territory, they may reenroll if the Utility's 500 submeter limit has not been met.
- 5. Retain sole responsibility for paying the entire monthly bill including EV and other charges regardless of any agreement between you and your Submeter MDMA.

E. TERMINATION:

- 1. This Agreement shall be effective for no more than 12 consecutive billing cycles after Pilot enrollment.
- 2. SDG&E may petition the CPUC's Energy Division to terminate this Agreement, with no cost, liability, or further obligation, if Submeter MDMA fails to meet Submeter MDMA performance requirements for three consecutive months.
- 3. SDG&E shall have the right to modify or immediately terminate this Agreement upon written notice to Participant if SDG&E determines this Agreement would be inconsistent with, or violate

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¹ The *IOUs included* CPUC's Energy Division's Temporary Submetering Performance and Data Communication Requirements in EV Submeter Pilot Phase 1 Performance Standards for Metering and Meter Data Management Agents)

- any rule, regulation, or policy of the CPUC or other applicable laws or where Participant fails to satisfy its obligations as set forth in Section D above.
- 4. Participant shall notify SDG&E promptly if Participant no longer desires to participate in the Pilot.
- 5. SDG&E will notify Participant if the Submeter MDMA service is terminated and Participant may complete the remainder of the pilot subject to completing the requirements to re-enroll with an alternative Submeter MDMA.

F. NOTICES

SDG&E will provide notices to Customer about this Pilot by email or mail to the Customer name and address listed on the customer enrollment form. Notices from Customer to SDG&E hereunder shall be in writing and must be either personally delivered; sent by facsimile transmission; or sent by registered or certified mail, postage prepaid, return receipt requested, as follows:

SDG&E EV Submetering Pilot Attn: JC Martin San Diego Gas & Electric 8306 Century Park Court (CP42K) San Diego, CA 92123

G. LIMITATION OF LIABILITY:

- 1. Participant shall indemnify, hold harmless and defend SDG&E and its directors, employees, agents, and contractors from any and all costs, liabilities, claims and expenses, including those from death or injury to any person or from a loss or damage to any real, personal or other property, arising from, or in connection with, this Agreement, unless solely caused by the negligence or willful misconduct of SDG&E.
- 2. In no event shall SDG&E be liable for any incidental, indirect, special, consequential, or punitive damages (including lost income), for any cause of action, whether in contract or tort, arising in any manner from this Agreement or the performance or non-performance of its obligations under this Agreement, regardless of the cause or foreseeability thereof. Unless solely caused by SDG&E's negligence or willful misconduct, and except as expressly stated otherwise in this Agreement, SDG&E shall not be liable for any costs, liabilities, claims or expenses in connection with this Agreement, including any loss or damage to any Participant's property. Further, the amount of SDG&E's aggregate liability or damages shall not exceed ten thousand dollars (\$10,000.00).
- 3. Participant acknowledges that SDG&E has not promised Participant energy or bill savings from use of the EV submeter and/or participation in the Pilot.
- 4. Participant will hold SDG&E harmless for its participation in and use of any other SDG&E programs or features, such as My Account, Green Button, Energy Use Alerts, Peak Time Rebates, and on-line rate comparison tool, during the course of this Pilot.
- 5. Participant will hold SDG&E harmless for its inability to participate in SDG&E Direct Pay and Electronic Payment options during the course of this Pilot.

H. WARRANTY DISCLAIMER:

SDG&E makes no warranties, whether statutory, express, or implied, including, but not limited to, any warranties regarding the safety, design, construction, function, performance, fitness for a particular purpose, or placement of customer-owned submeters, or any benefits to be derived from the placement, operation, or use of the customer owned submeters.

I. APPLICABLE LAW:

This Agreement shall be interpreted, governed and construed under the laws of the State of California, without reference to its choice of law provisions, and it is subject to modifications by the California Public Utilities Commission in the exercise of its jurisdiction.

J. ENTIRE AGREEMENT:

This Agreement contains the entire agreement and understanding between the Parties related to Participant's participation in the Pilot, except for additional terms and conditions that are subsequently made a part of SDG&E's tariffs as part of the further implementation of this Pilot. This Agreement supersedes all prior representations and discussions between SDG&E and Participant pertaining to its subject matter. This agreement at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

K. APPLICABLE SDG&E RATES FOR PILOT PHASE 1:

Where the Primary Meter qualifies for Residential Service:

All PEV submeter usage and demands will be billed on Schedule EV-TOU

Where the Primary Meter qualifies for Commercial/Industrial Service with demands less than 20 kW:

PEV submeter usage will be billed on Schedule A

Where the Primary Meter qualifies for Commercial/Industrial Service with demands of 20 kW and above:

PEV submeter usage will be billed on Schedule AL-TOU

<u>Special Notes:</u>

Rate Schedule NEM may be applied as a "rider" to all the schedules above and would be applicable to customers with photovoltaic (PVs) meeting the tariff requirements.

All charges and provisions of the customer's current tariff shall apply to the primary meter, except that the PEV usage, as measured by the submeter, will be billed on an applicable PEV rate schedule.

Plug-In Electric Vehicle Submetering Pilot (Phase 1) Customer Enrollment Form

Customer Enrollment Agreement Instructions

Instructions to Customer:

- STEP 1: Read the Plug-In Electric Vehicle Submetering Pilot (Phase 1) Participation Agreement in its entirety
- STEP 2: Install an eligible Submeter(s) owned or leased by you or your Electric Vehicle Service Provider (EVSP)
- STEP 3: Retain the services of a SDG&E-approved Submeter Meter Data Management Agent (Submeter MDMA)
- **STEP 4:** Complete this Customer Enrollment Agreement (Your Submeter MDMA may assist you with completing the form)
- STEP 5: Sign the last page of this form (Section 4) to authorize the entire Agreement
- STEP 6: Have your Submeter MDMA sign the last page of this form (Section 5) to authorize the entire Agreement
- STEP 7: You or your Submeter MDMA must submit this Customer Enrollment Agreement to SDG&E for processing
 - Retain a copy of the completed Agreement for your records
 - You or your Submeter MDMA must submit this Agreement at least five (5) business days before end of your billing period for you to be enrolled in the next billing period
 - You or your Submeter MDMA may submit this Agreement to SDG&E by one of the following methods:
 - Email: EV@SDGE.com
 - Mail: SDG&E EV Submetering Pilot

Attn: JC Martin

San Diego Gas & Electric

8306 Century Park Court (CP42K)

San Diego, CA 92123

Fax: (858) 656-0311

- Commercial Customers supported by a SDG&E Representative may be provided this form directly

Processing:

SDG&E will review the Agreement and reply as follows:

- If Agreement is incomplete or inaccurate: You and your Submeter MDMA are notified. You and your Submeter MDMA complete Agreement and resubmits to SDG&E.
- If Agreement is complete: Enrollment process continues. Upon completion, SDG&E will inform you and your Submeter MDMA when your EV Submetering Pilot (Phase 1) participation begins.

