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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)
• **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 POUs, CCAs
  – Research, industry, customer, environmental, and other organizations

• Update existing load management regulations text as appropriate
<table>
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<tr>
<th>Date</th>
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<tr>
<td>January 14, 2020</td>
<td>Commissioner Workshop on Scope of Load Management Rulemaking</td>
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<tr>
<td>January 21, 2020</td>
<td>Close of public comment period on Draft Scoping Memo</td>
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<tr>
<td>April 2020</td>
<td>Rulemaking opened with proposed text of regulatory amendments</td>
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<tr>
<td>June 2020</td>
<td>Public hearing(s)</td>
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<tr>
<td>September 2020</td>
<td>Additional 15-day comment period(s) as needed</td>
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<tr>
<td>November 2020</td>
<td>Final amendments presented at CEC business meeting for adoption</td>
</tr>
<tr>
<td>January 1, 2022</td>
<td>If adopted, regulations go into effect</td>
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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
  – Legislation
    • SB 100: https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201720180SB100
    • AB 3232: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180AB3232
    • SB 49: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200SB49