



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

FILED

10-15-10
04:59 PM

Order Instituting Rulemaking to
consider Smart Grid Technologies
Pursuant to Federal Legislation and on
the Commission's own Motion to
Actively Guide Policy in California's
Development of a Smart Grid System.

Rulemaking 08-12-009
(Filed December 18, 2008)

**COMMENTS OF THE UTILITY REFORM NETWORK
CONCERNING PRICES AND PRIVACY
IN RESPONSE TO THE ACR OF 9/27/2010**



Marcel Hawiger, Energy Attorney

THE UTILITY REFORM NETWORK

115 Sansome Street, Suite 900

San Francisco, CA 94104

Phone: (415) 929-8876 ex. 311

Fax: (415) 929-1132

Email: marcel@turn.org

October 15, 2010

COMMENTS OF THE UTILITY REFORM NETWORK
CONCERNING PRICES AND PRIVACY
IN RESPONSE TO THE ACR OF 9/27/2010

Pursuant to the procedural schedule established in the Assigned Commissioner's Ruling of August 27, 2010, the Utility Reform Network (TURN) respectfully submits these comments on the issues identified in the ACR.

The ACR sought comments on various issues from the IOUs and third parties that may be accessing customer consumption data. TURN looks forward to reviewing those comments and discussing proposed policies at the workshops scheduled for October 25-26. TURN here provides some specific comments concerning privacy protection and the provision of price data. TURN has previously addressed many of these issues and does not repeat our prior comments. In brief, TURN recommends:

- The Commission should either explicitly prohibit disclosure of data to third parties for non-energy-related purposes, or should craft separate rules governing data disclosure for "secondary commercial purposes" that would promote knowing and informed decisions by the customer;
- The Commission should adopt different rules for contracting versus non-contracting third parties, as suggested by SB 1476;

- The Commission should ensure that customers have the opportunity to “opt-out” of any data disclosure to contracting parties irrespective of the type of service offered;
- Rather than just trying to promote the presentation of “dynamic price data,” the Commission should focus on information that leads to conservation and lower bills by ordering the utilities to provide tier alerts in a manner that best reaches customers;
- The Commission should order the utilities to provide tariff analysis tools to residential customers.

Proposals Concerning Privacy Protections

Section 3.6 of the ACR invites parties “to propose a set of policies and procedures that will help protect the privacy of a customer’s data, will help ensure its security and will permit access to the information by authorized third parties.”

TURN understands that the California IOUs have historically protected customer-specific data under their control and refused to disclose such data pursuant to long-standing Commission policy. The IOUs adopted processes to disclose data to electric service providers pursuant to rules enacted as part of electric deregulation in 1996.

The situation has changed dramatically in the past two years. There are more significant privacy concerns associated with very detailed electric usage information already available through AMI meters, as well as with the potential data that might be transmitted through the meters in the future when 'smart appliances' are able to communicate with the meter through wireless connections.

It is difficult to envision all the potential uses and abuses of these data. Nevertheless, the Commission has decided to implement rules so as to effectuate the transfer of information from utilities to third parties by the end of this year, 2010. The Governor recently signed into law SB 1476, which addresses some of the issues associated with privacy and security. In brief, the more relevant requirements of SB 1476 are:

- No sharing of data without customer consent, unless third party is under contract with a utility. 8380(b)(1).
- A third party under contract with the IOU "for a service that allows a customer to monitor" electricity or gas usage cannot use the data "for a secondary commercial purpose" without prominently disclosing that secondary commercial purpose to the customer." 8380(c).
- An IOU can disclose data to a third party for purposes of implementing DR, EE or energy management programs. 8380(e)(2).

- A third party contracting to implement DR, EE or energy management programs cannot use the data “for a secondary commercial purpose” without the customer’s consent. 8380(e)(2).

Parties have addressed some of the issues related to privacy in at least two previous filings in this docket.¹ There is clearly consensus on the need for written or electronic affirmative customer authorization for data transfer to third parties. However, there is a lack of clarity or consensus on several key details concerning the customer authorization process and relevant parameters associated with such authorization.

TURN has reviewed a draft of the comments being submitted by the CDT/EFF and strongly supports their proposed rules that operationalize the Fair Information Practice Policies. These rules create a minimal baseline for the actual rules and documents that will implement privacy policies. In this pleading TURN primarily provides some additional details on the twin issues of the authorization process and enforcement. Our key focus is on the potential need for additional protections necessary to transfer information to a third party that does not provide an energy-related service that advances the State’s goals for demand response, energy efficiency and conservation.