For questions or for more information, please call SDG&E at (858) 654-1162

Authorization To Release Customer Information And Act On A Customer's Behalf

INFORMATION, ACTS AND FUNCTIONS AUTHORIZED:

By signing this form to add the customer service account(s) set forth below, I, Customer, authorize my Agent (the Submeter MDMA) to act on my behalf to request and receive billing, usage, and meter data for the account(s) specified herein, to the extent such billing, usage, and meter data is associated with my dates of enrollment in the Pilot. This authorization also provides authority to the Submeter MDMA to act on my behalf of request rate changes necessary to participate in the Pilot.

I (Customer) authorize my Submeter MDMA to act on my behalf to perform the following selected specific acts and functions: (1) Yes □ No □ Request rate changes necessary for me to participate in the Electric Vehicle Pilot (Phase 1). (2) Yes □ No □ Receive a copy of my monthly SDG&E bill for the duration of my participation in the Electric Vehicle Pilot (Phase 1).
Authorization is given for the period commencing with the date of execution of this Agreement until either the Pilot ends or I decide to terminate my participation. If I, Customer, wish to release additional information to my agent, Submeter MDMA, or extend the timeframe during which this information will be released, I acknowledge that I must complete, sign and submit SDG&E Form 185-1000, Customer Information Service Request Form.
Yes Noll I (MDMA) will provide UTILITY remitted payments to be credited toward (Customer's) account as part of my submetering service.
I understand that if my submeter MDMA provides remittance payments to the Utility, I cannot participate in either the Level Pay Plan or Electronic Payment options offered by the Utility for the duration of my participation in this Pilot. If I am already enrolled in one of these plans, I must unenroll for the duration of my participation in this Pilot.
RELEASE OF ACCOUNT INFORMATION:
I (Customer),
I (Customer),
I (Customer),

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Submeter MDMA is not required for Customer to cancel this Authorization. To the extent the Pilot expires or otherwise terminates, the Authorization granted herein will automatically be revoked regardless of whether the

Customer submits a request to cancel the Authorization.

Pilot Terms and Conditions, contains the entire agreement and understanding between the Parties related to Participant's participation in the Pilot, except for additional terms and conditions that are subsequently made a part of SDG&E's tariffs as part of the further implementation of this Pilot. This Agreement supersedes all prior representations and discussions between SDG&E and Participant pertaining to its subject matter. Section 1 Property Type (Check one) ☐ Detached Home (Residential) ☐ Multi-family Dwelling/Attached Home (Residential) ☐ Commercial (Business) Section 2 SDG&E Customer Account Information Customer Account Number (Appears below your name on your SDG&E bill) Primary (Utility) Electric Meter ID Number (Appears below the "Compare the Electricity You Are Using" header section on the first page of your bill; Enter 9s for non-metered service) First and Last Name (As it appears on your bill) Print Name Service Account Street Address City State Zip @ Telephone Number Email (Address to be used for communications regarding Pilot) If Commercial Account: Business Name Title Contact Name * Alternate Mailing Address (Provide if applicable): Street Address City State Zip Section 3 Submeter Information (If customer elects to have multiple Submeters, up to 19, please attach separate sheet for each submeter. Note: Multiple level submeters not allowed.) Submeter unique identifier (Appears on the Submeter) Date Submeter(s) installed: ___/__/___/

Entire Agreement This Agreement, together with the applicable EV Rate and Plug-in Electric Vehicle Submetering

Expected charging demand (kW): _____

Section 4 Customer & Submeter MDMA Authorization

[This form must be signed by someone who has authority to financially bind the customer] [For example, CFO of a company or City Manager of a municipality]

Authorized Customer Signature		Authorized (Authorized Customer Name (Print)			
Telephone Number						
Executed this	day of		at			
	Month	Year	City and State	Where Ex	ecuted	
		***	****			
I (Submeter MDMA) causes of action, dan authorization and fro such utility action is o	nages, or expenses r om the taking of any	esulting from tl action pursuan	ne use of customer i t to this authorizati	nformatio on, includio Ilations.	n obtained	pursuant to th
Company Name						
Street Address			City		State	Zip
				@		
Telephone Number	En	nail Address				
Executed this	day of					
	Month	Year				



Original Cal. P.U.C. Sheet No. 25243-E

Canceling ____ Cal. P.U.C. Sheet No. ____

 SAMPLE FORMS
 Sheet 1
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 FORM 183-2000
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EV Submeter Pilot Phase 1 - Submeter Meter Data Management Agent

Submeter MDMA Registration Agreement

(07/2014)

(Please See Attached)

 Ic4
 Issued by
 Date Filed
 Jul 10, 2014

 Advice Ltr. No.
 2622-E
 Lee Schavrien
 Effective
 Jul 10, 2014

 Senior Vice President
 Senior Vice President
 Regulatory Affairs
 Resolution No.
 E-4651

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EV Submeter Pilot Phase 1 Submeter Meter Data Management Agent

Submeter MDMA Registration Agreement

1.0 Instructions for Qualifying as a Submeter Meter Data Management Agent Background

On November 19, 2013, the Commission issued D.13-11-002 modifying the PEV Submetering Protocol requirements set forth in D. 11-07-029 by adopting the California Public Utilities Commission Energy Division (ED) Staff Plug-In Electric Vehicle Submetering Roadmap for a two-phase pilot. Ordering Paragraph 2 of D.13-11-002 requires the investor-owned utilities (IOUs) to submit a Tier 2 Advice Letter that includes the metering requirements provided by the ED to the IOUs, draft versions of the data format template, the Submeter Meter Data Management Agent (MDMA) registration form, the customer enrollment form, and MDMA Service Requirements.

All Submeter MDMAs must submit a Notice of Participation to the Commission's Energy Division by July 11, 2014 to participate in the pilot. Submeter MDMAs must indicate the following in the Notice of Participation: (1) the number of submeters associated with customers that have agreed to participate as of the date they submit the Notice and (2) the total number of submeters that they plan to enroll. The Notice of Participation is embedded within the Submeter MDMA Registration Agreement. Phase 1 of the Pilot ends after 12 billing cycles for a customer participant and no later than February 28, 2016.

