

Update on Demand Response in California

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Committee on Regional Power Cooperation
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Summary of Major Activities

- New CPUC rulemaking on advanced metering and dynamic pricing (R. 02-06-001).
- New CEC rulemaking on load management.
- New CPA demand response program.
- Status of CEC real-time meter program.

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PUC Rulemaking

- Rare joint proceeding:
 - CPUC Commissioner Michael Peevey
 - CEC Commissioner Art Rosenfeld
 - CPA Board Member Sunne McPeak
- Two-day “experiential” workshop Sep 9-10 on dynamic pricing and hardware. Presentations at:
 - <http://www.energy.ca.gov/demandresponse/documents>
- Three working groups:
 - Policy (CPUC, CEC and CPA)
 - Large customers > 200 kW
 - Small customers < 200 kW

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CEC Rulemaking

- CEC has authority to require utilities to undertake actions to reduce peak load, e.g., AC cycling and time-of-use rates.
- The CEC is actively participating in the CPUC proceeding, and will later see what actions could be taken under the CEC’s load management authority.

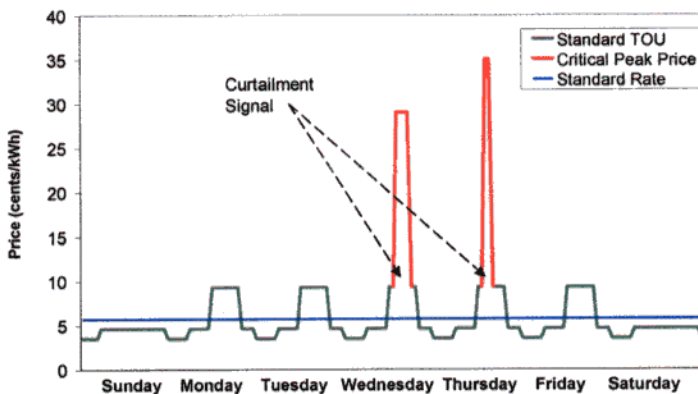
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“Rosenfeld’s Vision”

- All rates should be TOU or better (critical peak pricing or real time pricing) if digital meters available and if economic
- “CPP” is an extension of TOU (perhaps Gulf Power’s CPP or EDF’s blue/white/red days)
- Large (i.e., > 1 MW):
 - Default = RTP
 - Hedge = CPP or TOU
- Intermediate Size Customers (i.e., 200 kw to 1 MW):
 - Default = CPP
 - Hedge = TOU
 - Option = RTP (voluntary)
- Residential and Small Commercial:
 - Default = CPP
 - Hedge = TOU
- Include load management requirements in new building standards.

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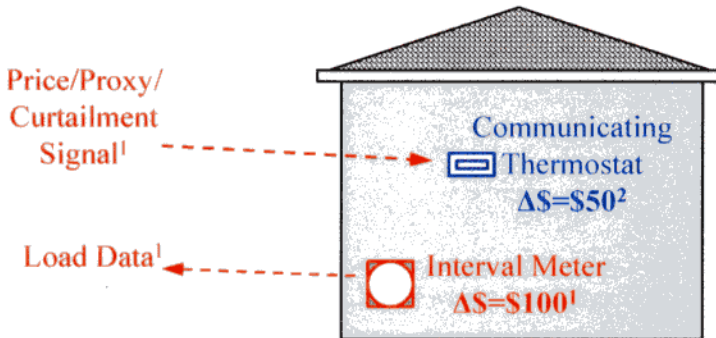
Critical Peak Pricing (CPP)



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Proposed System for Demand Response
in New Homes & Small Commercial Buildings

Cost of Avoided Load: \$100-200 per kW



1. **Utility** responsible for signal, communications, meter, and load data.
2. **Builder** responsible for communicating thermostat.

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CPA Demand Reserves Program

- California Power Authority was created to insure reliability and has \$5B in bond authority.
- CPA-Dept of Water Resources contract for 1,000 MW of demand response and ancillary services (AS). \$50M/year for five years.
- CPA-Automated Power Exchange contract to provide scheduling and communication from customer to ISO.
- Customers get \$50/kW-year and a five year commitment.
- Problems are stiff financial penalties for not meeting AS requirements, so customer response is low.

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CEC Real-Time Meter Program

- Goals:
 - Overcome basic barrier to real-time demand response programs--*lack of real-time meters and communication.*
 - Enable *greater participation* in existing demand response programs sponsored by utilities and CPA.
- Governor and Legislature provided CEC with \$35M to install about 23,000 meters and communications on all customers >200 kW that did not have them already. 21,000 installed so far.

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CEC Real-Time Meter Program-2

Utility	# Meters	Status (as of 9/23/02)
SCE	12,000	10,950 installed.
PG&E eMeter	5,900	4,524 installed.
SDG&E	1,380	Complete.
LADWP	3,418	Complete.
SMUD	300	124 installed.
SCPPA	274	Complete. Negotiating to install additional meters.
NCPA	70	63 installed.
Total	23,342	20,733 installed. About 8% with communication.

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CEC Real-Time Meter Program-3

- Equipment requirements:
 - CPUC-approved, DA compatible, billing quality meter
 - Target Budget - \$1,400 per installation
- Communication requirements:
 - Web or other access to load profile (not less than daily), pricing, system notifications
 - Daily graphical and tabular usage data
 - Options for additional services or direct meter access
- Report to Legislature on meter program:
 - http://38.144.192.166/reports/2002-06-27_400-02-004F.PDF
- Staff contact:
 - Don Kazama: dkazama@energy.state.ca.us
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Useful Webpages

- PUC rulemaking on advanced metering:
 - <http://www.cpuc.ca.gov/published/proceedings/R0206001.htm>
- CEC rulemaking on demand response:
 - <http://www.energy.ca.gov/demandresponse/>
- CEC enhanced automation:
 - <http://www.consumerEnergyCenter.org/enhancedautomation>
- CPA demand reserves program:
 - <http://www.capowerauthority.ca.gov/DemandResPartnership>
- Borenstein, Jaske, Rosenfeld paper:
 - http://www.ef.org/energyseries_dynamic.cfm

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