



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

FILED

08-17-10
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)

**OPENING COMMENTS OF THE UTILITY REFORM NETWORK
ON SMART GRID PERFORMANCE METRICS**



Marcel Hawiger, Energy Attorney
Barbara Alexander, Consultant to TURN

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

August 17, 2010

**OPENING COMMENTS OF THE UTILITY REFORM NETWORK
ON SMART GRID PERFORMANCE METRICS**

Pursuant to the direction and procedural schedule established in the Joint Ruling of the Assigned Commissioner and the Administrative Law Judge issued on July 30, 2010, the Utility Reform Network (TURN) respectfully submits these opening comments concerning smart grid “metrics.” The Joint Ruling asks parties to comment on the appropriateness of the metrics proposed in Attachment A to the Joint Ruling, as well as to propose additions, modifications, or deletions to the proposed metrics.

TURN also brings to the Commission’s attention a recent order issued by the Maryland Public Service Commission concerning Baltimore Gas & Electric’s AMI proposal in which the Maryland Commission has ordered the development of performance metrics to monitor implementation of BGE’s consumer education program and the implementation of its smart meter program. This Order by the Maryland Commission contains the overall approach that TURN urges this Commission to follow in its monitoring of Smart Grid investments and deployment plans. Specifically, the Commission stated:

We also can, and will mitigate both the technological and financial risks further by requiring BGE to measure its performance with regard to deployment and customer benefits and reviewing the status of the Initiative regularly. These reviews will monitor the progress of the Initiative against concrete metrics – the results may well inform our analyses of prudence and cost-effectiveness in the rate cases to follow, and thus our future cost-recovery decisions, but the reviews themselves will focus primarily on whether the Initiative is being deployed properly and on schedule, whether and how it functions, whether and to what extent customers are receiving benefits, and how the costs compare to the Company’s budget. Put another way, we want to know where we are, where we are going, and what BGE will need to do in order to get there. In addition to the customer education and communications metrics ordered above, which will be

included in the reviews as well, these metrics should distinguish operational and supply-side benefits, demarcate demand response enabled by PeakRewards versus AMI, and differentiate among gas and electric customers and among all customer classes. Accordingly, we direct BGE and the parties to develop, and submit for our approval, a comprehensive set of installation, performance, benefits and budgetary metrics that will allow us and the public to gain a full understanding of whether, and to what extent, this Initiative is being deployed and is working as planned.¹

1. General Comment Regarding Smart Grid Attribution and “Performance” Measurement

The proposed metrics provide a comprehensive measure of many aspects of energy delivery and use. Many of the metrics measure the potential impacts of energy efficiency and demand response. This is valuable information. However, it may be extremely difficult to discern the incremental impact of “smart grid” investments over and beyond those investments and technology developments already occurring as a result of energy efficiency and demand response programs. TURN will be interested in the comments of the utilities as to their ability to discern the impact of the investments labeled “smart grid” as compared to these existing ratepayer funded programs.

Moreover, many of the metrics fall into the “number of widgets” category. Such metrics provide no information regarding the “performance” of the widget. But measuring the actual “performance” of a widget (say, for example, an in-home display device) may be more complex. For example, whether the widget was installed does not reflect its ongoing use to the customer and TURN recommends that the Commission

¹ Maryland Public Service Commission, In the Matter of the Application of Baltimore Gas & Electric Co. for Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge for Recovery of Costs, Case No. 9208, Order No. 83531 (August 13, 2010), at 48. (<http://webapp.psc.state.md.us/Intranet/sitesearch/CN9208.pdf>)

require utilities to track the ongoing use of the device, the failure rate of the device, and the ongoing maintenance costs and incidents associated with the operation of the device. Finally, utilities should track whether customers actually use the device on an ongoing basis. Some aspects of this evaluation may require a comparative study of the type that is often undertaken by EM&V consultants in the energy efficiency (EE) and demand response (DR) arenas. TURN understands that the data collection that will be part of the smart grid reports cannot be as extensive as a specific program evaluation study. On the other hand, if the utilities are collecting and reporting customer-level or tariff-level energy usage data, we urge the Commission to require utilities to report other relevant data that links deployment to performance. TURN hopes that these issues will be further evaluated and discussed at the August 25 workshop.² In addition, TURN recommends that the utilities and/or Commission staff solicit input from contractors presently performing EM&V studies.

2. Proposed additions to metrics

Add metrics to Category #6 concerning actual recorded technology and equipment costs

TURN recommends the addition of a separate metric concerning “costs of deployed smart grid technologies,” which could also be added to the metrics in Category # 6 (Deployment of Cost-Effective Smart Technologies). As implied in the title of

² Regrettably, due to vacations and conflicting schedules TURN will likely not be able to participate at this workshop on August 25.

category #6, SB 17 specifically outlined state policy to modernize the system with “cost-effective smart grid products, technologies, and services.”³

While the Commission explicitly ordered the utilities to provide “forecasts” of cost data in their plans, the metrics should provide actual data on costs incurred for installed technologies, services, and products. The proposed metrics in general measure performance based either on quantities of products or services deployed (e.g. miles of circuits with dynamic line ratings) or based on various parameters measuring system reliability or efficiency performance (e.g., SAIDI, load factors, etc.). But these parameters are supposed to measure the extent or effect of physical hardware or software investments that characterize the digital “smart grid.” What is essential to add is an inventory of any actual historical hardware or product additions made by the utilities that qualify as “smart grid,” together with their actual recorded costs (capital and all labor). Category #6 provides the inventory. It must be supplemented with cost data, disaggregated as much as possible without violating confidentiality.