The Commission may require that potential Submeter MDMAs comply with certain Energy Division Standards in experience, education and training to perform the functions of a Submeter MDMA. These functions and associated requirements are described in detail in the Phase One Performance Standards for Metering and Meter Data Agents Participating in California's Electric Vehicle Submetering Pilot (Performance Standards), approved by the Commission in Resolution E-4651 and attached hereto as Attachment 1.

Registration Agreement

An entity desiring to act as a Submeter MDMA must complete the attached Registration Agreement and submit it the ED

The ED will review the submitted documentation, determine if the prospective Submeter MDMA's standards meet the requirements established by the Commission, and notify the Submeter MDMA whether its request is approved via e-mail. The ED will make reasonable efforts to review the documentation and respond to the Submeter MDMA request within ten business days. Missing documentation may require the prospective Submeter MDMAs to resubmit that portion of the application and restart the ten-day review process.

Requirements

- Entities seeking to offer Submeter MDMA services for an electric vehicle (EV) submeter must submit a Submeter MDMA Registration Agreement to the ED. Approval to act as a Submeter MDMA will be granted to Submeter MDMAs that satisfy the requirements established in the MDMA Performance Standards document.
- 2. The determination is based on the ED's review of the Submeter MDMA's written application, completed documents, and the ability to meet SDG&E's EV Submeter Pilot Phase 1 Data Reporting and Transfer Requirements (Data Exchange Requirements), attached hereto as Attachment 2.

Form 183-2000 07/2014

- 3. Upon receipt of the Submeter MDMA's Registration Agreement, SDG&E will electronically forward a copy of its data exchange requirements to the Submeter MDMA.
- 4. The Submeter MDMA's are allowed 10 days to report a customer drop out or change of address to the IOUs.
- The Submeter MDMAs must notify Energy Division and all IOUs in which they are
 providing services in the event that they terminate service prior to the end of the Pilot
 Term.

Submeter MDMA Registration Process

- Submeter MDMA submits Registration Agreement to Adam Langton
 (adam.langton@cpuc.ca.gov) and Noel Crisostomo (noel.crisostomo@cpuc.ca.gov) of
 the CPUC's Energy Division by July 11, 2014. Reasonable efforts will be made to
 acknowledge receipt of the Registration Agreement within ten business days of
 receipt. The Energy Division may request additional information, as needed, to
 approve the MDMA's registration request for this phase of the Pilot.
- 2. Submeter MDMA receives final approval, may submit Customer Enrollment Forms to SDG&E starting September 1, 2014.
- 3. Submeter MDMAs shall enroll submeters on a first-come, first-served basis subject to Exclusivity Period and Enrollment Cap.

Enrollment Reporting

- Submeter MDMAs must report the balance of unenrolled customers to the utility that will be available for enrollment during the Exclusivity Period on Friday of each week until 450 customers have been enrolled, in which case, Submeter MDMA must submit daily updates.
- 2. SDG&E will notify Submeter MDMAs of remaining spaces available via email by Wednesday of the following week.
- Beginning at the fourth month Submeter MDMAs are able to enroll additional submeters on a first-come, first-served basis, reporting enrollments to the utility daily.

Submeter Testing and Calibration

Submeter MDMAs are not required to provide compliance and testing data to the IOUs if they have otherwise complied with the application process and demonstrated consistency with the Performance Standards for Metering and MDMAs. The Third Party Evaluator retained by the IOUs may randomly field test no more than 5% of the submeters for accuracy. By virtue of a customer's enrollment with submeter service by the IOU, the Independent Evaluator and Submeter MDMAs may obtain access from their participants for testing and calibration, if selected as part of the evaluation.

Data Format

Submeter MDMA must satisfy SDG&E's EV Submetering Pilot Phase 1 Data Reporting and Transfer Requirements, attached hereto as Attachment 2.

Format Testing

After SDG&E receives the completed qualification documentation, the Submeter MDMA may contact SDG&E to schedule the format acceptance test to ensure it can produce a secure data file that satisfies SDG&E's Data Exchange Requirements. To schedule the test, please contact JC Martin at 858-654-1162.

Security and Confidentiality

Submeter MDMA must comply with data security and confidentiality requirements specified in the CPUC's Privacy Rules and SDG&E's Electric Rule 33. The Submeter MDMA's access to, use, and disclosure of customer-specific energy usage and billing data is subject to the prior, express written consent of the participating customer and the sole responsibility of the Submeter MDMA.

VEE Performance Standards

For the purposes of Phase 1 of the submetering pilot, the usage measured at the EV submeter will be used to allocate energy usage between a primary load and an electric vehicle. SDG&E will accept the Submeter MDMA's data as being "valid" or VEE'd and bill both the EV and primary accounts accordingly. For purposes of Phase 1 of the pilot only, the Submeter MDMA is not required to satisfy the "Standards for Validating, Editing, and Estimating Monthly and Interval Data for Monthly and Interval Data" contained in "VEE-Attachment of the Direct Access Standards for Metering and Meter Data".

Submeter MDMA Termination

SDG&E will notify Submeter MDMA in the event it fails to timely meet performance requirements for two consecutive billing periods. Absent corrective actions, if Submeter MDMA fails to timely meet performance requirements for a third consecutive month, SDG&E may petition Energy Division to terminate pilot participation by Submeter MDMA and its customers.

Jurisdiction

This agreement at all times shall be subject to such modifications as the California Public Utilities Commission may direct from time to time in the exercise of its jurisdiction.

Indemnification

I, Submeter MDMA, hereby release, hold harmless, and indemnify SDG&E from any liability, claims, demands, causes of action, damages, or expenses resulting from my participation in the submetering pilot under this Registration Agreement, including but not limited to the use of customer information obtained pursuant to the prior express, written consent of customers participating in the pilot, and from the taking of any action, including changes in services or rates of customers participating in the pilot, pursuant to this Registration Agreement, and provided such Utility action is consistent with applicable CPUC orders, tariffs and regulations.

[This form must be signed by someone who has authority to financially bind the Submeter MDMA.]

Signature of Authorized Agent of Company	MDMA Company Name		
Name of Authorized Agent of Company (Print)	Executed on (Date)		
Phone Number	City and State Where Executed		

2. 0 Submeter MDMA Registration Agreement

A completed and approved Submeter MDMA Registration Agreement must be submitted by any entity desiring to participate as a Submeter MDMA in the Phase 1 Submetering Pilot.

