Load Management Standards OII/OIR

Policy Overview for

Enabling Technologies

June 19, 2008

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Load Management Standards

- Order Instituting Investigation/Order Instituting Rulemaking approved 1/2/08
- Docket number 08-DR-01
- Purposes:
  - (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 responsive electricity market.

Purpose of the Load Management Standards Proceeding

- Obtain public input on the possible formation of new load management standards.
- Explore the potential of peak load reduction and load shifting strategies.
- Explore the coordination of regulatory authority of demand response efforts across investor owned and publicly owned utilities in the state.

Workshop Schedule

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

Objectives of today's Enabling Technologies Workshop

- Understand the policy implications of different types of communications systems and enabling technologies.
- Discuss the capabilities of currently-available and near-term enabling technologies and communications platforms.
- Obtain public input on the potential use of the Energy Commission's load management authority to further adoption of enabling technologies.

State Policy Context for Demand Response and Enabling Technologies

- The Energy Action Plan identifies several key Demand Response action items:
  - Adopt Load Management Standards to establish a demand-response infrastructure
  - Obtain legislative authorization for time-varying pricing for residential customers
  - Progress on dynamic pricing rate design reform for all customers
  - Approve programs that utilize advanced metering, tariff, and other automated demand response infrastructure
  - Modify retail programs so that they can more fully participate in the CAISO's new wholesale market structure
  - Develop a load impact and cost-effectiveness protocol for demand response programs

Three Necessary Components for Demand Response

- Advanced Metering Infrastructure
  - Digital meters
  - Communications
- Dynamic Tariffs
  - Creates incentive to respond and—if properly designed—more equitable pricing by reducing costs to customers with lower-than-average peak usage
  - Communicates actual system costs more clearly
- Price and Event Communication
  - Information makes action possible and provides motivation to respond
  - Enabling technology allows residential and small commercial/industrial customers to respond to price easily
  - Larger customers with energy management systems linked to pricing signals over the internet or through other communication channels

Underlying Logic of Demand Response Policy 1

- Reliability
  - Voluntary price response reduces probability of emergency events
  - DR Products in ISO markets
  - Emergency Response
- Efficiency
  - Improve system load factor over the long term
  - TOU and dynamic prices improve customer awareness
  - Attention to shed strategies reveals potential for efficiency improvements
- Cost Reduction and Bill Control
  - Including demand-side options creates downward pressure on supply prices
  - Reduction in peak load growth rate delays or eliminates need for generation and transmission investments *solely to meet peak load growth*

Underlying Logic of Demand Response Policy 2

- Energy Conservation
  - Price differentials drive changes in consumption behavior and customer expectations
  - Experience of peak reduction leads to "spillover" conservation
- Greenhouse Gas Benefits
  - Peak kWh reduction
  - Reduced demand for energy from the dirtiest peakers
  - Secondary impact from increased efficiency and conservation
  - Potential for using dispatchable DR to help balance renewable generation

Underlying Principles for the future of Demand Response

- Customer Choice
  - Dynamic rates—accompanied by adequate education—give individual customers the opportunity to choose which end uses to shift or avoid, implicitly expressing the value they place on those specific end uses
- Economic efficiency
  - Curtail the lowest value loads *first*
  - Initially, the "lowest value load" may well be waste
- Small amounts of response from large numbers of customers
  - may well be the best way to achieve economic efficiency, cost reductions and customer choice
- Automation makes response easier
    - The cost of "paying attention"
    - The cost of taking the action