¹ Both the March 9, 2010 and August 13, 2010 pleadings addressed privacy issues.

TURN emphasizes the need to adopt very strong and specific rules regarding the up-front authorization process due to the fact that at this moment there appears to be very little basis for CPUC jurisdiction over third parties who are not Electric Service Providers or Core Transport Aggregators (gas providers). The fundamental concern is the release by third parties of information downstream for purposes not originally authorized by the customer. While we can craft restrictions, the ultimate problem will be the nature of any such enforcement. When enforcement is unlikely for legal or practical reasons, it is all the more critical to ensure that any customer authorization is knowing and fully informed. In short, once the horse is out of the barn there may be little anyone can do to bring it back

In crafting rules concerning authorization and limitations, TURN suggests that there are three primary types of “third parties” to consider. As explained clearly in the August 13th Prehearing Conference Statement of OPOWER, some third parties operate under contract with the utility, and are essentially agents of the utility.² These are the parties primarily covered by the rules enacted in SB 1476. A second category of third parties includes those that provide “energy-related” products or services (energy service companies, demand response aggregators,

² SB 1476 further differentiates between two types of contracting entities. Section 8380(c) covers entities that contract with an IOU to provide a service “that allows a customer to monitor his or her electricity or gas usage,” while 8380(e)(2) covers entities that contract with an IOU to implement DR, EE or energy management programs.

etc.) but are not under contract with a utility. The third category of third parties includes any party that seeks customer data for purposes wholly unrelated to energy usage management.³ TURN appreciates that the line between the second and third categories (both non-agent parties) may not always be crystal clear. However, we believe that at this moment it is possible to identify parties who seek data in order to advance state energy goals related to customer energy consumption. This distinction is reflected in SB 1476, which provides for different treatment of data release “for secondary commercial purposes.” As technology changes in the future, the Commission could revisit the demarcation between energy-related services and secondary commercial purposes.

Keeping in mind the preceding discussion, TURN offers the following details to supplement the proposal that will be provided by CDT/EFF:

- *Term of authorization:* A customer’s authorization should be limited in term. TURN suggests that any written authorization should automatically expire after two years and must be affirmatively renewed by the customer. Several parties (for example, Tendril) have proposed that any customer authorization have an unlimited term. TURN suggests that *at this moment* our awareness of the potential uses of consumption data are simply too nascent to allow for unlimited data access. It is only after a few

³ TURN refers to any third party that is not operating under contract with the utility as a “non-agent” third party.

years of such access that customers will begin to understand the import and uses of their data. The Commission could revisit the term limitation in the future, but at the outset it is vital to ensure that customers have an affirmative opportunity to negate or continue their authorization.

- *Opt-out ability from data transfer to an agent Third Party:* TURN interprets newly enacted Code Sections 8380(c) and 8380(e)(2) as allowing the utility to disclose customer consumption data to a third party which is under contract with the utility *but only for the purpose of running the program or providing the monitoring service*. This reflects the distinction between agents and non-agents as discussed by OPOWER.

While SB 1476 authorizes utilities to disclose customer consumption data to contracting parties, it is silent with respect to the opportunity to opt-out from such disclosure. The Commission should enact rules governing the process and content of an explicit opt-out process. Any contracting party that obtains customer-specific data from the utility must inform customers that it has access to their consumption data and must allow the customer an opportunity (using easily understandable format and adequate time frame) to opt-out of the program or service.

- *Prohibition of data transfer to a Non-Agent Third Party for non-energy related purposes:* While we are mindful that the full panoply of uses and services that may eventually be provided is unknown, the goal of the mass market

meter installation (aside from operational benefits) was to advance demand response, energy efficiency and conservation that might be achievable through this technology. Thus, at least in the near future, the voluntary release of data to non-agent third parties which do not provide energy-related services should be prohibited. Alternatively, any such release should be governed by much more strict disclosure requirements which provide information to the customer about the potential value of these data.