SDG&E will use reasonable efforts to acknowledge receipt of the Registration Agreement, request any necessary additional information, and provide information on the required Acceptance Test with sample data, contact names, and procedures, within ten business days of receipt of the Registration Agreement.

MDMAs will have a temporary right to a number of customers within each IOU territory in which they plan to participate. During this three month "Exclusivity Period" each MDMA will have "Exclusivity Rights" to a number of submeters that will be determined by dividing the 500 maximum submeter enrollments by the number of Submeter MDMAs. Submeter MDMAs must report the balance of unenrolled customers to the utility that will be available for enrollment during the Exclusivity Period on Friday of each week until 450 customers have been enrolled, in which case, Submeter MDMA must submit daily updates. Beginning at the fourth month Submeter MDMAs are able to enroll additional submeters on a first-come, first-served basis, reporting enrollments to the utility daily.

This registration is for Phase 1 only and expires on February 28, 2016

Submeter MDMA NAME	Contact Person			
Address:	Title			
City, State, ZIP	Phone Number			
Address	Email Address			
MDMA's DUNS Number				
NUMBER OF SUBMETERS ASSOCIATED WITH CUST PARTICIPATE:	OMERS THAT HAVE AGREED TO			
TOTAL NUMBER OF SUBMETERS YOU PLAN TO ENROLL AND PROVIDE SUBMETERING SERVICES:				

Form 183-2000 07/2014 Total Submeter installations will be broken down as follows:

Residential:	Non-NEM	+ NEM		= Subtotal	
	+		+		+
Commercial:	Non-NEM	+ NEM		= Subtotal	
	=		=	·	=
	Subtotal	Subtotal		= Total	

Attachment 1

EV Submeter Pilot Phase 1 PERFORMANCE STANDARDS FOR METERING AND METER DATA MANAGEMENT AGENTS

1. STANDARDS FOR EV SUBMETERING

A. Physical Location

- Location. The submeter must be located at any fixed point between the primary
 utility electric meter and the electric vehicle supply equipment (EVSE) coupler. Any
 EVSE containing an embedded submeter must indicate that it contains a metering
 device
- 2. **Identification.** A submeter must be labelled with a unique serial number for identification
- 3. Security. A meter system shall be designed and constructed so that metrology components are adequately protected from environmental conditions likely to be detrimental to accuracy. Components shall be designed to prevent unauthorized access to adjustment mechanisms and terminal blocks by providing for application of a physical security seal or an Audit Trail.
- 4. Security from Tampering. During Phase 1 of the submetering pilot, no sealing requirements will be placed on the submeter, regardless of whether remote configuration is feasible. The Submeter Meter Data Management Agent and/or EVSPs should document how they physically prevent submeters from tampering. No means shall be provided by which any measured electricity can be diverted from the measuring device.

B. Accuracy and Measurement

- Accuracy. The submeter must maintain accuracy of +/- 5% during the first Phase of the pilot. The term 'accuracy' is equivalent to the same term used in the ANSI C-12 standard. Submeter MDMA is responsible for describing how they comply with this accuracy requirement prior to pilot installation.
- Interval of Measurement. The submeter shall have the capability to measure energy
 consumption in time intervals equal to the interval used by the utility, but submeters
 are not be required to measure energy consumption in intervals smaller than 15
 minutes. A Submeter MDMA has the option to measure in less than 15-minute time

Form 183-2000 07/2014 periods if they choose to do so. Regardless of the submeter's measurement interval, the Submeter MDMA must report energy consumption data in time intervals consistent with those used by the utility.

- 3. Standard Time Synchronization. The submeter shall be synchronized to the same time used by utility meters in order to maintain billing consistency with measurements from the primary utility meter. The submeter's time should be synchronized to the United States time standard as defined by the National Institute of Standards and Technology or within three minutes of the time used by the utility.
- 4. **Unit of Measurement.** The submeter must measure electricity data to the nearest Watt-hour (Wh) for each time interval and must be time-stamped to indicate the time/date of the energy consumption.
- 5. Submeter and MDMA Storage of Data. The device memory should retain information on the quantity of electricity consumed during a loss of external power. Values indicated or stored in memory shall not be affected by electrical, mechanical or temperature variations, radio-frequency interference, power failure, or any other environmental influences to the extent that accuracy is impaired per UL 2594. Memory shall be nonvolatile or backed up in a network.
- 6. **Utility Storage of Data.** Watt-hour data accumulated and indicated shall be retained by the utility consistent with the same data storage requirements applicable to customer billing data.

C. Safety

All submeters should be included as part of devices that meet UL safety requirements. If the submeter is a stand-alone device, that device must meet UL safety requirements, or comply with UTILITY's specific safety requirements.

D. Informing Customers about Submeter Data

- MDMA Responsibilities. There is no requirement for the submeter device to visually
 display data. Customers should be informed of this requirement by the EVSP or
 Submeter MDMA. MDMAs must make data available to customers through a webbased or mobile phone application and by request
- 2. **Utility Responsibilities.** Utilities are required to report submeter data through the customer's monthly bill. The utility is not required to report this usage data through their customer web tools. A utility may opt to report data to customers online

3. **Terms Subject to Modification after Pilot Term.** Customers should be informed that the pilot is temporary and that the requirements may change after the end of the first pilot phase.

E. Transfer of Submeter Data from Submeter MDMAs to Utilities

- Customer Submeter and Account Identification. The MDMA must communicate the submeter serial number to the customer's utility as part of the customer enrollment in submetering services. This serial number shall be included in the monthly data communication in order to associate the submeter with the correct customer account.
- 2. Minimum Transfer Requirement. Utilities shall implement a simple means of receiving data that allows any qualified EVSP or Submeter MDMA to submit data to the utility. Each utility shall make available a standard format for the MDMA to submit meter data via electronic spreadsheet. The form should allow the Submeter MDMA to submit all of its data through a single spreadsheet to the appropriate utility contact. The MDMA's should submit the data via the Internet in a secured /encrypted manner.
- 3. Alternative Transfer Option. Utilities are encouraged to explore additional meter transfer protocols that involve the use of 'Green Button' elements or other data transfer protocols that allow the utility to efficiently receive data from the Submeter MDMA. These options may be offered to EVSPs as an alternative to the basic spreadsheet submission option, but cannot be required as the only data transfer method.
- 4. **Transfer Deadlines.** Submeter MDMAs s must report data for a given billing period no later than three business days after the end of the billing period. Utilities should provide advance communication of these monthly deadlines to the Submeter MDMA to the extent that billing periods are known prior to the start of the Pilot Terms.
- 5. Transfer Testing. Submeter MDMA must demonstrate ability to transfer a test meter data file, which can be successfully processed for subtractive billing by the Utility. The Transfer Testing may use the Minimum Transfer Requirement or the Alternative Transfer Requirement if offered by the Utility. Data transfer testing shall only be required during the MDMA registration process and thereafter as necessary.
- 6. Process Updates. Utilities may make periodic changes to the standard format for the MDMA to submit meter data. Submeter MDMAs may be required, at their cost, to make modifications and perform additional testing of their systems to support any changes required by the Utilities.

