



FILED

09-20-10
03:36 PM

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

Order Instituting Rulemaking on the
Commission's Own Motion to Consider
Alternative-Fueled Vehicle Tariffs, Infrastructure
and Policies to Support California's Greenhouse
Gas Emissions Reduction Goals.

Rulemaking 09-08-009
(Filed August 24, 2009)

**COMMENTS OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT TO
CALIFORNIA PUBLIC UTILITIES COMMISSION WHITEPAPER ON THE UTILITY
ROLE IN SUPPORTING PLUG-IN ELECTRIC VEHICLE CHARGING**

ARLEN ORCHARD
WILLIAM W. WESTERFIELD, III
Office of the General Counsel
SACRAMENTO MUNICIPAL UTILITY
DISTRICT
6201 S Street
Post Office Box 15830
Sacramento, California 95852-1830
Telephone: (916) 732-7107
Facsimile: (916) 732-6581
E-mail: wwester@smud.org

Attorneys for
SACRAMENTO MUNICIPAL UTILITY
DISTRICT

BILL BOYCE
Energy Research and Development Group
SACRAMENTO MUNICIPAL UTILITY
DISTRICT
6201 S Street, Mail Stop A204
Sacramento, CA 95817
Telephone: (916) 732-6981
E-mail: bboyce@smud.org

Supervisor, Electric Transportation
SACRAMENTO MUNICIPAL UTILITY
DISTRICT

Dated: September 20, 2010

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

Order Instituting Rulemaking on the
Commission's Own Motion to Consider
Alternative-Fueled Vehicle Tariffs, Infrastructure
and Policies to Support California's Greenhouse
Gas Emissions Reduction Goals.

Rulemaking 09-08-009
(Filed August 24, 2009)

**COMMENTS OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT TO
CALIFORNIA PUBLIC UTILITIES COMMISSION WHITEPAPER ON THE UTILITY
ROLE IN SUPPORTING PLUG-IN ELECTRIC VEHICLE CHARGING**

As identified in the Administrative Law Judge's Ruling on August 30, 2010, the Sacramento Municipal Utility District (SMUD) hereby submits comments on the first staff issues paper in Phase 2 of this proceeding, entitled "The Utility Role in Supporting Plug-in Electric Vehicle Charging." SMUD responds to the Questions for the Parties posed by the staff issues paper as follows:

- 1) *Are there additional metering arrangements that the utilities should consider beyond those identified in the paper?*

In performing a similar purpose analysis regarding evaluation of metering concepts for our own service territory, SMUD analyzed two additional subsets of separate metering of plug-in electric vehicle (PEV) charging. These two subsets included the potential use of a dual meter adapter (if and when such adapters receive independent certification), and also separate service to a remote panel (not in the proximity of the main house panel). The separate service to a remote panel was essentially eliminated from consideration due to safety concerns for emergency

responder electrical service isolation operations. SMUD ranked the remaining metering concepts as follows:

1. Sub-metering
2. Separate Metering with a duplex house side by side panel arrangement
3. Separate Metering with a dual meter adapter (once commercial units receive independent verification from Underwriters Laboratory or a similar standards testing house).

SMUD has met with local municipal government permitting authorities to discuss the concepts and has received their support on all three metering concepts.

2) *Do some metering arrangements better encourage (or discourage) future technology changes or market developments relative to other arrangements?*

During our own independent evaluation, we determined that the sub-metering concept offered the most flexibility in meeting future technologies. Sub-metering supports the potential of placing metering capability inside the EVSE (especially AMI compatible EVSEs), or on board the vehicle, because these technologies are downstream of the main house meter. Such configurations would also support subtractive billing operations. SMUD also views the ability to meter the PEV load independently from the house load as a major advantage over single metering because it supports the customer's option to take incentive rates for off-peak charging (time-of-use or TOU) separately from whole house TOU rates.

In addition, we have determined that sub-metering is low cost (at approximately \$40 to \$50) through use of a meter socket box. This solution is much less expensive than installation of full duplex house panel arrangements, which would require a full utility service upgrade, or a dual meter adapter at a projected cost \$350, once a design is independently certified. We note

that both sub-meter and dual meter cost estimates do not include the cost of the sub-meter or meter installation which is provided at no cost to SMUD customers.

Additionally, SMUD agrees with CPUC staff that independent metering is most compatible with the LCFS credit program and other state policies such as the GHG emission reduction tracking, potential road tax revenue collection, electrical load aggregation for demand response opportunities, and integration of intermittent night wind generation.

3) *What factors should the Commission consider in determining the utility-customer boundary in regards to sub-meters and EVSE?*

SMUD believes that, on balance, the sub-metering of PEV charging should remain under the purview of the utility for the following reasons. SMUD agrees with CPUC staff that meter calibration and inspection are major issues if the utility-customer boundary is drawn to place ownership of the meter with the customer. Utility ownership or control of electric service meters has been very successful at avoiding fraud and power theft opportunities. Customer ownership of sub-meters would re-introduce this concern. Additionally, utilities are already experts in meter calibration and this expertise would have to be duplicated at additional cost if customers own the PEV meters. For example, meter calibration would need to be performed by an independent third party under supervision of a government agency to protect consumers either directly or indirectly through their electric service provider. Such support services could be administrated by county agencies through oversight of the state Department of Food and Agriculture Measurement Standards Division, as currently done with retail sales of gasoline And current non-utility owned meters. However, this option has cost disadvantages especially in light of evolving cost pressures on county services due to budget constraints.

