DOCKETED	
Docket Number:	19-OIR-01
Project Title:	Load Management Rulemaking
TN #:	231432
Document Title:	DRAFT Load Management Rulemaking Scoping Memo
Description:	Draft, for public review and comment, of a Scoping Memo outlining the scope of the 2020 Load Management Rulemaking proceeding at the CEC.
Filer:	Karen Herter
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	1/10/2020 7:32:00 AM
Docketed Date:	1/10/2020

DRAFT Load Management Rulemaking Scoping Memo

This memorandum sets forth the proposed scope and schedule for the 2020 Load Management Rulemaking (Docket 19-OIR-01). The purpose of this rulemaking is to increase demand flexibility through amendments to the CEC's load management standards. This scope will be refined to incorporate comments received during and following the January 14, 2020 Commissioner Workshop on the Scope of the Load Management Rulemaking.

The current schedule has an adoption target date of November 2020. Given the short timeline, any issues not addressed in 2020 may be considered in a future load management proceeding.

Background

California is a national and international leader in advancing solutions to climate change. Meeting California's climate change goals requires focused action to quickly transform the state's energy system away from fuels that generate greenhouse gases (GHGs).

Senate Bill 100 (De León, Chapter 310, Statutes of 2018) maps the state's commitment to a carbon-free electricity sector by 2045. The statute directs the California Energy Commission (CEC), Public Utilities Commission (CPUC), and Air Resources Board (CARB) to plan for a 100 percent zero-carbon grid. The legislation states "It is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045."

State policies also call for speeding the transition to zero emission vehicles, since transportation is the largest source of GHG emissions in California. Executive Order B-48-18 calls for at least 250,000 electric vehicle-charging stations by 2025, and 5 million zero-emission vehicles by 2030. These policies in combination with the transition to a zero-carbon electric supply will ensure that the increased electricity demand for electric vehicles is carbon free.

These two related goals necessitate a rapid expansion of carbon-free resources. The intermittency of these clean energy resources will require carefully planned communications and transactions between supply and demand to achieve the automated demand flexibility needed to ensure the efficiency, cost-effectiveness, and reliability of the electric grid.

Significant advancements have recently been achieved in this field, and the state has passed legislation calling on agencies to speed progress through investigation and regulation. In particular, AB 3232 (Friedman, Chapter 373, Statutes of 2018) and Senate Bill 49 (Skinner, Chapter 697, Statutes of 2019) have called on the CEC to investigate and pursue opportunities for reducing GHGs through demand flexibility in buildings, appliances, and water pumping.

Authority

On November 13, 2019, the CEC adopted an Order Instituting Rulemaking (OIR) to consider amendments to the load management regulations authorized by the Warren-Alquist Act in Public Resources Code Section 25403.5 as follows.

(a) The commission shall… adopt standards by regulation for a program of electrical load management for each utility service area. In adopting the standards, the commission shall consider, but need not be limited to, the following load management techniques:
   (1) Adjustments in rate structure to encourage use of electrical energy at off-peak hours or to encourage control of daily electrical load. Compliance with those adjustments in rate structure shall be subject to the approval of the Public Utilities Commission in a proceeding to change rates or service.
   (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.

History

Shortly after its creation in 1974, the CEC adopted some of the first demand flexibility programs in the country through its load management standards authority. The standards required peak load control programs for residential air conditioners, water heaters, and pool pumps (California Code of Regulations Title 20 sections 1621-1625).

The standards also required the utilities to offer rates based on marginal cost pricing. In response, the CPUC approved time-of-use (TOU) rates for large customers. Although it was understood that TOU price changes were not frequent or flexible enough for optimal load management, they were the best that could be done at the time, given the basic metering and communications available in the early 1980s.[1] Since then, the goal of the CEC's load management team has been to encourage the time-sensitive metering systems and tariffs needed to enable automated demand flexibility.

Two decades later, the California electricity crisis roiled electricity markets and bankrupted one of the largest utilities in the state. In response, the California legislature called for increased demand flexibility through a closer relationship between wholesale and retail electricity prices, stating:

> Californians can significantly increase the reliability of the electricity system and reduce the level of wholesale electricity prices by reducing electricity usage at peak times

[1] Phone conversation with Roger Levy, one of the authors of the original regulations. November 4, 2019.

through a variety of measures designed to reduce electricity consumption during those periods. Dynamic pricing, including real-time pricing, provides incentives to reduce electricity consumption in precisely those hours when supplies are tight and provides lower prices when wholesale prices are low. Real-time pricing integrates information technology into the energy business, and creates new markets for communications, microelectronic controls, and information.

- Senate Bill 1976 (Torlakson, Chapter 850, Statutes of 2002)

Senate Bill 1976 required the CEC, in consultation with the CPUC, to analyze the feasibility of real-time pricing tariffs. The resulting joint-agency report recommended the deployment of the advanced metering systems that would enable real-time pricing, the completion of small and large customer pricing pilots, and ongoing collaboration and customer education activities.[2]

In an effort to provide urgently needed demand flexibility during the crisis, and also to jumpstart the implementation of advanced metering infrastructure, the CEC implemented emergency programs that provided over 1,000 California businesses with metering and control systems that enabled 50 megawatts of demand shed. At the same time, the CEC directed the installation of 23,000 advanced interval meters for customers with loads above 200 kilowatts – customers whose combined load comprised 30 percent of California's peak electricity demand. Since then, the CPUC has approved advanced meters for every customer in the investor-owned utility (IOU) service territories, and the largest publicly-owned utilities have followed suit.

