

**CALIFORNIA ENERGY COMMISSION**

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Main website: [www.energy.ca.gov](http://www.energy.ca.gov)Consumer Website: [www.ConsumerEnergyCenter.org](http://www.ConsumerEnergyCenter.org)Children's Website: [www.energyquest.ca.gov](http://www.energyquest.ca.gov)

In the matter of:	)	Docket No. 08-DR-01
	)	
2008 Order Instituting Informational	)	EFFICIENCY COMMITTEE
Proceeding and Rulemaking on	)	SCOPING ORDER
Load Management Standards	)	

## LOAD MANAGEMENT STANDARDS EFFICIENCY COMMITTEE SCOPING ORDER

In this order, the California Energy Commission's Efficiency Committee (Committee) establishes the scope of the initial phase of the 2008 Load Management Investigation and Rulemaking regarding possible amendments to the Load Management Regulations (Title 20, California Code of Regulations, Section 1621 through Section 1625) and a schedule of workshops addressing topic areas for which the Energy Commission may consider developing standards. Chairman Jackalyn Pfannenstiel is the Presiding Member and Commissioner Arthur H. Rosenfeld is the Associate Member of the Efficiency Committee.

### Background

The *2007 Integrated Energy Policy Report (2007 IEPR)*<sup>1</sup> recommended that the Energy Commission initiate a rulemaking involving the California Public Utilities Commission (CPUC) and the California Independent System Operator (Cal ISO) in 2008 to pursue the adoption of load management standards under the Energy Commission's existing authority. The *2007 IEPR* notes that demand response can play a critical role in California's electricity mix, cost-effectively avoiding incremental generation needs and resulting environmental costs while helping to ensure the reliability of California's electrical grid. In the *Energy Action Plan II*, the Energy Commission and the CPUC endorsed a goal that price-induced demand response would meet 5 percent of California's peak demand. California has not yet achieved that goal. The *2007 IEPR* notes that the Energy Commission's load management authority is a valuable policy tool for the state to bridge the gap between the current level of demand response and its full cost-effective potential.

<sup>1</sup> The 2007 IEPR and two Energy Commission Consultant Reports written in support of the 2007 IEPR proceeding are available on the Energy Commission website:

<http://www.energy.ca.gov/2007publications/CEC-100-2007-008/CEC-100-2007-008-CMF.PDF>

<http://www.energy.ca.gov/2007publications/CEC-200-2007-003/CEC-200-2007-003-F.PDF>

<http://www.energy.ca.gov/2007publications/CEC-200-2007-007/CEC-200-2007-007-F.PDF>

## Legal Authority to Adopt Load Management Standards

The Energy Commission has had authority to adopt load management standards since 1976. Public Resources Code section 25403.5 directs the Energy Commission to: "... adopt standards by regulation for a program of electrical load management for each utility service area." These standards apply to all utilities in the state, including both Investor Owned Utilities (IOUs) and Publicly Owned Utilities (POUs). The standards were established to provide the Energy Commission with the ability to develop programs for reducing peak demand and reshaping utility load duration curves.<sup>2</sup> Under the broad scope to adopt load management standards the Energy Commission "shall consider, but need not be limited to", the following load management techniques:

- (1) "Adjustments in rate structure to encourage the use of electrical energy at off-peak hours or to encourage control of daily electrical load."
- (2) "End use storage systems which store energy during off-peak periods for use during peak periods."
- (3) "Mechanical and automatic devices and systems for the control of daily and seasonal peak loads."

The substantive criteria for adopting load management standards are that:

- (1) "The standards shall be cost effective when compared with the costs for new electrical capacity and... technologically feasible."
- (2) "Any expense or any capital investment required of a utility by the standards shall be an allowable expense or an allowable item in the utility rate base and shall be treated by the Public Utilities Commission as such in a rate proceeding."

In addition, the adopted load management standards may add flexibility via exemption and delays:

"The [Energy Commission] may... grant, upon application by a utility, an exemption from the standards or a delay in implementation... Exemption or delay shall be granted only upon a showing of extreme hardship, technological infeasibility, lack of cost effectiveness, or reduced system reliability and efficiency."