Newly enacted Section 8380(b)(1) prohibits the release of customer consumption data to (non-agent) third parties except “upon the consent of the customer.” It is not immediately clear whether this section presumptively authorizes the release to any third party which obtains a consent, or whether the Commission retains authority to limit disclosure to third parties. TURN suggests that the language of SB 1476 does not indicate an intent to overturn the long line of Commission precedent protecting specific customer data against disclosure. If there is ambiguity on this matter, the Commission should clearly err on the side of protection by *prohibiting* the release of customer data to a non-agent third party *unless* that third party provides an energy-related service that advances the state goals of promoting demand response, energy efficiency and conservation.

- *Authorization for release for “secondary commercial purposes” to agent third parties:* Section 8380(e)(2) appears to allow an agent third party (that implements EE, DR or energy management programs) the ability to use the data for “secondary commercial purposes” as long as the third party obtains the customer’s consent.

TURN strongly recommends that the notice and disclosure requirements applicable to use for “secondary commercial purposes” contain at least the following two additional provisions in any authorization document:

- a) A statement explaining that the meter data⁴ can be used to determine the nature of all household appliance use, occupancy patterns, and other significant information;⁵ and
 - b) A statement explaining that the meter data has economic value that may be used by marketers to solicit product sales.
- *Disclosure of use for “secondary commercial purpose”:* Section 8380(c) appears to allow agent third parties that provide a service allowing customers to “monitor” their own consumption data⁶ to use the data for a “secondary

⁴ TURN seeks clarification as to the exact interval data that would be made available by the utility to third parties (15 second?).

⁵ TURN does not have sufficient expertise to identify all the potential ways in which meter data can be used to determine personal household characteristics. Moreover, this will be an evolving field. TURN suggests that the utilities or CPUC staff draft a ‘strawman’ proposal of a “notice form” for technical discussion.

⁶ TURN presumes that this category would apply to the existing relationship between SDGE and Google, though we have never seen a copy of

commercial purposes” as long as the third party agent “prominently discloses that secondary commercial purpose” to the customer.

As a preliminary matter, TURN notes that given the language in 8380(b)(1), which only allows the utility to share data pursuant to authorization or contracting for services enumerated in Section 8380(e), the provision of 8380(c) applies only if there is a separate opt-in authorization by the customer, or the data flows from the HAN. It does not appear that the utility is authorized to provide its backhaul data to a third party that merely provides a ‘monitoring’ service.

In any case, TURN strongly recommends that the Commission adopt specific rules governing the nature of the “prominent” disclosure of the secondary commercial purpose. Such disclosure should include the same provisions discussed above in the section concerning “authorization for use for secondary commercial purposes.” Additionally, since *no customer authorization is apparently required prior to use for a commercial purpose*, such disclosure should likewise clearly and prominently explain the secondary purpose and allow customers at least 60 days to voluntarily opt-out of the monitoring service and disallowing any continued collection of the data.

any contractual agreement between these parties. However, we also presume that the term “monitor” could be interpreted to include providers of in-home display devices and software services.

- *Enforcement of violations:* Any rule or prohibition is useful only if there is the legal and practical means to enforce it and obtain redress for violations. Unfortunately, violations of privacy protections are especially difficult to detect (how can one know where a marketer has obtained certain information?), prove damages (an invasion of privacy does not necessarily cause economic harm), and prosecute. It is for this reason that up-front notice and disclosure rules are particularly critical. However, since even “notice and disclosure” do not always lead to “knowing” consent, unnecessary disclosure of personal consumption data should be prohibited or restricted as much as possible.

Nevertheless, enforcement would be facilitated by including specific penalties for proven violations of any notice, disclosure and authorization requirements. Such penalties could include:

- a) An automatic disqualification from access to utility data for a specified term if a third party is found to violate any rules three or more times (any disclosure of one individual’s data or access to one individual’s data counts as one violation). In other words, three strikes and you’re out.
- b) Liquidated damages provided to an individual for violation. For example, if a customer does not renew authorization to release data to a third party but the third party continues to collect that

customer's data, the third party should be required to pay the customer an appropriate penalty amount.⁷

Proposals Regarding Price Information

Section 3.5 of the ACR invites proposals concerning which prices to communicate to customers in order to best fulfill previous policy directives. TURN has previously emphasized the need to provide actionable price data, and TURN has explained the tariff provisions defining the types of tariffs that can be provided to residential customers.⁸

TURN's primary recommendation has been that the utilities provide residential customers tier alert notifications through email, text or robocall when the customer's usage crosses into a higher tier, together with the simple statement identifying the price in the next tier. It is TURN's understanding that the utilities are implementing such a process, and we recommend that the utilities explain the scope, methods and details of their tier alert notification processes at the workshops.

