

**DOCKETED**

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<b>Description:</b>	Introduction to the CEC's Load Management standards authority, purpose, history, and draft scope of the 2020 rulemaking by Karen Herter, Ph.D.
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# 2020 Load Management Rulemaking

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## Introduction to Load Management Standards



**Karen Herter, Ph.D.**

**January 14, 2020**

**California Energy Commission**



# Authority

- Provided in the Warren-Alquist Act of 1974
- Codified in Public Resources Code section 25403.5, which reads:

*“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:*

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



# Purpose

- Establish cost-effective utility programs for improved system efficiency
- Lessen or delay the need for new electrical capacity
- Reduce fuel consumption
- Lower the long-term economic and environmental costs of meeting the State's needs

*Source: California Code of Regulations Title 20 Section 1621*



# Scope (*as defined by Authority*)

- ***“...for each utility area...”***
  - 1982 standards addressed the 5 largest utilities
  - Potential additions for 2020 standards
    - Other interested publicly-owned utilities
    - Interested community choice aggregators
- ***“...the commission shall consider...”***
  - Rate structures – subject to Public Utilities Commission approval
  - End-use storage systems
  - Automation
- ***“...but need not be limited to...”***
  - This wording allows consideration of anything that helps manage loads



# History

- 1978 Oil Crisis → 1982 Load Management Proceeding
  - Standards successful, but limited by lack of interval metering & advanced communications
    - **Tariff Standard:** Marginal cost pricing – but not time-varying
    - **Pool Pump Standard:** TOU automation for pool pumps – but not communicating
    - **Residential Standard:** Utility control of residential air conditioning & water heaters
    - **Non-residential Standard:** Commercial building audits
- 2001 California Energy Crisis → 2008 Load Management Proceeding
  - Still no advanced metering infrastructure (AMI)
  - CEC long term plan led by Comm. Art Rosenfeld
    - **Install Advanced Metering Infrastructure** – enable time-varying rates
    - Implement Time-of-Use (TOU) and Critical Peak Pricing (CPP) tariffs – educate customers
    - Encourage automation for TOU and CPP response → enable Real-Time Pricing (RTP)
    - Offer RTP (60-, 15-, and 5-minute) tariffs → **enable automated demand flexibility**



# Progress to Date

- ☑ **Advanced metering:** statewide installation completed ~2013
- ☑ **Time-of-use (TOU) rates:** statewide default for most customers
  - ☐ Too few TOU automation technologies
- ☑ **Critical Peak Pricing (CPP):** residential and commercial options
  - ☐ Limited residential CPP event automation
- ☐ **Real-Time Pricing (RTP):** existing option needs updating
  - ☐ RTP automation options in the works – enable TOU, CPP response too



# Today's Policy Drivers

- 60% renewable electricity generation by 2030 (SB 100)
- 100% carbon-free electricity generation by 2045 (SB 100)
- Load management in buildings to reduce GHGs (AB 3232)
- New appliance standards for flexible demand (SB 49)
- Consider upgrades to the State Water Project to achieve statewide climate and energy goals (SB 49)
- Equitable implementation of climate change policies (AB 197)





# Draft Scope of Amendments (1)

- Rates (and communication)
  - Hourly and sub-hourly retail tariffs that enable automation
  - Machine-readable access to time-varying prices (pull)
  - Communications standards for prices to devices (push)
- Automation
  - Pumping, electric vehicle charging, water heaters, refrigeration
  - Customer education & access to price-responsive devices
  - Appropriate automation devices for low-income customers



# Draft Scope of Amendments(2)

- Storage
  - Chemical, mechanical, and thermal energy storage systems
  - Zero-carbon, renewably-produced hydrogen (green hydrogen)
- Other
  - Peak efficiency measures
  - Demand flexibility metrics and targets



# Pre-Rulemaking Process

- Review state-of-the-art
  - Hourly, 15-minute, and 5-minute retail rate designs
  - Communications for sending (cost/price) signals
  - Price-responsive automation technologies
- Develop stakeholder consensus
  - CPUC, CAISO, CARB, and DWR
  - PG&E, SCE, SDG&E, SMUD, LADWP, other POUUs, CCAs
  - Research, industry, customer, environmental, and other organizations
- Update existing load management regulations text as appropriate



# Timeline

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



# Thank you for your time

- For more information
  - Authority: Public Resources Code section 25403.5
    - <https://codes.findlaw.com/ca/public-resources-code/prc-sect-25403-5.html>
  - Regulations: California Code of Regulations Title 20 Sections 1621-1625
    - <https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I927F56D0D44E11DEA95CA4428EC25FA0>
  - Docket: 19-OIR-01
    - <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=19-OIR-01>
  - Legislation
    - SB 100: [https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill\\_id=201720180SB100](https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201720180SB100)
    - AB 3232: [http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201720180AB3232](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB3232)
    - SB 49: [http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201920200SB49](http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200SB49)