The Energy Commission adopted load management standards in 1982, requiring five utilities to develop and implement residential peak load cycling programs (cycling air conditioners and electric water heaters), marginal cost rates, swimming pool filter pump programs, and electrical use surveys of large customers. In addition to Load Management Standards, the Energy Commission has supported installation of equipment to facilitate load management. In response to the 2000–2001 electricity

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<sup>2</sup> A load duration curve (LDC) illustrates the electric load for each hour of a year in order of magnitude. An example appears as Figure 1 on page 7 of report CEC-200-003-F, "The State of Demand Response in California." A link to that report appears in the preceding footnote.

crisis, the Energy Commission implemented an emergency program that provided over 1,000 California businesses with metering and control systems that enabled them to reduce their cumulative loads by over 150 megawatts within 15 minutes of receiving an emergency signal. In addition, the Energy Commission directed the implementation of Assembly Bill 29x of 2001, which provided \$35 million to install 23,000 real-time meters for customers with loads above 200 kilowatts – customers whose loads comprise 30 percent of California's peak electricity demand.

## **Process**

On January 2, 2008, the Energy Commission approved an Order Instituting Informational and Rulemaking Proceeding (OII/OIR) on demand response equipment, rates, and protocols.<sup>3</sup> The OII/OIR delegates the authority to proceed with the rulemaking to the Energy Commission's Efficiency Committee (Committee). The purpose of the OII/OIR is to:

- (1) Assess which rates, tariffs, equipment, software, protocols, and other measures would be most effective in achieving demand response; and
- (2) Adopt regulations and take other appropriate actions to achieve a price-responsive electricity market.<sup>4</sup>

As described in the OII/OIR, the Committee recognizes the importance of work being done at the California Public Utilities Commission (CPUC) and the California Independent System Operator (CAISO) on demand response in California. The Committee indicates that this proceeding will be very closely coordinated with these entities. The Committee also recognizes that publicly owned utilities are engaging in demand response programs and activities, and will coordinate with those activities. The Committee notes again that the Energy Commission's load management standards authority under Public Resources Code section 25403.5 applies to all utility service areas in the state, and encourages the active participation of publicly owned utilities in this proceeding.

On March 3, 2008, the Committee held a scoping workshop to obtain public input on the development and possible adoption of new load management standards. The workshop included presentations from Energy Commission, CPUC, and CAISO staff, utilities, researchers, and invited technical experts to discuss the Energy Commission's load management standards authority as well as demand response accomplishments, plans,

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<sup>3</sup> Demand response (DR) refers to mechanisms to manage the demand from customers in response to supply conditions, for example, having electricity customers reduce their consumption at critical times or in response to market prices. Demand response is generally used to refer to mechanisms used to encourage consumers to reduce the peak demand for electricity.

<sup>4</sup> In price (demand) response electricity prices reflect either wholesale market or system operating conditions and customers respond voluntarily by reducing consumption during higher-price periods. A fundamental element of price response is the allocation of procurement costs by time, resulting in rates that rise or fall with demand, providing incentives for customers to conserve on-peak or shift load from higher to lower-price periods.

and current research on demand response technology advancements. A number of attendees provided public comments and 11 parties filed written comments following the workshop.

## **Scope of the 2008 Load Management Standards Rulemaking**

After considering the information presented and discussed at the workshop as well as the comments received, the Committee has decided to pursue new load management standards in the following topic areas:

- Adoption of advanced technologies for operation and management of the electric grid that will benefit electricity customers in California,
- Statewide deployment of advanced metering,
- Implementation of time-of-use and dynamic rate design,
- Adoption of design criteria and deployment of enabling technologies, and
- Development and implementation of customer assistance and education strategies.

