

CALIFORNIA'S SMART GRID

California Public Utilities Commission
Smart Grid Rulemaking
R.08-12-009

WORKSHOP **SMART GRID DEPLOYMENT PLAN REQUIREMENTS**

AGENDA

MARCH 17 & 18, 2010
9:30 AM – 3:45 PM

HEARING ROOM A (MARCH 17)/AUDITORIUM (MARCH 18)
CPUC, 505 VAN NESS AVENUE, SAN FRANCISCO, CA 94102

Senate Bill 17 requires that the Commission in consultation with CAISO, and CEC develop the requirements for a Smart Grid deployment plan by July 2010. Consequently, this workshop will focus on what should be those requirements.

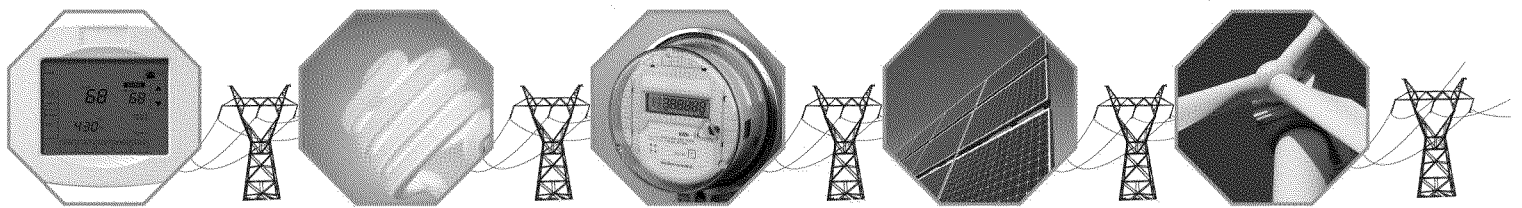
In the Commission's February Ruling there were a number of principles that were discussed in laying the foundation for a deployment plan. The Ruling suggested that the major requirements for a Smart Grid system can be divided in three general categories:

1. Increasing reliability, efficiency and safety of the power grid.
2. Enabling decentralized power generation so homes can be both an energy consumer and supplier (provide consumers with interactive tools to manage energy usage).
3. Flexibility of power consumption at the consumer side to allow supplier selection (enables distributed generation, solar, wind, biomass, etc.).

Therefore, the Ruling, based on the above principles, proposed that a Smart Grid plan/roadmap must:

- a. *Be able to heal itself* - Using real-time information from embedded sensors and automated controls to anticipate, detect, and respond to system problems, a smart grid can automatically avoid or mitigate power outages, power quality problems, and service disruptions.
- b. *Motivate consumers to actively participate in operations of the grid* - A smart grid should enable consumers to change their behavior around dynamic prices or to pay vastly increased rates for the privilege of reliable electrical service during high-demand conditions.
- c. *Resist attack* – A smart grid system should better identify and respond to man-made or natural disruptions. A smart grid system using real-time information should enable grid operators to isolate affected areas and redirect power flows around damaged facilities.





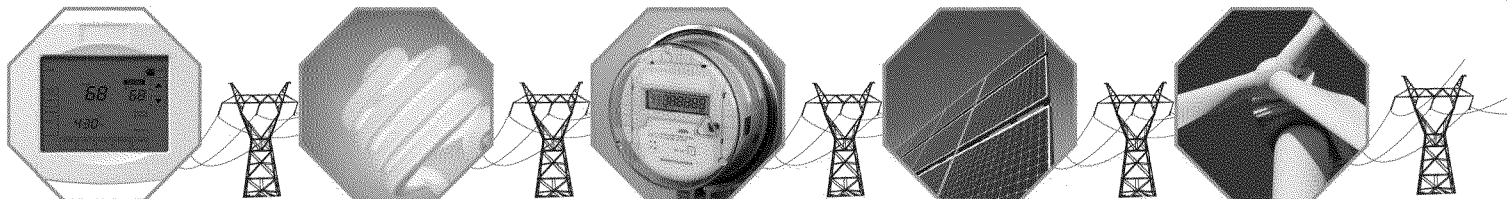
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- d. Provide higher quality power that will save money wasted from outages – It is well documented that outages and power quality issues cost the State billions of dollars. A smart grid system should create and provide more stable and reliable power to reduce downtime and prevent such high losses.
- e. Accommodate all generation and storage options – A smart grid system should continue to support traditional power loads, and also seamlessly interconnect with renewable energy, micro-turbines, and other distributed generation technologies at local and regional levels.
- f. Enable electricity markets to flourish – a smart grid system must create an open marketplace where alternative energy sources from geographically distant locations can easily be sold to customers wherever they are located. Intelligence in distribution grids should enable small producers to generate and sell electricity at the local level using alternative sources such as rooftop-mounted photo voltaic panels, small-scale wind turbines, and micro hydro generators
- g. Run more efficiently - A smart grid system must optimize capital assets while minimizing operations and maintenance costs (optimized power flows reduce waste and maximize use of lowest-cost generation resources).
- h. Enable penetration of intermittent power generation sources – As climate change and environmental concerns increase the demand for the amount of renewable energy resources will also increase; since, these are for the most part intermittent in nature a smart grid system should enable power systems to operate with larger amounts of such energy resources.