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F. SUBMETER MDMA QUALIFICATION

Entities seeking to offer Submeter MDMA services for an electric vehicle (EV) submeter shall be required to submit a Submeter MDMA Registration Form) if EVSP or entity seeks to offer such services. For Phase 1, the written request shall include the following information: name of the person or entity; business address and telephone number; intervals by which the EV submeter usage is measured, number of participants by customer class, utility service territory, whether the primary account is billed under a netting arrangement and all other data requirement found in the MDMA Registration form. Submeter MDMAs are required to register with the CPUC in order to participate in the Utilities' EV submetering programs. Upon receipt of the request, the CPUC's Energy Division (ED) shall be required to review the entities registration requirements. If the ED states that the proposed Submeter MDMA's educational and training requirements are sufficient, then the Submeter MDMA may begin offering Submeter MDMA services so long as it meets all the Submeter MDMA-related requirements.

G. SUBMETER MDMA VEE PERFORMANCE STANDARDS

- 1. Meet requirements established in the "EV Submeter Pilot Data Reporting and Transfer Requirements" (Attachment 2)
- For the purposes of Phase 1 of the CPUC's EV "single customer of record" submetering pilot, the usage measured at the EV submeter will be used to allocate energy usage between a primary load and an electric vehicle. The Utility will accept the Submeter MDMA's data as being "valid" and bill both EV and primary accounts accordingly.
- 3. The Submeter MDMA must provide all of its EV submeter data to the utility within 3 business days of the utility's regularly scheduled meter read date. Any submetered data submitted after 5:00 pm Pacific Time of the third business day will not be incorporated into the customer's bill. If data is not received for any submeter billed interval within this timeframe, that interval will be considered as "zero" by the Utility when calculating the primary and EV submeter monthly bills. The 3 business day standard may be met by providing submeter data throughout the course of the month (e.g. on a weekly basis) if desired.

H. METER SYSTEM TESTING

An independent third party evaluator (3PE) will be allowed to field test up to 5% of the EV submeters within each of the utilities service territories for each phase of the EV pilot to evaluate the accuracy of the overall metering system at a customer site. The 3PE shall be allowed to select which EV meters to test, and the Submeter MDMA and its customers' shall provide the necessary access and assistance to facilitate such testing.

The submeter MDMA's will propose methodologies for testing and calibration for IOU review, consent, and subsequent implementation.

Submeter Manufacturer Certification & Accuracy: EVSE providers shall provide the respective utilities with documentation of their compliance with the EV Submeter Pilot Phase 1 Performance Standards for Metering and Meter Data Management Agents in general and the results of accuracy testing specifically for each submeter by serial number.

Attachment 2 EV Submeter Pilot Phase 1 Data Reporting and Transfer Requirements

IOU & MDMA Suggested Updates (DRAFT 4/17/2014)

#	IOU Modifications Since Advice Letter	Disposition
	filing:	
1	Change definition of "Read Date & Time"	Added to Document.
	to beginning of interval start time.	
2	Add requirement for no partial day data	Added to Document.
	processed, for which data is provided.	
	(e.g., 96 intervals, assuming 15 minute	
	intervals, for each day for SCE, SDG&E and	
	PG&E C&I participants, or 24 intervals for	
	PG&E residential participants. No partial	
4	day data processed. Add IOU specific file transfer methods	Added to Document.
4	(e.g., sFTP details), omitted from filed	Added to Document.
	version.	
5	Use UTC time for Read Date & Time - a	Added to Document.
	signed (Positive 64 bit integer value	
	representing the number of seconds from	
	midnight Jan 1, 1970, not counting leap	
	second corrections to UTC (35 seconds	
	through 2012).	
6	For read quantity, need to define how to	Example provided to IOUs, on
	handle crossover days to account for	how to handle internal DST
	daylight savings time. In those instances,	processes of UTC data.
	the data would come in 92 and 100	
	intervals as opposed to a fixed 96 intervals	
7	Include ESPI XML definition for optional	Added to Document
'	data transfer method.	Added to Document
8	Use unique ID field in alignment with ESPI	Removed the 3 rd Party UUID from
	standard.	the data definition.
9	Data exceptions and enrollment	Added to Document
	•	I

	transactions.	
10	Customer UUID to be sent with Submeter Serial Number, not the customer Account Number, for consistence with EVSP Enrollment Data Format and to avoid additional transfers of sensitive data.	Updated the Provision of UUIDs to Submeter MDMAs section. Included in EVSP Enrollment Data Format.
	Comments from MDMA Collaboration 3/17/14:	
11	Discuss method to distinguish zero watt- hour intervals from missing intervals.	Existing requirements retained: MDMA fill missing data with zero values, including the case where utility service was interrupted to the customer. VEE processing are expected services of an MDMA in a non-pilot production environment.
12	Tighten up Read Date & Time definition to reflect UTC (what is 10:00 in UTC?)	Modified for clarity the Field Definition for Read Date & Time. Added UTC Time defined in Definitions section.
13	Clarify Spreadsheet file name structure — need date time component defined (PST, PDT, other?)	Modified for clarity the file name component YYYYMMDDHHMMSS. It is not to be used for file processing. Purpose is to determine sequence of files sent from an individual MDMA. Should be based on MDMA's local time as determined by MDMA.
14	Consider expanding Requirement for "IOUs recommend daily file transfers".	Expanded the Spreadsheet File Minimum Data Transfer Requirements to address this concern.
15	Start hour recommendation, days lag	Expanded the Spreadsheet File

	expected (e.g., yesterday's data sent today).	Minimum Data Transfer Requirements to address this concern.
16	Discuss File Transfer data security requirements and consistency between IOUs.	Each IOU is different in how they handle data file security; a single method is not operationally feasible.
17	Expand Enrollment Reporting. MDMA reporting a customer termination, MDMA drop out including customers to remove, MDMA change of submeter serial number.	Updated document for MDMA reporting a customer termination. No other reporting added.
18	Rules for submeter swap-out (e.g., require a new UUID?)	Dropped the need to include Submeter Serial Number in the Spreadsheet Data Format definition. MDMA does not need to inform IOU of submeter swap- out, but MDMA shall manage submeter data for the associated UUID. A unique UUID is required for each submeter at a customer's premise
19	Consider enrollment date vs. effective date to clarify expectations on when submeter data delivery should start and when Submetering billing should start. Document the separate and distinct stages for "sign up", "provisioning", "testing/verification", "enrollment/live date" & "decommissioning/end date" reporting/processes that account for physical hardware installation, testing and beginning processing of data.	A MDMA may seek "preapprove" of a participant by submitting a customer signed enrollment form, without submitting the "MDMA unique identifier for the submeter". A completed enrollment form with the "MDMA Unique Identifier" which is provided by