Sub-metering concepts will require complex subtractive billing operations in support of PEV time-of-use incentive rates to promote off-peak charging behavior. Utility ownership of both the main house meter and the sub-meter has the advantage of reducing potential billing disputes because the utility would have unfettered access to both data streams to complete the subtractive billing operation. Further, under some sub-metering rate scenarios it will require that the sub-meter be synchronized to the main house meter which will be problematic if both meters are not under the purview of the utility.

4) *What utility role issues should be prioritized by the Commission in order to facilitate PEV adoption beginning in winter of 2010?*

SMUD believes that it is important to foster a positive consumer experience with EVs in the near term, and to do this requires clear, inexpensive, and simple experiences with EV charging and with installation of charging infrastructure. SMUD has made the decision to prioritize the development of sub-meter based program development and associated automated subtractive billing development in our enterprise software system. SMUD has chosen the sub-metering approach to support the first wave of PEV vehicle placements so customers will be able to exploit the advantages of sub-meters from the beginning of market launch. We feel that this will provide customers with the lowest cost metering option and will allow them to take advantage of our existing PEV TOU incentive rate. Moving PEV customers to charge their vehicles during off-peak hours is important to reducing grid impacts. Furthermore, establishing the sub-meter program at the beginning of the PEV market launch will allow a sub-meter socket box to be installed at the same time as dedicated Level 2 EVSE is installed. This decision will mitigate costs to customers by averting the need to install a sub-meter panel arrangement after the fact.

- 5) *What back office communication functions are necessary to allow utilities to process sub-meter data?*

Our subtractive billing process assumes that both the main house meter and the PEV sub-meter are both separate AMI meter reads, being retrieved over the same AMI communication layer. Apart from programming our enterprise software to handle two meter reads and apply the subtractive billing concept, no additional functionality is required. In addition, this process is very similar to how SMUD handles some SMUD residential customers with separate PV meters.

- 6) *What metering arrangements should be used for residential homes with PV panels?*

SMUD is developing the PEV sub-metering concept with subtractive billing in anticipation of combining this with PV rates, which has the potential for three separate meters at some single residences.

- 7) *How does the issue of roaming impact metering requirement?*

SMUD believes that roaming metering will require significantly different metering requirements, system architectures and extensive development of use case evaluations and standards development. SMUD believes that billing disputes are more likely with roaming metering. Under roaming metering, would a customer take their vehicle to a dealership for meter calibration, or to the utility? The need for meter calibration would also be more prevalent with the meter on-board the vehicle due to vehicle accidents. Costly cross billing operations and clearing houses would need to be established with associated costs to be borne by industry. A

host of technical, policy and business issues will need to be overcome, none of which can be accomplished in the near term to support successful market launch activities.

September 20, 2010

Respectfully submitted,

ARLEN ORCHARD
WILLIAM W. WESTERFIELD, III

/s/ WILLIAM W. WESTERFIELD, III

By: William W. Westerfield, III

Office of the General Counsel

SACRAMENTO MUNICIPAL UTILITY DISTRICT

6201 S Street

Post Office Box 15830

Sacramento, California 95852-1830

Telephone: (916) 732-7107

Facsimile: (916) 732-6581

E-mail: wwester@smud.org

Attorneys for

SACRAMENTO MUNICIPAL UTILITY DISTRICT

CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the **COMMENTS OF THE SACRAMENTO MUNICIPAL UTILITY DISTRICT TO CALIFORNIA PUBLIC UTILITIES COMMISSION WHITEPAPER ON THE UTILITY ROLE IN SUPPORTING PLUG-IN ELECTRIC VEHICLE CHARGING** on September 20, 2010, on all known parties to the proceeding R.09-08-009 *[(last changed September 15, 2010)]* http://docs.cpuc.ca.gov/published/service_lists/R0908009_78506.htm via email to those whose e-mail addresses are available and by U.S. mail to those who do not have an e-mail address.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on September 20, 2010 at Sacramento, California.

_____/s/_____
Alanna Arroyo, Legal Assistant
Office of the General Counsel
SACRAMENTO MUNICIPAL UTILITY DISTRICT
6201 S Street
Post Office Box 15830
Sacramento, California 95852-1830
Telephone: (916) 732-7143
Facsimile: (916) 732-6581
E-mail: aarroyo@smud.org

PROCEEDING R09-08-009

FRASER MURISON SMITH
ELECTRA DRIVE
EMAIL ONLY
EMAIL ONLY, CA 0
fdms@electradrive.net

ANDREW MCALLISTER
CALIFORNIA CENTER FOR
SUSTAINABLE ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
andrew.mcallister@energycenter.org

BOB ROSINSKI
EV-CHARGE AMERICA
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
bob@ev-chargeamerica.com

KEVIN WALSH
FISKER AUTOMOTIVE, INC.
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
kwalsh@fiskerautomotive.com