It is our opinion, based on a review of some of the data concerning customer

⁷ TURN has not conducted research to determine whether examples exist that provide guidance on calculating such a penalty. We propose initially a penalty of \$50 per customer for a first time violation.

⁸ See, TURN's Comments on SB 17, Sec. 3.2, filed on March 9, 2010 in this docket.

behavior modification, that the *manner of notification* in this case is probably more important than the scope of information presented. While we can envision a scenario where the utilities provide detailed and comprehensive price and bill data and forecasts on the customer's secure "MyAccount" website, we presume that a very small minority of customers access these data.⁹

A text or robocall can have a much more significant effect on total residential customer behavior, even if such a text can easily fit into Tweet – "Your electricity use has now crossed into Tier 3 and you will pay twenty cents for electricity until the next Tier."

TURN does not at all oppose schemes to provide more information regarding prices and bills to customers. We strongly believe that more "clear and actionable" information is good for customers. Of course, too much information in confusing formats becomes useless and quickly turns consumers off. The key is not just the *nature of the information, but also its presentation*. These types of details cannot be worked out in official paper pleadings.

Data concerning time-varying rates will be of use to customers who are on such rates. However, the only realistic option on the table for residential customers is

⁹ TURN recommends that the utilities be ordered to provide data on customer access to their personal websites on a regular basis. The only study to data analyzing "non-residential" customer usage of their data on utility websites showed very low rate of access.

CPP pricing.¹⁰ There is really no “time-varying” price component under CPP. The underlying TOU rates are fixed for different time periods. And the critical peak price adder is also fixed in advance. These prices can thus be presented to the customer through normal written or electronic or media channels. The only thing that “varies” is the days or hours in which a critical peak event occurs. Since the proposed CPP (and PTR) rates include “customer notification” in advance of the critical peak day, such notification should include a reminder of the peak price adder.

However, any specific proposal for information should be evaluated in the context of its *cost*! Utility proposals to implement dynamic pricing tariffs have been accompanied by incremental cost recovery proposals *in the hundreds of millions of dollars*. We hope mere data presentation will not entail such costs, but we have not heard any specific numbers yet.

Even more important than mere price information is providing residential customers with the tools necessary to choose whether to participate in a voluntary dynamic pricing tariff.¹¹ The Commission should address in this context the need for the utilities to develop the same type of rate analysis tools

¹⁰ Real-time prices may be a voluntary option for residential customers. Any expenditure of money to convey real-time wholesale prices should be balanced by a consideration of need. The utilities should provide data on how such prices are communicated to their nonresidential customers on RTP.

¹¹ Utilities are prohibited from instituting mandatory time-differentiated rates (without bill protection) until January 1, 2014. PUC Sec. 745(b)(2).

for residential customers as are available to non-residential customers.

October 15, 2010

Respectfully submitted,

/S/ Marcel Hawiger

Marcel Hawiger, Staff Attorney
THE UTILITY REFORM NETWORK
115 Sansome Street, Suite 900
San Francisco, CA 94104
Phone: (415) 929-8876 x 308
Fax: (415) 929-1132
Email: marcel@turn.org

CERTIFICATE OF SERVICE

I, Larry Wong, certify under penalty of perjury under the laws of the State of California that the following is true and correct:

On October 15, 2010, I served the attached:

**COMMENTS OF THE UTILITY REFORM NETWORK
CONCERNING PRICES AND PRIVACY
IN RESPONSE TO THE ACR OF 9/27/2010**

on all eligible parties on the attached list **R.08-12-009** by sending said document by electronic mail to each of the parties via electronic mail, as reflected on the attached Service List.

Executed this October 15, 2010, at San Francisco, California.