Workshop Format - The workshop will have four panels representing issues/concerns from academia & research, the customer side, vendors, and utilities. Each panel will present from their perspective of the required parameters for a successful and cost effective Smart Grid system and how the Commission can use Smart Grid deployment plans to advance this goal. The format will encourage participation from all attendees; as such each panel will have an hour and a half to present followed by one hour of Q&A from the dais as well as the audience. The moderator for the workshop will be the assigned Administrative Law Judge, Tim Sullivan.

Presentations from panelists can be PowerPoint and/or a written statement up to ten minutes in length. The workshop will be webcast (video & listen only). The video webcast will be at www.californiaadmin.com/cgi-bin/cpuc.cgi. Presentations will be on the web for viewing at <http://www.cpuc.ca.gov/PUC/energy/smartgrid.htm>.





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MARCH 17, 2010

9:30 AM – 3:45 PM

AUDITORIUM

9:30 a.m. – 9:45 a.m. **Welcome and Opening Comments:**
Assigned Commissioner Nancy Ryan & ALJ Sullivan

9:45 a.m. – 12:15 p.m. **Academia & Research – All the possibilities for a Smart Grid & the roadmap to build it**

Panelists:

- *EPRI - invited*
- *Jet Propulsion Laboratories (JPL) - invited*
- *Mary Anne Piette, LBNL - invited*

12:15 p.m. - 1:30 p.m. Lunch Break

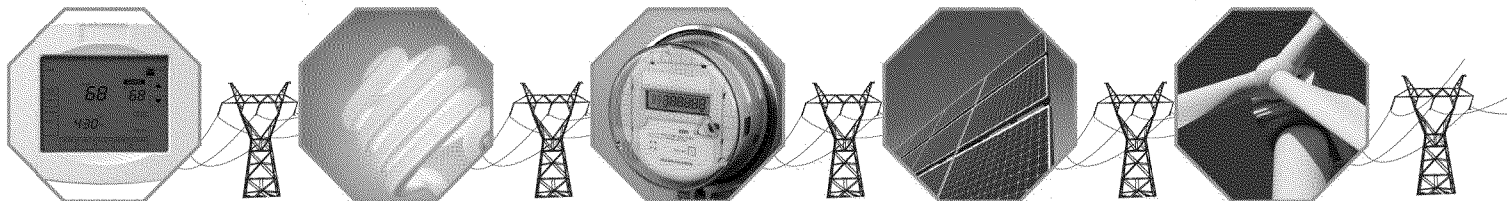
1:30 p.m. – 3:30 p.m. **Customer Perspective – What's in it for the consumer & how can we protect the consumers**

Panelists:

- *DRA*
- *TURN*
- *Electric Storage customer – tbd*
- *Solar City- invited*

3:30 p.m. – 3:45 p.m. **Closing Remarks**





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MARCH 18, 2010

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AUDITORIUM

9:30 a.m. – 9:45 a.m. **Welcome and Opening Comments:**
Assigned Commissioner Nancy Ryan & ALJ Sullivan

9:45 a.m. – 12:15 p.m. **Utility Perspective – The roadmap to a smarter grid**

Panelists:

- SCE
- SDG&E
- PG&E
- SMUD

12:15 p.m. - 1:30 p.m. Lunch Break

1:30 p.m. – 3:30 p.m. **Vendor – The technologies that make-up a smart grid**

Panelists:

- CTIA - tbd
- Laura Ipsen, Cisco
- Accenture - tbd

3:30 p.m. – 3:45 p.m. **Closing Remarks**