JACQUELINE PIERO
CENTER FOR CARBON-FREE POWER
ROBINSON HALL - UNIVERSITY OF
DELAWARE
NEWARK, DE 19716
pierojd@udel.edu

ANGIE DOAN
PLUG SMART
930 KINNEAR ROAD
COLUMBUS, OH 43212
angie_doan@plugsmart.net

KEVIN WEBBER
TOYOTA MOTOR ENGINEERING &
MANUFACTURING
1555 WOODBRIDGE AVE.
ANN ARBOR, MI 48105
kevin.webber@tema.toyota.com

COLIN READ
ECOTALITY, INC.
6821 E. THOMAS ROAD
SCOTTSDALE, AZ 85251
cread@ecotality.com

SYNDI DRISCOLL
LOS ANGELES - DEPT. OF WATER &
POWER
111 N. HOPE ST., RM. 340
LOS ANGELES, CA 90012
syndi.driscoll@ladwp.com

STEVEN D. PATRICK
SEMPRA ENERGY
555 WEST FIFTH ST., GT14G1, STE 1400
LOS ANGELES, CA 90013-1011
sdpatrick@semprautilities.com

NORMAN A. PEDERSEN
HANNA AND MORTON LLP
444 SOUTH FLOWER ST., SUITE 1500
LOS ANGELES, CA 90071-2916
npedersen@hanmor.com

DAVID N. PATTERSON, P.E.
MITSUBISHI MOTORS R&D OF
AMERICA, INC.
6430 W. KATELLA
CYPRESS, CA 90630
david.patterson@na.mitsubishi-motors.com

KRISTEN HELSEL
EV SOLUTIONS
181 W. HUNTINGTON DR., SUITE 202
MONROVIA, CA 91016
helsel@avinc.com

JANET COMBS
SOUTHERN CALIFORNIA EDISON CO.
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA 91770
janet.combs@sce.com

DON LIDDELL
DOUGLASS & LIDDELL
2928 2ND AVENUE
SAN DIEGO, CA 92103
liddell@energyattorney.com

EVELYN KAHL
ALCANTAR & KAHL, LLP
33 NEW MONTGOMERY ST., STE 1850
SAN FRANCISCO, CA 94015
ek@a-klaw.com

RYAN POPPLE
TESLA MOTORS CORPORATION
1050 BING STREET
SAN CARLOS, CA 94070
rpopple@teslamotors.com

Lisa-Marie Salvacion
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
lms@cpuc.ca.gov

ALLAN LLOYD
INTERNATIONAL COUNCIL ON
CLEAN TRANSPORT
ONE POST STREET, SUITE 2700
SAN FRANCISCO, CA 94104
yulee@theicct.org

NINA SUETAKE
THE UTILITY REFORM NETWORK
115 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94104
nsuetake@turn.org

JAY FRIEDLAND
PLUG IN AMERICA
309A STEINER STREET
SAN FRANCISCO, CA 94117
jay@pluginamerica.org

SARA STECK MYERS
122 28TH AVE.
SAN FRANCISCO, CA 94121
ssmyers@att.net

CHRISTOPHER WARNER
PACIFIC GAS AND ELECTRIC CO.
MC B30A, PO BOX 770000
SAN FRANCISCO, CA 94177
cjw5@pge.com

ANN BORDETSKY
BETTER PLACE
1070 ARASTRADERO ROAD, SUITE 220
PALO ALTO, CA 94304
ann.bordetsky@betterplace.com

JASON WOLF
BETTER PLACE
1070 ARASTRADERO ROAD, SUITE 220
PALO ALTO, CA 94304
jason.wolf@betterplace.com

ELLEN PETRILL
ELECTRIC POWER RESEARCH
INSTITUTE
3420 HILLVIEW AVENUE
PALO ALTO, CA 94304-1338
epetrill@epri.com

JODY S. LONDON
JODY LONDON CONSULTING
PO BOX 3629
OAKLAND, CA 94609
jody_london_consulting@earthlink.net

JOSEPH F. WIEDMAN
KEYES & FOX LLP
436 14TH STREET, SUITE 1305
OAKLAND, CA 94612
jwiedman@keyesandfox.com

JOSHUA A.H. HARRIS
LAW OFFICES OF STEPHAN C.
VOLKER
436 14TH STREET, SUITE 1300
OAKLAND, CA 94612
jharris@volkerlaw.com

STEPHAN C. VOLKER
LAW OFFICE OF STEPHAN C. VOLKER
436 14TH STREET, SUITE 1300
OAKLAND, CA 94612
svolker@volkerlaw.com

GREGORY MORRIS
GREEN POWER INSTITUTE
2039 SHATTUCK AVE., SUITE 402
BERKELEY, CA 94704
gmorris@emf.net

RICHARD LOWENTHAL
COULOMB TECHNOLOGIES, INC.
1692 DELL AVENUE
CAMPBELL, CA 95008
richard.lowenthal@coulombtech.com

BENA CHANG
SILICON VALLEY LEADERSHIP
GROUP
224 AIRPORT PARKWAY, SUITE 620
SAN JOSE, CA 95110
bchang@svlg.org

JOHN SHEARS
THE CENTER FOR ENERGY
EFFICIENCY AND
1100 11TH ST., SUITE 311
SACRAMENTO, CA 95814
shears@ceert.org

TIMOTHY O'CONNOR
ENVIRONMENTAL DEFENSE FUND
1107 9TH STREET, SUITE 540
SACRAMENTO, CA 95814
toconnor@edf.org

WILLIAM W. WESTERFIELD III
SACRAMENTO MUNICIPAL UTILITY
DISTRICT
6201 S ST., M.S. B406, PO BOX 15830
SACRAMENTO, CA 95852-1830
wwester@smud.org