Add metrics to Category # 9 to measure impact of PEVs

TURN is uncertain how information re PEV saturation and demand/energy use can be collected. Nevertheless, this Category needs to be expanded by including metrics that measure the key potential performance problem due to PEVs, such as the overloading of local transformers or other incidents relating to the distribution system’s reliability of service. Thus, TURN recommends that this category be expanded to include some of the following:

³ PUC §8362(a). The policy intent language of § 8360 uses the term “cost-effective” at least five times.

- Any distribution-level problems (blown transformers, outages, voltage reductions) due to PEVs.
- For any identifiable customer with a PEV, identify the type of charging facility (voltage level, any other relevant parameters).
- Any circuit-level capacity factor and reliability data should be correlated with data on PEV saturation.

3. Proposed modifications to the Proposed Metrics

Metric 2 – Dynamic Optimization

TURN recommends that the capacity factor data be disaggregated by circuit if possible

Metric 7 – Integration of Consumer Devices

Most of the metrics in this measure strictly the “number of widgets” installed. By itself this information does not provide any measure of “performance.” Presumably the goal is to understand whether the deployment of devices that can communicate with either the utility (through the meter) and/or the consumer (through HAN) impacts consumer electric use patterns. These metrics should be supplemented with customer-level demand and consumption data that allows comparative analysis (pre- and post- for same user or between users) and provides an indication of whether, for example, the presence of an IHD impacts energy usage. In addition, the utility should track and report actual customer use of the device. Of course, obtaining sufficient data to actually “evaluate” the impacts of a particular program, device or tariff may be a

very complex undertaking and not suitable for the purpose of an annual smart grid report. TURN recommends consultation with academic experts to facilitate robust and useful data collection within the practical confines of this docket.

Metric 10 – Consumer Information

The same analysis applies to this category. Rather than just identifying the “number of customers served by “dynamic pricing” tariffs, it would be more useful to provide comparative data on demand and energy consumption, as well as the number of customers who experienced higher bills, who opts-out of the dynamic pricing tariff, and the comparison between the number of enrolled customers with the utility’s projected enrollment in its smart meter applications. While customer-level data collection may be onerous, the Commission should at a minimum require the presentation of consumption data by “rate schedule.” In other words, the utilities could provide ‘per residential or commercial meter’ data on peak demand and energy consumption. However, even such ‘rate level’ data would need to be supplemented by comparative analyses of per capita usage to actually understand the impact of particular rates or information. In addition, TURN recommends that the Commission adopt the approach mandated by the Maryland Commission in its order quoted earlier in our comments in which performance metrics will be developed to monitor the implementation of utility consumer education programs relating to Smart Grid investments that are proposed to impact customer behavior and

participation in pricing programs. As a means of starting a dialogue about the proper metrics, TURN offers the following examples:

- Measurement of customer understanding of the utility’s print and other media relied upon to explain the utility’s product or service, both before and after the offering of the product or service or installation of the new technology and the receipt of the new customer bill;
- Customer complaints concerning the operation or results associated with the product, technology, or service;
- Customer complaints about the bills received after the new product or service is selected or the new technology is installed and the resulting utility resolution of the complaint;
- Measurement of customer understanding of the method and amount of costs for Smart Grid investments included on monthly bills compared with customer experience in terms of bill impacts due to participation in programs or services that have been implemented as a result of the Smart Grid investments;
- Measurement of “hits” on the revised web portal and a statistically valid survey or audit to link those customers who use the revamped web portal with actual usage patterns and results.

August 17, 2010

Respectfully submitted,

_____/S/_____
Marcel Hawiger, Staff Attorney

Marcel Hawiger, Staff Attorney
Barbara R. Alexander, Consumer Affairs
Consultant

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 August 17, 2010, I served the attached:

OPENING COMMENTS OF THE UTILITY REFORM NETWORK

ON SMART GRID PERFORMANCE METRICS

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 August 17, 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
aivancovich@caiso.com
ali.ipakchi@oati.com
am1@cpuc.ca.gov
andrew_meiman@newcomb.cc
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@mccarthylaw.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
dbp@cpuc.ca.gov
dbrenner@qualcomm.com
demorse@omsoft.com
dennis@ddecuir.com
df1@cpuc.ca.gov
dgrandy@caonsitegen.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
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
HRasool@SempraUtilities.com
hsanders@caiso.com
info@tobiaslo.com
j_peterson@ourhomespaces.com
jandersen@tiaonline.org
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
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@qmail.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
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

lettenson@nrdc.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
lms@cpuc.ca.gov
lnavarro@edf.org
longhao@berkeley.edu
mandywallace@gmail.com
marcel@turn.org
margarita.gutierrez@sfgov.org
mariacarbone@dwt.com
mark.s.martinez@sce.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
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
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
RobertGnaizda@gmail.com
rogerl47@aol.com
rquattrini@energyconnectinc.com
rschmidt@bartlewells.com
rstuart@brightsourceenergy.com
salleyoo@dwt.com
samuelk@greenlining.org
sas@a-klaw.com
sberlin@mccarthyaw.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
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
sthie@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