Participants raised a number of issues during the workshop and in written comments that the Committee has determined require additional investigation and public discussion before new load management standards can be adopted. The Committee will investigate those issues in a series of five workshops, shown in the schedule below, which will provide participants multiple opportunities for further input. Attachment A contains further information about topics to be addressed at each workshop, including concepts for possible load management standards where appropriate. Each workshop will be separately noticed, and topics or concepts may be added or removed at that time. Please note that dates and times may change and that additional workshops may be added. Any such changes will be communicated through subsequent notices.

Using information and comments provided during these workshops, staff will develop a staff report and make recommendations for potential load management standards to the Committee. This report will be made available for public comment. The Committee may also hold further workshops on the report and standards proposals. Comments received will be used in developing a final set of standards for consideration by the Energy Commission.

The Committee will need to consider a number of issues when determining whether standards are appropriate, and if so, when developing standards language. These include:

- The role the standards would have in achieving state policy goals and how they fit with other national, state, and local regulations and programs already in place;
- The potential impact of the standards on system load, generation needs, and power procurement costs; and

- How the standards would be facilitated, funded, and enforced.

## Expected Schedule

<b>April 29, 2008</b>	<b>Workshop on the Smart Grid Activities and Technology</b>
May 6, 2008	Comments due from public on April 29, 2008 Workshop
<b>May 27, 2008</b>	<b>Workshop on Advanced Meter Infrastructure (AMI)</b>
June 3, 2008	Comments due from public on May 27, 2008 Workshop
<b>June 10, 2008</b>	<b>Workshop on Rate Design, Incentives, and Market Integration</b>
June 17, 08	Comments due from public on June 10, 2008 Workshop
<b>June 19, 2008</b>	<b>Workshop on Enabling Technologies and Communications</b>
June 26, 2008	Comments due from public on June 19, 2008 Workshop
<b>July 10, 2008</b>	<b>Workshop on Customer Education and Needs</b>
July 17, 2008	Comments due from public on July 10, 2008 Workshop
<b>Early August</b>	<b>Staff Report and Recommendations for Load Management Standards</b>
<b>Late August</b>	<b>Committee Hearing on Staff Report and Standards Recommendations</b>

## Public Participation

Proposed amendments to the Load Management Standards will be based on the record developed during the proceeding, including data and technical analysis by staff, contractors to the Energy Commission, utilities, industry representatives, and other parties. Parties should use the docket established for this proceeding (Docket Number 08-DR-01) when submitting information for the Energy Commission's consideration. The Committee encourages the active participation of all interested and affected parties.

The Energy Commission's Public Adviser provides assistance to the public participating in Energy Commission activities. If you would like information on how to participate in this proceeding, please contact the Public Adviser's Office by phone at (916) 654-4489 or toll-free at (800) 822-6228, by FAX at (916) 654-4493, or by email at [pao@energy.state.ca.us].

The service list for this proceeding is handled electronically. Notices and documents for the proceeding are posted to the Energy Commission website at [[http://www.energy.ca.gov/load\\_management/index.html](http://www.energy.ca.gov/load_management/index.html)]. When new information is posted, an e-mail will be sent to those on the e-mail list server. We encourage those who are interested in receiving these notices to sign up for the list server through the website at [<http://www.energy.ca.gov/listservers/>].

Please direct all news media inquiries to the Media Office at (916) 654-4989, or by e-mail at [mediaoffice@energy.state.ca.us]. Technical questions should be directed to Gabriel D. Taylor, P.E., Load Management Proceeding Project Manager, at (916) 654-4482 or by e-mail at [gtaylor@energy.state.ca.us].

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JACKALYNE PFANNENSTIEL  
Chairman and Presiding Member  
Energy Efficiency Committee

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ARTHUR H. ROSENFELD  
Commissioner and Associate Member  
Energy Efficiency Committee

Mail Lists: Docket #08-DR-01

Note: California Energy Commission's formal name is State of California Energy Resources Conservation and Development Commission.

## **Attachment A Workshop Topics**

### [April 29, 2008: Smart Grid Activities and Technologies](#)

#### *Key workshop topics*

Overview of Smart Grid activities, technologies, and relevant considerations for this Load Management standards process.