Can we have at least 5-7 days of advance notice between the receipt of the "Enrollment Report" and the "Effective Date" when metering data is required? We would prefer that the "Enrollment Report" not appear after the "Effective Date" as it will require us to manually run reports for activity in arrears. We would like the upload of the metering data to be as automated as possible.	the MDMA, will begin the "5 day clock", (i.e., IOU has 5 days to complete enrollment). Once IOU has completed an enrollment, MDMA is sent the UUID and the effective date of the enrollment. Effective date is the first date IOU will accept data for submeter billing.
End of Comments from MDMA Collaboration 3/17/14:	

INTRODUCTION

This document is intended to describe the data format and data transfer processes necessary for a Submeter Meter Data Management Agent (MDMA) participating in Phase 1 of the CPUC ordered Electric Vehicle (EV) Submetering Pilot (Pilot). Submeter MDMAs are expected to meet certain performance standards in the EV Submetering Pilot¹, including transferring submeter data to the California Investor Owned Utilities (IOUs) for the purpose of Subtractive Billing. This document provides information on EV Submeter data formats and transfer methods to be used in the Pilot.

Submeter MDMAs are expected to transfer Submeter Data to the Utilities using one of two methods: Either the Minimal Transfer Requirement, or the Alternative Transfer Option. The Utilities my offer the alternative option, but it may not be required of Submeter MDMA for the Pilot. Details to implement the Minimal Transfer Requirement are the focus of this document.

Additional Submeter MDMA activities are beyond the scope of this document, such as the process for a Submeter MDMA to register with an IOU and to signup customers for the Electric Vehicle Submetering Pilot. These additional activities are referenced herein, but the details are outside of the scope of this document.

TERMS AND DEFINITIONS

CSV – Comma Separated Values. The spreadsheet file format used in the Minimal Transfer Requirement. It is also a format used for Green Button subscription files.

DUNS number - Data Universal Numbering System. A nine digit number assigned by Dun & Bradstreet unique to a single business entity.

NAESB - North American Energy Standards Board. NAESB is the standards organization that created the ESPI standard, which is used by Green Button.

UTC Time - Coordinated Universal Time (UTC). A signed positive 64 bit integer value representing the number of seconds from midnight Jan 1, 1970, in UTC, not counting

¹ See: Phase One Performance Standards For Metering And Meter Data Agents Participating In California's Electric Vehicle Submetering Pilot

leap second corrections to UTC (35 seconds through 2012). So 5:00 PM EDT on September 22, 2013, has a UTC Time value of 1379883600")

UUID - Universally Unique Identifier. UUID is used to identify entities such as Customer and Submeter MDMAs.

DATA FORMATS

This section describes the data file formats to be used in the Pilot. The two data formats available for this pilot are a Spreadsheet file format or the Green Button XML format. The spreadsheet format is for the Minimal Transfer Requirement.

Minimal Transfer Requirement

The spreadsheet data file format and name conventions are described below.

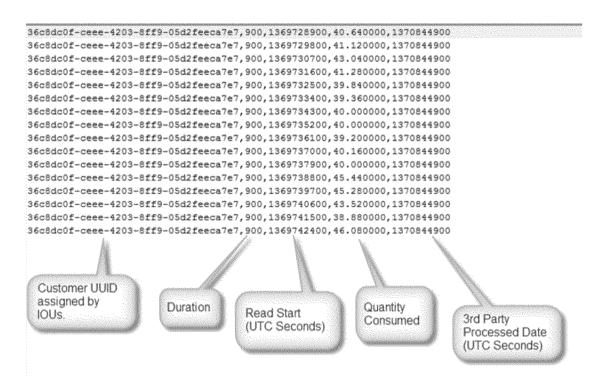
Spreadsheet Data Format

The Spreadsheet format is a simplified derivation of the Green Button XML format. The spreadsheet format allows Submeter MDMAs to transfer in one file EV Submeter data for multiple submeters and multiple days. The spreadsheet includes field headers with the following titles and meeting. The spreadsheet shall be transmitted in CSV file format.

Field Title	Field Description
Customer	Assigned by IOU after a Registered Submeter MDMA
UUID	completes the Customer enrollment with the IOU.
Interval	Duration of data interval for the Read Quantity
Duration	represented in seconds. Interval Duration is either "0900"
	for 15 minute intervals or "3600" for 60 minute intervals.
	Interval Duration is specified by the IOU based on the
	Primary Meter's unit of measure and/or the IOU's
	Subtractive Billing processes.
Read Date	Date & Time for the start (beginning) of the data interval.
& Time	Read Date & Time is expected to be at the top of the hour
	for 60 minute intervals (e.g., UTC Time equivalent of
	10:00 am, 11:00 am,), or on the quarter hour for 15
	minute intervals (e.g., UTC Time equivalent of 10:15 am,
	10:30 am, 10:45 am, 11:00 am). A read Date & Time

	record is required for every interval every day, even when the Read Quantity is zero. (Formatted UTC Time, see terms and definitions)
Read	Interval value in Watt hours. (Formatted Decimal 12/6
Quantity	with zero padding on the right, and none on the left)
Date	Date the data was loaded into the spreadsheet by
Processed	Submeter MDMA. (Formatted UTC Time, see terms and
	definitions)

Below is an example of the spreadsheet file: (UTC Seconds in the example represent UTC Time)



Spreadsheet File Minimum Data Transfer Requirements

To facilitate data processing and possible data troubleshooting, minimum data transfer requirement are defined.