ANDREW CONWAY
DEPARTMENT OF MOTOR VEHICLES
EMAIL ONLY
EMAIL ONLY, CA 0
aconway@dmv.ca.gov

BOB ROSINKI
EV-CHARGE AMERICA
EMAIL ONLY
EMAIL ONLY, CA 0
bob@ev-chargeamerica.com

CASSANDRA SWEET
DOW JONES NEWSWIRES
EMAIL ONLY
EMAIL ONLY, CA 0
cassandra.sweet@dowjones.com

DAVID WIESNER
EMAIL ONLY
EMAIL ONLY, CA 0
david@dwassociates.us

F. KENT LEACOCK
DMC GREEN
EMAIL ONLY
EMAIL ONLY, CA 0
kleacock@dmcgreen.com

KATHLEEN ROSE
DEPARTMENT OF MOTOR VEHICLES
EMAIL ONLY
EMAIL ONLY, CA 0
krose@dmv.ca.gov

MATTHEW LAHERTY
CISCO SYSTEMS, INC.
EMAIL
EMAIL, CA 0
mlaherty@cisco.com

MORRIS SCHREIM
EMAIL ONLY
EMAIL ONLY, CA 0
mschreim@core.com

ROBERTO BOCCA
EMAIL ONLY
EMAIL ONLY, CA 0
roberto.bocca@weforum.org

TIMOTHY N. TUTT
SACRAMENTO MUNICIPAL UTILITIES
DISTRICT
EMAIL ONLY
EMAIL ONLY, CA 0
ttutt@smud.org

MRW & ASSOCIATES, LLC
EMAIL ONLY
EMAIL ONLY, CA 0
mrw@mrwassoc.com

ERIN GRIZARD
THE DEWEY SQUARE GROUP
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
egrizard@deweysquare.com

HUGH MCDERMOTT
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
hugh.mcdermott@betterplace.com

MIKE FERRY
CALIFORNIA CENTER FOR
SUSTAINABLE ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
mike.ferry@energycenter.org

SEPHRA A. NINOW
CALIFORNIA CENTER FOR
SUSTAINABLE ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
sephra.ninow@energycenter.org

SIOBHAN FOLEY
CALIFORNIA CENTER FOR
SUSTAINABLE ENERGY
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
siobhan.foley@energycenter.org

THAN AUNG
LOS ANGELES DEPT. OF WATER AND
POWER
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
than.aung@ladwp.com

GARRY O'NEILL
CALIFORNIA ENERGY COMMISSION
EMAIL ONLY
EMAIL ONLY, CA 00000-9166
go'neill@energy.state.ca.us

COLLEEN QUINN
COULOMB TECHNOLOGIES, INC.
40 EAST 94TH STREET, APT. 8F
NEW YORK, NY 10128
colleenquin@gmail.com

KYLE DAVIS
MIDAMERICAN ENERGY HOLDINGS
COMPANY
1800 M STREET, NW, STE. 330N
WASHINGTON, DC 20036-6812
kldavis@midamerican.com

ALEX YERGIN
GRID POINT
2801 CLARENDON BLVD., SUITE 100
ARLINGTON, VA 22201
ayergin@gridpoint.com

MARTIN LIPTROT
GE ENERGY
4200 WILDWOOD PARKWAY
ATLANTA, GA 30339
martin.liptrot@ge.com

PETER ZOLTAN"" JUNG
US ENVIRONMENTAL PROTECTION
AGENCY
2000 TRAVERWOOD DRIVE
ANN ARBOR, MI 48105-2498
jung.zoltan@epa.gov

JOHN J. VIERA
FORD MOTOR COMPANY
ONE AMERICAN ROAD
DEARBORN, MI 48126
jviera@ford.com

MANOJ KARWA
LEVITON
40799 COACHWOOD CIRCLE
NORTHVILLE, MI 48168
mkarwa@leviton.com

HILLARY DAYTON
FLUOR CORP.
6700 LAS COLINAS BLVD.
IRVING, TX 75039
hillary.dayton@fluor.com

CAMERON BROOKS
TENDRIL
5395 PEARL PARKWAY, SUITE 100
BOULDER, CO 80301
cbrooks@tendrilinc.com

DOUGLAS MARX
PACIFICORP
1407 WEST NORTH TEMPLE
SALT LAKE CITY, UT 84116
douglas.marx@pacificorp.com

KEVIN MORROW
E-TEC
430 S. 2ND AVENUE
PHOENIX, AZ 85003
kmorrow@etecevs.com

ALANA CHAVEZ-LANGDON
ECOTALITY, INC.
6821 E. THOMAS ROAD
SCOTTSDALE, AZ 85251
achavez@ecotality.com

ADRENE BRIONES
LOS ANGELES DEPT. OF WATER AND
POWER
111 N. HOPE ST., RM. 1232
LOS ANGELES, CA 90012
adrene.briones@ladwp.com