The CEC's original 1982 load management standards increased demand flexibility by compelling the creation of residential load control programs, marginal cost pricing, and large commercial and industrial time-of-use rates. As a result, California customers in all sectors have been providing basic load shedding for decades.

Scope of the 2020 Load Management Rulemaking

The *2020 Load Management Rulemaking* (19-OIR-01) will expand on efforts to increase peak efficiency and demand flexibility in California's energy systems, while ensuring that costs and benefits are equitable.

The scope of this proceeding shall be informed by public input at a workshop scheduled for January 14, 2020. Comments will be taken at the meeting and also during a public comment period directly following the meeting.

Potential Amendments to the Load Management Regulations

The goal of the 2020 Load Management Rulemaking proceeding is to form the foundation for a statewide system that automates the creation of hourly and sub-hourly costs or signals that can

[2] *The Feasibility of Implementing Dynamic Pricing in California*, CEC 400-03-020F, 2003.

be used by end-use automation to provide real-time demand flexibility on the grid. A representative list of items currently considered within scope follows.

Rates

Work with the California Public Utilities Commission (CPUC) and California Independent System Operator (CAISO) to develop a consistent statewide foundation for the design of load management tariffs, potentially including but not limited to:

- Basic minimum standards for load management tariffs that enable time and location sensitive response to marginal cost pricing in a way that benefits the system
- Standards for access to load management tariffs in a machine-readable format to enable automation of price response (pull)
- Standards for the communication of load management tariffs to devices (push)
- Customer information labels indicating the ability to respond to rates.
- Create a new value indicator for TOU or real-time tariff flex response to add to the existing Efficiency ratings on utility online marketplaces

End-use Storage Systems

Consider opportunities for long-term (e.g. 48 hours or more) storage of excess renewable generation using technologies, potentially including but not limited to:

- Electric, mechanical, and thermal storage systems
- Zero-carbon, renewably-produced hydrogen (green hydrogen)
- Appropriate, cost-effective, automation technologies (e.g. grid-connected water heaters, simple timers) for low-income customers

Automation

Encourage the use of technologies for automating utility-customer negotiations and end-use load management, potentially including but not limited to:

- large water pumps
- end-use batteries
- electric vehicle supply equipment (EVSE)
- water heaters
- refrigeration and anti-sweat heaters

Other Load Management Measures

Evaluate other measures that improve the cost-effectiveness of the grid related to the timing and location of demand, potentially including but not limited to:

- Efficiency measures that reduce demand during peak periods
- Utility targets and goals for demand flexibility

Economic Impact Assessment

The economic impact analysis will include, but not be limited to, the economic effects on the following entities:

- The State of California
- California utilities
- Participants in load management tariffs and/or utility programs for automation and storage
- Non-participating ratepayers
- The workforce
- Electric generators

Rulemaking Process

Schedule

The Load Management Rulemaking (LMR) will use the following general schedule. As workshop topics and dates are finalized, the CEC will post notices on the docket and website.

Table 1. Estimated timeline of 2020 Load Management Rulemaking

ACTIVITY	DATE
Commissioner Workshop on Scope of Load Management Rulemaking	January 14, 2020
Close of public comment period on Draft LMR Scoping Memo	January 21, 2020
Rulemaking opened with proposed text of regulatory amendments	April 2020
Public hearing(s)	June 2020
Additional 15-day comment period(s) as needed	September 2020
Final amendments presented at CEC business meeting for adoption	November 2020
If adopted, regulations go into effect	January 1, 2022

Participating in the Load Management Rulemaking Proceeding

Standards developed in the Load Management Rulemaking will be based on the proceeding record, which may include data and technical analyses by Energy Commission staff and stakeholders. Analysis and information developed in other proceedings at the Energy Commission and by other agencies will be incorporated as appropriate. Participants should use docket number 19-OIR-01 when submitting information.

Active participation is encouraged because public input is essential to ensure a complete and thorough record. The lead commissioner recognizes that close coordination with federal, state, local, and other agencies is critical to identifying and addressing energy infrastructure and

related environmental challenges. The lead commissioner directs staff to continue working with these agencies to ensure their participation in this proceeding.

The process will include a scoping workshop, to be held at the CEC on January 14, 2020, one or more public hearings, and public input on the draft text of regulations. All records for the load management rulemaking will be accessible in the 2020 Load Management Rulemaking docket (19-OIR-01).

CEC staff will notice workshop dates in the docket. When new information is posted, an email will be sent to those on the Load Management, Efficiency, or Rulemaking list servers. Parties are encouraged to sign up for the list servers through the CEC's website at www.energy.ca.gov/listservers/index.html.

The Energy Commission's Public Adviser's Office assists the public in participating in Commission proceedings. For information, contact Public Adviser Noemí Gallardo, at PublicAdviser@energy.ca.gov, (916) 654-4489, or toll free at (800) 822-6228.

Please direct requests for reasonable accommodation to Yolanda Rushin at yolanda.rushin@energy.ca.gov or (916) 654-4310.

Media inquiries should be directed to the Media and Public Communications Office at (916) 654-4989 or by email at mediaoffice@energy.ca.gov.

Questions about the content of the proceeding should be addressed to Karen Herter at (916) 654-4604 or karen.herter@energy.ca.gov.

Questions for Stakeholders

(1) What are your recommended additions or modifications to this draft scope?
(2) Are there additional technologies, strategies, studies, or other materials that should considered in this this rulemaking? If so, please provide a brief description and a link to relevant information.
(3) Beyond those mentioned here, what end-uses and customers are likely to be able to benefit from demand flexibility on voluntary hourly and sub-hourly tariffs?
(4) What economic impacts should be considered? (e.g. positive or negative effects on load serving entities, customers, workforce, vendors, generators, etc.)