1. No partial day data will be processed by the IOU.

- a. Spreadsheet files shall contain a minimum of 24 hours of interval data. (e.g., 96 consecutive intervals assuming 15 minute intervals, or 24 consecutive intervals assuming 60 minute intervals.)
- b. Spreadsheet files shall contain a read Date & Time record for every interval, even when the interval's Read Quantity is a zero or a missing value.
- c. Missing values shall be represented with a zero values.
- d. SCE and SDG&E expect 96 consecutive intervals in a day; PG&E expects 24 consecutive intervals in a day for Residential submeters and 96 consecutive intervals in a day for Commercial & Industrial submeters.
- 2. IOUs recommend daily file transfers.
 - a. Daily file transfers may contain Date & Time records for multiple days.
 - b. Daily file transfers containing Date & Time records for multiple days, shall contain all expected consecutive intervals (e.g., no missing intervals or gaps in intervals)
 - c. Daily file transfers may contain repeated or corrected Date & Time records. IOU will use the most recently received and processed interval record(s), when billing the submeter data. IOU may not correct Date & Time records for intervals previously billed.
- 3. Date & Time records should not be delayed by more than three days. Records delayed by three or more days may not be processed for billing, due to the Pilot requirement that meter data is to be sent 3 days after the customer's billing period.

Spreadsheet File Name Structure

The CSV spreadsheet files transferred by the Submeter MDMA to SCE/PG&E/SDG&E shall use the following file naming structure:

"MDMA-DUNS IOU-DUNS EVSP YYYYMMDDHHMMSS.CSV"

File Name	Component Description
Component	
MDMA-DUNS	The nine digit DUNS Number of the Submeter
	MDMA registered with the IOU and provided to the
	IOU as part of the Submeter MDMAs Registration
	process. (Format numeric 9, all formatting dashes

	omitted)
IOU-DUNS	The nine digit DUNS Number of the IOU and provided by the IOU as part of the Submeter MDMA Registration process. (Format numeric 9, All formatting dashes omitted)
EVSP	Hard coded "EVSP" to identify the file as part of the EV Submetering pilot application.
YYYYMMDDHHMMSS	The date and time the spreadsheet file was created by the Submeter MDMA, based on MDMA's local time as determined by MDMA. Purpose of this file name component is to determine time sequence of files sent from an individual MDMA.
Example file name: "98	37654321_123456789_EVSP_20130428245959.csv"

Provision of UUIDs to Submeter MDMAs

The provisioning of UUIDs consists of transferring the Customer UUIDs from the IOU to the Submeter MDMA. The Customer UUIDs are assigned by IOU after the MDMA's approved registration into the EV Submetering Pilot, and after a Registered Submeter MDMA submits a valid Customer Enrollment form to IOU. The Customer UUIDs are sent by encrypted email from IOU to the MDMA or by the EVSP Enrollment report described below in section Enrollment and Exception Reporting to Submeter MDMAs.

The Customer UUIDs will be sent to the Submeter MDMA in a CSV file containing both the UUID and the corresponding Unique Submeter Device Identifier (aka, Submeter Serial Number) for the customer's service. See EVSP Enrollment Data Format below for more details.

DATA TRANSFER METHODS

The IOUs each have slightly different methods to send and receive Minimal Transfer Requirement spreadsheet files and Green Button XML format files. This section describes those methods.

Pacific Gas & Electric Data Transfer Method

PG&E uses sFTP to receive both the Spreadsheet Format and Green Button Format data files from MDMAs. For the phase 1 pilot, PG&E will only support receiving the Spreadsheet format from MDMAs and only provide MDMAs enrollment files (no providing of Exception Reporting files for phase 1).

PGE&'s preference is for MDMAs to push data files to our hosted sFTP servers (Inbound) and to pull enrollment files from our SFTP servers (outbound).

Per PG&E's preferred method, PG&E will provide MDMAs the following information:

- 1. IP Address
- 2. Assigned Username
- 3. Password or log in key (for key connectivity)
- 4. MDMAs to provide PG&E:
 - a. Name, email, and telephone number of MDMA's connectivity contact person(s).
 - b. Filename(s)

If file encryption is required, PG&E will provide the MDMA with PG&E's PGP Public Key.

If necessary, PG&E can support pulling data files from MDMAs external servers (inbound) and pushing enrollment files to MDMA servers (outbound). To support this, PG&E will require the following information from the registered MDMA:

Files Inbound to PG&E:

- 1. SSH2 RSA 2048-bit key. This is used for validating the sFTP Connection. PG&E does use passwords as an alternative.
- 2. Hostname / IP address
- 3. Download folder path
- 4. Filename(s)
- 5. Name, email, and telephone number of MDMA's connectivity contact person(s).

Files Outbound from PG&E:

- 1. Hostname / IP address
- 2. Username
- 3. Password (or log-in key will need to be exchanged)
- 4. Upload folder path
- 5. Name, email, and telephone number of MDMA's connectivity contact person(s).

If file encryption is required, PG&E will provide the MDMA with PG&E's PGP Public Key.

San Diego Gas & Electric Data Transfer Method

SDG&E uses sFTP to receive both the Spreadsheet Format and Green Button Format data files from MDMAs, and send Error and Exception files to MDMAs. SDG&E will require the following from the Registered MDMA:

Files Inbound to SDG&E:

- 1) SSH2 RSA 2048-bit key. This is used for validating the sFTP Connection. SDG&E does not use Passwords.
- 2) MDMA's IP address
- 3) Filename(s)
- 4) Name, email, and telephone number of MDMA's connectivity contact person(s).

Once SDG&E receives the items above, then SDG&E's Network Team will set up the internal Firewall to accept MDMA files. SDG&E will provide the MDMA with a sFTP logon ID and other Details to start Connectivity Testing.

Files Outbound from SDG&E:

- 1) SSH2 RSA 2048-bit key. This is used for validating the sFTP Connection. SDG&E does not use Passwords.
- 2) Receive SDG&E's SSH Keys and IP address, one for testing and one for production.
- 3) Provide to SDG&E:
 - a. Server DNS, if possible one for testing and one for production.
 - b. Logon IDs for SDG&E, if possible one for testing and one for production.
 - c. Drop-off path for SDG&E, if possible one for testing and one for production.

If file encryption is required, SDG&E will provide the MDMA with SDG&E's PGP Public Key.

Southern California Edison Data Transfer Method

SCE will use sFTP to receive both the Spreadsheet Format and Green Button Format data files from MDMAs, and send Error and Exception files to MDMAs.