LEILA BARKER
LOS ANGELES DEPT. OF WATER &
POWER
111 N, HOPE ST., RM. 1044
LOS ANGELES, CA 90012
leila.barker@ladwp.com

MARCELO DI PAOLO
LOS ANGELES DEPT. OF WATER &
POWER
111 N. HOPE STREET, RM. 851
LOS ANGELES, CA 90012
marcelo.dipaolo@ladwp.com

OSCAR A. ALVAREZ
LOS ANGELES DEPT. OF WATER AND
POWER
111 N. HOPE STREET, ROOM 1246
LOS ANGELES, CA 90012
oscar.alvarez@ladwp.com

OSCAR HERRERA
CITY OF LOS ANGELES
111 N. HOPE ST, RM., 1246
LOS ANGELES, CA 90012
oscar.herrera2@ladwp.com

PRISCILA E. CASTILLO
LOS ANGELES DEPT. OF WATER &
POWER
111 N. HOPE STREET, RM. 340
LOS ANGELES, CA 90012
priscila.castillo@ladwp.com

SCOTT BRIASCO
LOS ANGELES DEPT. OF WATER AND
POWER
433 E TEMPLE ST., BLDG. 6, 4TH FL.
LOS ANGELES, CA 90012
scott.briasco@ladwp.com

VAUGHN MINASSIAN
DEPARTMENT OF WATER AND
POWER
111 N. HOPE ST., ROOM 340
LOS ANGELES, CA 90012
vaughn.minassian@ladwp.com

DAVID SCHNEIDER
SAFEPLUG
8419 LOYOLA BLVD
LOS ANGELES, CA 90045
david.eaglefan@gmail.com

LEILANI JOHNSON KOWAL
LOS ANGELES DEPT. OF WATER AND
POWER
PO BOX 51111
LOS ANGELES, CA 90051-0100
leilani.johnson@ladwp.com

J.P. ELLMAN
WINNER & ASSOICATES
2029 CENTURY PARK EAST, SUITE
1750
LOS ANGELES, CA 90067
jellman@winnr.com

LILY M. MITCHELL
HANNA AND MORTON LLP
444 S. FLOWER STREET, SUITE 1500
LOS ANGELES, CA 90071-2916
lmitchell@hanmor.com

TATSUAKI YOKOYAMA
TOYOTA MOTOR ENGINEERING &
MANUFACTURING
1630 W. 186TH STREET
GARDENA, CA 90248
tatsuaki.yokoyama@tema.toyota.com

A.J. BOCK
AEROVIRONMENT, INC.
1610 S. MAGNOLIA AVE.
MONROVIA, CA 91016
bock@avinc.com

BLAKE DICKINSON
AEROVIRONMENT, INC.
1610 S. MAGNOLIA AVENUE
MONROVIA, CA 91016
dickinson@avin.com

NEAL ROCHE
AEROVIRONMENT, INC.
222 E. HUNTINGTON DRIVE, SUITE
118
MONROVIA, CA 91016
roche@avinc.com

KERRY LYNCH
PASADENA WATER & POWER
1055 E. COLORADO BLVD., STE. 350
PASADENA, CA 91106
klynch@cityofpasadena.net

CRAIG KUENNEN
GLENDALE WATER AND POWER
141 N. GLENDALE AVENUE, 4TH
LEVEL
GLENDALE, CA 91206
cjuennen@ci.glendale.us

DAVE BARTHMUSS
GENERAL MOTOR CORPORATION
515 MARIN STREET, STE. 216
THOUSAND OAKS, CA 91360
dave.barthmuss@gm.com

MAX BAUMHEFNER
NATURAL RESOURCES DEFENSE
COUNCIL
111 SUTTER ST., 20TH FLOOR
SAN FRANCISCO, CA 91404
mbaumhefner@nrdc.org

FREDRIC C. FLETCHER
BURBANK WATER & POWER
164 WEST MAGNOLIA BLVD.
BURBANK, CA 91502
ffletcher@ci.burbank.ca.us

FREDERICO LANGIT, JR.
AZUSA LIGHT & WATER
PO BOX
AZUSA, CA 91702-9500
flangit@ci.azusa.ca.us

ANDREA MORENO
SOUTHERN CALIFORNIA EDISON
COMPANY
2244 WALNUT GROVE AVENUE
ROSEMEAD, CA 91770
andrea.moreno@sce.com

CASE ADMINISTRATION
SOUTHERN CALIFORNIA EDISON
COMPANY
2244 WALNUT GROVE AVENUE,
ROOM 370
ROSEMEAD, CA 91770
case.admin@sce.com

CASE ADMINISTRATION
SOUTHERN CALIFORNIA EDISON CO.
2244 WALNUT GROVE AVE.,
PO BOX 800
ROSEMEAD, CA 91770
case.admin@sce.com

SUSAN FREEDMAN
SAN DIEGO ASSOCIATION OF
GOVERNMENTS
401 B STREET, SUITE 800
SAN DIEGO, CA 92101
sfr@sandag.org

MARK SWEENEY
CLEAN ENERGY FUELS
CORPORATION
4638 SANTA CRUZ AVENUE
SAN DIEGO, CA 92107
mpsweeney@earthlink.net