/S/
Larry Wong

Service List for R.08-12-009

aaron.burstein@gmail.com
ab2@cpuc.ca.gov
abb@eslawfirm.com
achuang@epri.com
ag2@cpuc.ca.gov
agc@cpuc.ca.gov
ahl@cpuc.ca.gov
aivancovich@caiso.com
ali.ipakchi@oati.com
am1@cpuc.ca.gov
andrew_meiman@newcomb.cc
ann.johnson@verizon.com
ATrial@SempraUtilities.com
barbalex@ctel.net
bboyd@aclaratech.com
bcragg@goodinmacbride.com
bdille@jmpsecurities.com
bfinkelstein@turn.org
BKallo@rwbaird.com
BLee@energy.state.ca.us
bmcc@mccarthy.com
bob.rowe@northwestern.com
bobsmithtl@gmail.com
brbarkovich@earthlink.net
brian.theaker@dynegy.com
bsb@eslawfirm.com
bschuman@pacific-crest.com
carlgustin@groundedpower.com
caryn.lai@bingham.com
case.admin@sce.com
cassandra.sweet@dowjones.com
cbk@eslawfirm.com
cbrooks@tendriline.com
cem@newsdata.com
CentralFiles@SempraUtilities.com
chris@emeter.com
cjuennen@ci.glendale.us
cjw5@pge.com
CManson@SempraUtilities.com
coney@epic.org
cpucdockets@keyesandfox.com
crjohnson@lge.com
crv@cpuc.ca.gov
ctoca@utility-savings.com
dan.mooy@ventyx.com
danielle@ceert.org

dave@ppallc.com
david.discher@att.com
david.rubin@troutmansanders.com
david@nemtzw.com
davidmorse9@gmail.com
dblackburn@caiso.com
dbp@cpuc.ca.gov
dbrenner@qualcomm.com
dennis@ddecuir.com
df1@cpuc.ca.gov
dgrandy@caonsitegen.com
dhuard@manatt.com
diana@aspectlabs.com
Diane.Fellman@nrgenergy.com
djsulliv@qualcomm.com
dkm@ischool.berkeley.edu
dkolk@compenergy.com
dmarcus2@sbcglobal.net
DNG6@pge.com
DNiehaus@SempraUtilities.com
Douglas.Garrett@cox.com
douglass@energyattorney.com
dpb5@pge.com
dschneider@lumesource.com
dzlotlow@caiso.com
ed.may@itron.com
ed@megawatts.com
EGrizard@deweysquare.com
ek@a-klaw.com
elaine.duncan@verizon.com
enriqueg@greenlining.org
ep@aspectlabs.com
epetrill@epri.com
e-recipient@caiso.com
esther.northrup@cox.com
faramarz@ieee.org
farrokh.albuyeh@oati.net
filings@a-klaw.com
fsmith@swater.org
fxg@cpuc.ca.gov
gayatri@jbsenergy.com
GHealy@SempraUtilities.com
glw@eslawfirm.com
gmorris@emf.net
gstaples@mendotagroup.net
gtd@cpuc.ca.gov
harold@seakayinc.org

HRasool@SempraUtilities.com
hsanders@caiso.com
info@tobiaslo.com
j_peterson@ourhomespaces.com
jandersen@tiaonline.org
janet.combs@sce.com
jarmstrong@goodinmacbride.com
jas@cpdb.com
jay.birnbaum@currentgroup.com
Jcox@fce.com
jdr@cpuc.ca.gov
jeffrcam@cisco.com
jellis@resero.com
jennsanf@cisco.com
jerry@enernex.com
jfine@edf.org
jgoodin@caiso.com
jhawley@technet.org
jlin@strategen.com
jlynch@law.berkeley.edu
jmccarthy@ctia.org
jmcfarland@treasurer.ca.gov
jmh@cpuc.ca.gov
joe.weiss@realtimeacs.com
john.quealy@canaccordadams.com
john_gutierrez@cable.comcast.com
jon.fortune@energycenter.org
jorgecorralejo@sbcglobal.net
joshdavidson@dwt.com
joyw@mid.org
jparks@smud.org
jscancarelli@crowell.com
jskromer@gmail.com
juan.otero@trilliantinc.com
judith@tothept.com
julien.dumoulin-smith@ubs.com
jurban@law.berkeley.edu
jw2@cpuc.ca.gov
jwiedman@keyesandfox.com
kar@cpuc.ca.gov
Kcj5@pge.com
kco@kingstoncole.com
kellie.smith@sen.ca.gov
kerry.hattevik@nrgenergy.com
KFoley@SempraUtilities.com
kfox@keyesandfox.com
kgrenfell@nrdc.org