Files Inbound to SCE*:

SCE will require the following from the Registered MDMA:

- 1) SCE will use Password authentication for inbound sFTP file transfers. SCE will provide credentials to MDMA. SCE does use Passwords.
- 2) MDMA's IP address (Should be static IP)

- 3) Filename(s)
- 4) Name, email, and telephone number of MDMA's connectivity contact person(s).
- 5) Once SCE receives the items above, then SCE Team will set up the Firewall to accept MDMA files. SCE will provide the MDMA with a sFTP logon ID and other Details to start Connectivity Testing

Files Outbound from SCE*:

Following information is required from MDMA for transferring outbound files (SCE to MDMA)

- 1) IP Address/Host
- 2) User/Password, if password authentication.
- 3) Drop off location (Directory)
- 4) Name, email, and telephone number of MDMA's connectivity contact person

ENROLLMENT AND EXCEPTION REPORTING TO SUBMETER MDMAS

Enrollment information and reporting of errors or exceptions in the submeter CSV Spreadsheet format from SCE/PG&E/SDG&E to Submeter MDMA may be provided in CSV formats described below. These reporting CSV files will be transferred from SCE/PG&E/SDG&E to the Submeter MDMA using the outbound Data Transfer Methods described above.

Enrollment and Exception Reporting File Name Structure

The CSV files transferred by SCE/PG&E/SDG&E to Submeter MDMA shall use the following file naming structure:

```
"MDMA-DUNS_IOU-DUNS_EVSPENROLLMENTS_YYYYMMDDHHMMSS.CSV"
"MDMA-DUNS IOU-DUNS EVSPEXCEPTIONS YYYYMMDDHHMMSS.CSV"
```

See the Spreadsheet File Name Structure section above for additional description of the file name components.

^{*}If file encryption is required, SCE will provide the MDMA with SCE's PGP Public Key

EVSP Enrollment Data Format:

Field Title	Field Description
Transaction	Valid values are:
Туре	 "New Enrollment"
	 "Enrollment Termination"
	(Formatted alpha-numeric)
Customer UUID	Assigned by IOU after a Registered Submeter MDMA completes the Customer enrollment with the IOU. The "New Enrollment" transaction file is the vehicle to initially transmit the UUID to the MDMA. Submeter MDMA will receive a Customer UUID for every Unique Submeter Device Identifier.
Unique Submeter Device Identifier	The Unique Submeter Device Identifier (aka Submeter Serial Number on the Customer Enrollment Form) provided by the Submeter MDMA during the Customer enrollment process. This identifier is unique to each submeter and provided by the MDMA. This identifier is expected not to change during the Phase I pilot. In the event of a submeter replacement, MDMA shall report data for the replacement submeter using the previously assigned Customer UUID. (Formatted alpha-numeric maximum 17 characters)
Effective Date	First date IOU will accept Submeter data from the MDMA. (Formatted UTC Time, see terms and definitions)
Termination Date	Date of the last day the EV submetering data will be used for subtractive billing. A new enrollment will not have a Termination Data (blank field); an Enrollment Termination will have a Termination date. For the Phase I pilot an Enrollment Termination will be sent after the 11 th billing month. MDMA are expected to submit to IOU an Enrollment Termination, in the event their customer discontinues Submetering service. (Formatted UTC Time, see terms and definitions)

EVSP Exception Data Format:

If the IOU processing the MDMA's submetering data detects an error or exception within the spreadsheet data file, the IOU, at its own discretion, may elect to provide the MDMA with an

exception notice. One method of sending an exception notice from the IOU to the submeter MDMA is an Exception Data file in the following format:

Field Title	Field Description
Customer	Assigned by IOU after a Registered Submeter MDMA
UUID	completes the Customer enrollment with the IOU.
Originating	CSV file name provided by the Submeter MDMA which
File Name	generated the exception (formatted MDMA-DUNS_IOU-
	DUNS_EVSP_YYYYMMDDHHMMSS.CSV)
Date	Date Processed by SCE/SDG&E/PG&E. (Formatted UTC
Processed	Time, see terms and definitions)
Exception	A description of the error generated by the CSV file
Error	provided by the Submeter MDMA. Example exception-
	errors may include:
	Invalid Enrollment - Customer and/or Device Invalid.
	Invalid Data - Negative Values not allowed.
	Invalid Data - Partial Data Found.
	Invalid Data - Data received that is before or after
	the enrollment.
	Invalid Enrollment - Customer and/or Device Invalid.
	(Formatted alpha-numeric, up to 255 characters)

ALTERNATIVE TRANSFER OPTION (GreenButton format)

The IOUs my offer an alternative data transfer option, but the option may not be required of Submeter MDMA for the Pilot. The Alternative option described in this document is the Extensible Markup Language (XML) Green Button format.

The expected XML data format for EV Submetering data is the forthcoming NAESB Green Button Connect My Data standard for bulk transfer (Bulk Standard). This forthcoming standard is under development by NAESB and expected to be completed in early 2014.

The XML format for the Bulk Standard is a modification of the NAESB Green Button Connect XML². The batch modifications to the Green Button Connect XML are outlined in the document titled <u>Authorization and Bulk Transfer in Green Button</u>

² See REQ.21 – Energy Services Provider Interface, NAESB 2010, http://www.naesb.org/ESPI_Standards.asp

<u>Connect My Data</u>.³ Section 2.5 of the document describes Use Case #13: Bulk Transfer of Multiple Authorized Resources.

Please note the majority of the document titled <u>Authorization and Bulk Transfer in</u> <u>Green Button Connect My Data</u>, relates to an OAuth Authorization method which is not utilized in the EV Submetering Pilot.

The current ESPI Schema is available at the following webpage:

http://naesb.org/termsofuse_form.asp?doc=espi.xsd

End of Document

³ See:

 $[\]frac{http://osgug.ucaiug.org/sgsystems/OpenADE/Shared\%2520Documents/Testing\%2520and\%2520Certification/GreenButtonTestPlan/referenceMaterial/GreenButtonAuthorization.docx\&sa=U&ei=mhFYU9PoLYWryAT1jYHoCQ&ved=0CBsQFjAA&usg=AFQjCNEwqtjaVvo3Al6tgJlkeBnCt_3C1g$



Revised

Cal. P.U.C. Sheet No.

25244-E

Canceling Revised

Cal. P.U.C. Sheet No.

Cal. P.U.C. Sheet No.

25224-E

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The following sheets contain all the effective rates and rules affecting rates, service and information relating thereto, in effect on the date indicated herein.

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Balancing Account (CCAIBA).....

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