JULIAN DURAND
QUALCOMM
5775 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
julian.durand@qualcomm.com

VICKI SMITH
QUALCOMM
5775 MOREHOUSE DRIVE
SAN DIEGO, CA 92121
vsmith@qualcomm.com

DESPINA NIEHAUS
SEMPRA ENERGY UTILITIES
8330 CENTURY PARK COURT, CP32D
SAN DIEGO, CA 92123
dniehaus@semprautilities.com

JENNIFER WRIGHT
SAN DIEGO GAS & ELECTRIC CO.
8330 CENTURY PARK CT
SAN DIEGO, CA 92123
jwright@semprautilities.com

DAVID ALMEIDA
8960 BALBOA AVE, SUITE 100
SAN DIEGO, CA 92123-1502
david.almeida@energycenter.org

STEPHEN H. BADGETT
CITY OF RIVERSIDE PUBLIC
UTILITIES
3901 ORANGE STREET
RIVERSIDE, CA 92501
sbadgett@riversideca.gov

VIC SHAO
THE PROSSER GROUP LLC
3291 FALKLAND CIRCLE
HUNTINGTON BEACH, CA 92649
vic@theprossergroup.com

JANIS LEHMAN
ANAHEIM PUBLIC UTILITIES
201 S. ANAHEIM BLVD., SUITE 1101
ANAHEIM, CA 92805
jlehman@anaheim.net

CHRIS OUTWATER
LIBERTY PLUGINS INC.
1482 EAST VALLEY ROAD, SUITE 329
SANTA BARBARA, CA 93108
coutwater@libertyplugins.com

FOREST WILLIAMS
LIBERTY PLUGINS, INC.
1482 EAST VALLEY ROAD, SUITE 329
SANTA BARBARA, CA 93108-1241
forest.williams@mindspring.com

LORI CHAPPELL
COUNTY OF MONTEREY
2616 1ST AVENUE
MARINA, CA 93933
chappella@co.monterey.ca.us

TRAE VASSALLO
KLEINER PERKINS CAUFIELD &
BYERS
2750 SAND HILL ROAD
MENLO PARK, CA 94025
trae@kpcb.com

LEE BURROWS
VANTAGE POINT VENTURE
PARTNERS
1001 BAYHILL DRIVE, STE. 300
SAN BRUNO, CA 94066
lburrows@vpvp.com

DIARMUID O'CONNELL
TESLA MOTORS, INC.
1050 BING STREET
SAN CARLOS, CA 94070
diarmuid@teslamotors.com

MARC D. JOSEPH
ADAMS BROADWELL JOSEPH &
CARDOZO
601 GATEWAY BLVD., STE. 1000
SO. SAN FRANCISCO, CA 94080-7037
mdjoseph@adamsbroadwell.com

EDWIN M. LEE
CITY AND COUNTY OF SAN
FRANCISCO
1 DR. CARLTON B. GOODLETT PL.
SAN FRANCISCO, CA 94102
edwin.lee@sfgov.com

JOHANNA GREGORY PARTIN
OFFICE OF THE MAYOR
1 DR. CARLTON B. GOODLETT PLACE
SAN FRANCISCO, CA 94102
johanna.partin@sfgov.com

ROBERT FINKELSTEIN
THE UTILITY REFORM NETWORK
711 VAN NESS AVENUE, NO. 350
SAN FRANCISCO, CA 94102
bfinkelstein@turn.org

DANIELLE FUGERE
FRIENDS OF THE EARTH
311 CALIFORNIA STREET, SUITE 510
SAN FRANCISCO, CA 94104
dfugere@foe.org

ERIC CUTTER
ENERGY AND ENVIRONMENTAL
ECONOMICS, INC.
101 MONTGOMERY ST, SUITE 1600
SAN FRANCISCO, CA 94104
eric@ethree.com

JENNIFER HEIBULT
NATURAL RESOURCES DEFENSE
COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA 94104
jheibult@nrdc.org

SIMON MUI
NATURAL RESOURCES DEFENSE
COUNCIL
111 SUTTER STREET, 20TH FLOOR
SAN FRANCISCO, CA 94104
smui@nrdc.org

BONNIE TAM
PACIFIC GAS AND ELECTRIC CO.
77 BEALE STREET, MC B10A,
PO BOX 770000
SAN FRANCISCO, CA 94105
bwt4@pge.com

ED LUCHA
PACIFIC GAS AND ELECTRIC CO.
77 BEALE STREET, MC B9A, ROOM 991
SAN FRANCISCO, CA 94105
ell5@pge.com

KAREN TERRANOVA
ALCANTAR & KAHL
33 NEW MONTGOMERY STREET,
SUITE 1850
SAN FRANCISCO, CA 94105
filings@a-klaw.com

TIM LINDL
ALCANTAR & KAHL
33 NEW MONTGOMERY ST., STE. 1850
SAN FRANCISCO, CA 94105
tjl@a-klaw.com

BRIAN T. CRAGG
GOODIN MACBRIDE SQUERI, DAY &
LAMPREY
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
bcragg@goodinmacbride.com

JOSE E. GUZMAN JR.
NOSSAMAN LLP
50 CALIFORNIA STREET, 34TH FLOOR
SAN FRANCISCO, CA 94111
jguzman@nossaman.com