kladko@aspectlabs.com
kmills@cfbf.com
kmkiener@cox.net
kris.vyas@sce.com
lau@cpuc.ca.gov
lbs@cpuc.ca.gov
lburdick@higgslaw.com
leilani.johnson@ladwp.com
lencanty@blackeconomiccouncil.org
Lesla@calcable.org
lewis3000us@gmail.com
lex@consumercal.org
liddell@energyattorney.com
lisa_weinzimer@platts.com
ljimene@smud.org
lkelly@energy.state.ca.us
lmh@eslawfirm.com
lmitchell@hanmor.com
lms@cpuc.ca.gov
lnavarro@edf.org
longhao@berkeley.edu
ltt@cpuc.ca.gov
mandywallace@gmail.com
marcel@turn.org
margarita.gutierrez@sfgov.org
mariacarbone@dwt.com
mark.s.martinez@sce.com
Mark.Schaeffer@granitekey.com
mark.sigal@canaccordadams.com
martinhomec@gmail.com
mary.tucker@sanjoseca.gov
marybrow@cisco.com
mbp@cpuc.ca.gov
mc3@cpuc.ca.gov
mcarboy@signalhill.com
mcoop@homegridforum.org
mday@goodinmacbride.com
mdjoseph@adamsbroadwell.com
mgarcia@arb.ca.gov
mgo@goodinmacbride.com
michael.backstrom@sce.com
michael.jung@silverspringnet.com
michael.sachse@opower.com
michael_w@copper-gate.com
michaelboyd@sbcglobal.net
mike.ahmadi@Granitekey.com
mike@ucan.org

mjd@cpuc.ca.gov
mkurtovich@chevron.com
MNelson@MccarthyLaw.com
mokeefe@efficiencycouncil.org
monica.merino@comed.com
mozhi.habibi@ventyx.com
mpa@a-klaw.com
mrw@mrwassoc.com
mshames@ucan.org
mterrell@google.com
mtierney-lloyd@enernoc.com
mzx@cpuc.ca.gov
nellie.tong@us.kema.com
nes@a-klaw.com
nml@cpdb.com
norman.furuta@navy.mil
npedersen@hanmor.com
nquan@gswater.com
nsuetake@turn.org
pcasciato@sbcglobal.net
peter.pearson@bves.com
philm@scdenergy.com
pickering@energyhub.net
pkulkarn@energy.state.ca.us
prp1@pge.com
puja@opower.com
r.raushenbush@comcast.net
ralf1241a@cs.com
rboland@e-radioinc.com
rcounihan@enernoc.com
regrelcpuccases@pge.com
rgifford@wbklaw.com
rhh@cpuc.ca.gov
ro@calcable.org
robertginaizda@gmail.com
roger147@aol.com
rquattrini@energyconnectinc.com
rschmidt@bartlewells.com
rstuart@brightsourceenergy.com
rudy.reyes@verizon.com
ryn@rynhamiltonconsulting.com
salleyoo@dwt.com
samuelk@greenlining.org
sas@a-klaw.com
sberlin@mccarthyLaw.com
scott.tomashefsky@ncpa.com
scr@cpuc.ca.gov

SDHilton@stoel.com
SDPatrick@SempraUtilities.com
sean.beatty@mirant.com
seboyd@tid.org
sephra.ninow@energycenter.org
Service@spurr.org
sharon.noell@pgn.com
shears@ceert.org
slins@ci.glendale.ca.us
sls@a-klaw.com
smaye@nappartners.com
srovetti@sflower.org
srt@cpuc.ca.gov
ssmyers@worldnet.att.net
stephaniec@greenlining.org
stephen.j.callahan@us.ibm.com
steven@lipmanconsulting.com
steven@sfpower.org
sthiel@us.ibm.com
sue.mara@rtoadvisors.com
suzannetoller@dwt.com
tam.hunt@gmail.com
tburke@sflower.org
TCahill@SempraUtilities.com
TGlasse@Certichron.com
tien@eff.org
tjs@cpuc.ca.gov
tmfry@nexant.com
tomk@mid.org
tpomales@arb.ca.gov
traceydrabant@bves.com
TRH@cpuc.ca.gov
ttutt@smud.org
Valerie.Richardson@us.kema.com
vjb@cpuc.ca.gov
vladimir.oksman@lantiq.com
vwood@smud.org
vzavatt@smud.org
wamer@kirkwood.com
wbooth@booth-law.com
wmc@a-klaw.com
wmp@cpuc.ca.gov
wtr@cpuc.ca.gov
xbaldwin@ci.burbank.ca.us
zaf@cpuc.ca.gov