### [May 27, 2008 \(Tentative Date\): Advanced Meter Infrastructure \(AMI\)](#)

#### *Key workshop topics*

1. Overview of Investor-Owned Utility AMI business cases and rollout plans; and lessons learned in designing, developing, and deploying AMI systems
2. The relationship between AMI functionality and the capability of supporting different policy goals; and differences in functionality among current systems
3. Reports from the Publicly-Owned Utilities on their current plans for developing and deploying AMI
4. Concepts for possible load management standards:
  - a. *Adopt statewide standard protocols for AMI functionality*
  - b. *Require all utilities to develop business cases for AMI deployment consistent with statewide standard protocols for AMI functionality*
  - c. *Require all utilities to deploy AMI*

### [June 10, 2008 \(Tentative Date\): Rate Design, Incentives, and Market Integration](#)

#### *Key workshop topics*

1. Overview of the principles of cost-based ratemaking and general rate design considerations
2. Recent and Current rate design activities at the CPUC for IOUs
3. Time of Use (TOU) and Dynamic rate design activities at the POUs
4. Policy considerations and purposes for TOU and dynamic rates
5. Rate design issues for load shifting and energy storage technologies
6. Logistical issues in the development of TOU and dynamic rates
7. Integration of retail tariffs and programs with wholesale markets and control area operations

8. Concepts for possible load management standards:
  - a. *Adopt statewide standard protocols for dynamic rates that establish general principles to follow for dynamic rate design and implementation*
  - b. *Require CPUC and local governing boards to approve, and utilities to offer, opt-out Critical Peak Pricing (CPP) rates to all residential and small commercial customers (with a default TOU rate if they opt out), and mandatory CPP for large commercial and industrial customers*
  - c. *Require retail tariffs and programs be consistent with wholesale market design or be integrated into control area operations*
  - d. *Specify communications standards for participation in wholesale markets or control area operations*

## June 19, 2008 (Tentative Date): Enabling Technologies and Communications

### **Key workshop topics**

1. Communications systems to support enabling technologies, customer information, and TOU and dynamic rates
2. Currently-available and near-term enabling technologies; how these technologies are applied in different customer sectors
3. Communications platforms for enabling technologies
4. Open Home Area Network (HAN), customer rights and obligations, utility rights and obligations, vendor rights and obligations
5. Implications for Energy Storage and Load-Shifting Technologies
6. Automated Demand Response protocols and technologies
7. Concepts for possible load management standards:
  - a. *Adopt reference designs and standards for enabling technologies*
  - b. *Adopt statewide protocols for communication systems for enabling technologies*
  - c. *Require utilities to participate in research programs to determine next generation of enabling technologies and identify best practices for their deployment*
  - d. *Require all utilities to offer enabling technologies on a voluntary basis to be installed by the builders of new residential and small commercial buildings*
  - e. *Require utilities to establish programs for consideration of end-use and grid storage equipment*
  - f. *Require utilities to offer technical assistance for automated demand response equipment and installation to large commercial and industrial customers*

## July 10, 2008 (Tentative Date): Customer Education and Needs

### *Key workshop topics*

1. The potential impacts on customers from TOU and dynamic rates
2. Customers needs in order to respond to TOU and dynamic prices, to utilize enabling technologies, and to determine if and how to participate
3. Assistance for customers to develop strategies for reducing load that maximize the load reduction while minimizing cost and inconvenience?
4. Concepts for possible load management standards:
  - a. *Require utilities to participate in statewide consumer education campaign regarding demand response and enabling technologies*
  - b. *Require development of a statewide message system developed and deployed with some variation allowed for specific service areas*
  - c. *Require utilities to provide customers an assessment of how, given current consumption patterns, their bills would change on TOU or dynamic rates*
  - d. *Require utilities to offer programs providing assistance to develop effective strategies to shed load*
  - e. *Require utilities to provide customers with real-time access to their own consumption data*