MARLO A. GO
GOODIN MACBRIDE SQUERI DAY &
LAMPREY LLP
505 SANSOME STREET, SUITE 900
SAN FRANCISCO, CA 94111
mgo@goodinmacbride.com

MARTIN A. MATTES
NOSSAMAN GUTHNER KNOX &
ELLIOTT, LLP
50 CALIFORNIA STREET, 34TH FLOOR
SAN FRANCISCO, CA 94111
mmattes@nossaman.com

ROBERT GEX
DAVIS WRIGHT TREMAINE LLP
505 MONTGOMERY ST., SUITE 800
SAN FRANCISCO, CA 94111
robertgex@dwt.com

DIANE I. FELLMAN
NRG WEST
73 DOWNEY STREET
SAN FRANCISCO, CA 94117
diane.fellman@nrgenergy.com

CALIFORNIA ENERGY MARKETS
425 DIVISADERO ST. STE 303
SAN FRANCISCO, CA 94117-2242
cem@newsdata.com

ANDREW TANG
PACIFIC GAS & ELECTRIC COMPANY
PO BOX 770000, MC N3F
SAN FRANCISCO, CA 94177
axtw@pge.com

CASE COORDINATION
PACIFIC GAS AND ELECTRIC
COMPANY
PO BOX 770000; MC B9A
SAN FRANCISCO, CA 94177
regrelcpuccases@pge.com

LIANG HUANG
PACIFIC GAS & ELECTRIC COMPANY
PO BOX 770000, MC N2F
SAN FRANCISCO, CA 94177
lhg@pge.com

SAUL ZAMBRANO
PACIFIC GAS & ELECTRIC COMPANY
MC N3F, PO BOX 770000
SAN FRANCISCO, CA 94177
saz1@pge.com

SHARI RIFAS
PACIFIC GAS & ELECTRIC COMPANY
MC N3F, PO BOX 770000
SAN FRANCISCO, CA 94177
sfr2@pge.com

AARON SINGER-ENGLAR
BMW OF NORTH AMERICA, LLC
555 HAMILTON AVE., STE. 300
PALO ALTO, CA 94301
aaron.singer@bmw.com

DIPENDER SALUJA
CAPRICORN INVESTMENT GROUP
250 UNIVERSITY AVENUE, STE. 300
PALO ALTO, CA 94301
saluja@capricornllc.com

ANDREAS VOGEL
SAP LABS
3410 HILLVIEW AVE.
PALO ALTO, CA 94304
a.vogel@sap.com

SVEN THESEN
BETTER PLACE
1070 ARASTRADERO ROAD, SUITE 220
PALO ALTO, CA 94304
sven.thesen@betterplace.com

XINGXIN LIU
SAP LABS, LLC
3410 HILLVIEW AVENUE
PALO ALTO, CA 94304
xingxin.liu@sap.com

CRAIG MACDONALD
710 HIGHLAND AVENUE
SAN MATEO, CA 94401

NICOLE A. BLAKE
CONSUMER FEDERATION OF
CALIFORNIA
520 S. EL CAMINO REAL, STE. 340
SAN MATEO, CA 94402
blake@consumercal.org

SEAN P. BEATTY
MIRANT CALIFORNIA, LLC
696 WEST 10TH STREET
PITTSBURG, CA 94565
sean.beatty@mirant.com

WILLIAM F. DIETRICH
DIETRICH LAW
2977 YGNACIO VALLEY RD, NO. 613
WALNUT CREEK, CA 94598-3535
dietrichlaw2@earthlink.net

MICHAEL SCHMITZ
ICLEI USA
436 14TH STREET, STE. 1520
OAKLAND, CA 94612
michael.schmitz@iclei.org

KARIN CORFEE
KEMA, INC
155 GRAND AVE., SUITE 500
OAKLAND, CA 94612-3747
karin.corfee@kema.com

KEVIN T. FOX
KEYES & FOX LLP
5727 KEITH AVENUE
OAKLAND, CA 94618
kfox@keyesandfox.com

JAMIE HALL
CALSTART
1160 BRICKYARD COVE, STE. 101
POINT RICHMOND, CA 94801
jhall@calstart.org

PHILLIP MULLER
SCD ENERGY SOLUTIONS
436 NOVA ALBION WAY
SAN RAFAEL, CA 94903
philm@scdenergy.com

SHARON SARRIS
GREEN FUSE ENERGY COMPANY
584 RIO DEL MAR BLVD.
APTOS, CA 95003
slsarris@greenfuseenergy.com

MICHAEL G. NELSON, ESQ.
MACCARTHY & BERLIN, LLP
100 W. SAN FERNANDO STREET,
SUITE 501
SAN JOSE, CA 95113
mnelson@mccarthylaw.com

DOUGLAS M. GRANDY, P.E.
DG TECHNOLOGIES
1220 MACAULAY CIRCLE
CARMICHAEL, CA 95608
dgrandy@caonsitegen.com

JAMIE KNAPP
J KNAPP COMMUNICATIONS
2505 WESTERNESSE ROAD
DAVIS, CA 95616
jamie@jknappcommunications.com

JILL EGBERT
PGE
202 COUSTEAU PLACE, STE 150
DAVIS, CA 95616
jme@pge.com

BALDASSARO DI CAPO
CALIFORNIA INDEPENDENT SYSTEM
OPERATOR
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
bdicapo@caiso.com

CALIFORNIA ISO
151 BLUE RAVINE ROAD
FOLSOM, CA 95630
e-recipient@caiso.com

CRAIG CHILDERS
CALIFORNIA AIR RESOURCES BOARD
PO BOX 2815
SACRAMENTO, CA 95812
cchilder@arb.ca.gov

ELISE KEDDIE
CALIFORNIA AIR RESOURCES BOARD
PO BOX 2815
SACRAMENTO, CA 95812
ekeddie@arb.ca.gov

CATHY REHEIS BOYD
WSPA
1415 L STREET, SUITE 600
SACRAMENTO, CA 95814
marcreheis@wspa.org

DAVID L. MODISETTE
CALIF. MUNICIPAL UTILITIES
ASSOCIATION
915 L. STREET, SUITE 1460
SACRAMENTO, CA 95814
dmodisette@cmua.org

GINA GREY
WSPA
1415 L STREET, SUITE 600
SACRAMENTO, CA 95814
gina@wspa.org

JANE E. LUCKHARDT
DOWNEY BRAND LLP
621 CAPITOL MALL, 18TH FLOOR
SACRAMENTO, CA 95814
jluckhardt@downeybrand.com

JULEE MALINOWSKI-BALL
CA. ELECTRIC TRANSPORTATION
COALITION
1015 K STREET SUITE 200
SACRAMENTO, CA 95814
julee@ppallc.com

RALPH MORAN
BP AMERICA, INC.
1201 K STREET, STE. 1990
SACRAMENTO, CA 95814
ralph.moran@bp.com

LYNN HAUG
ELLISON, SCHNEIDER & HARRIS
L.L.P.
2600 CAPITAL AVENUE, SUITE 400
SACRAMENTO, CA 95816
lmh@eslawfirm.com

ANDREW B. BROWN
ELLISON SCHNEIDER & HARRIS, LLP
(1359)
2600 CAPITOL AVENUE, SUITE 400
SACRAMENTO, CA 95816-5905
abb@eslawfirm.com

ANN TROWBRIDGE
DAY CARTER MURPHY LLC
3620 AMERICAN RIVER DR., SUITE 205
SACRAMENTO, CA 95864
atrowbridge@daycartermurphy.com

ANNIE STANGE
ALCANTAR & KAHL LLP
1300 SW FIFTH AVE., SUITE 1750
PORTLAND, OR 97201
sas@a-klaw.com

CATHIE ALLEN
PACIFICORP
825 NE MULTNOMAH, SUITE 2000
PORTLAND, OR 97232
californiadockets@pacificorp.com

MICHELLE R. MISHOE
PACIFICORP
825 NE MULTNOMAH ST., SUITE 1800
PORTLAND, OR 97232
michelle.mishoe@pacificorp.com

CARMINE MARCELLO
HYDRO ONE, INC.
NORTH TOWER, 14TH FLOOR
TORONTO, ON M5G 2P5
carmine.marcello@hydroone.com

MATTHEW TISDALE
CALIFORNIA PUBLIC UTILITIES
COMMISSION
EMAIL ONLY
EMAIL ONLY, CA 0
mwt@cpuc.ca.gov

MATTHEW CROSBY
CALIFORNIA PUBLIC UTILITIES
COMMISSION
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
mc4@cpuc.ca.gov

SARA KAMINS
CALIFORNIA PUBLIC UTILITIES
COMMISSION
EMAIL ONLY
EMAIL ONLY, CA 00000-0000
smk@cpuc.ca.gov

Adam Langton
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
ahl@cpuc.ca.gov

Andrew Campbell
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
agc@cpuc.ca.gov

Chloe Lukins
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
clu@cpuc.ca.gov

Christopher Danforth
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
ctd@cpuc.ca.gov

Christopher R Villarreal
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
crv@cpuc.ca.gov

Cleveland Lee
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
cwl@cpuc.ca.gov

Dexter E. Khoury
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
bsl@cpuc.ca.gov

Elizabeth Stoltzfus
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
eks@cpuc.ca.gov

Farzad Ghazzagh
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
fxg@cpuc.ca.gov

Franz Cheng
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
fcc@cpuc.ca.gov

Gretchen T. Dumas
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
gtd@cpuc.ca.gov

Jake Wise
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
jw2@cpuc.ca.gov

Jonathan J. Reiger
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
jzr@cpuc.ca.gov

Laurence Chaset
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
lau@cpuc.ca.gov

Lee-Whei Tan
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
lwt@cpuc.ca.gov

Michael Colvin
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
mc3@cpuc.ca.gov

Peter Skala
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
ska@cpuc.ca.gov

Peter V. Allen
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
pva@cpuc.ca.gov

Regina DeAngelis
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
rmd@cpuc.ca.gov

Robert Levin
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
rl4@cpuc.ca.gov

Steve Roscow
CALIF PUBLIC UTILITIES
COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3214
scr@cpuc.ca.gov

Y. ANNY HUANG
CALIFORNIA AIR RESOURCES BOARD
1001 I STREET, 7TH FLOOR (MS 7A)
SACRAMENTO, CA 95812
ahuang@arb.ca.gov