

DOCKETED

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California Energy Commission

Load Management Standards Public Hearing

Stefanie Wayland, Load Management Standards Lead

February 8, 2022



Purpose and Participation

- The purpose is to provide an overview of the proposed regulations and collect oral comments
- Public Hearing pursuant to the California Administrative Procedures Act, Government Code §11346.8
- This hearing is being held remotely
- This hearing is being recorded by a court reporter



Participation

- All lines are muted
- Comments will be taken after the presentation – orally or typed into the Q&A
- Comments are limited to three minutes per commenter
- Responses to comments will be posted to the docket with the Final Statement of Reasons
- All statements today become part of the public record



Load Management Standards



CEC Load Management Authority

- 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.
 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.
- Warren Alquist Act, 1974
Public Resources Code § 25403.5



Load Management Definition

The process of maintaining the electric supply-demand balance by adjusting the load rather than the power station output.





Load Management Benefits

- Reduce greenhouse gas emissions while maintaining services
- Improve grid reliability
- Reduce system costs
- Increase customer choice



California Context

- Goals
 - **60% renewable generation** by 2030
 - **100% of new vehicles emissions free** by 2035
 - **100% carbon-free grid** by 2045
- Opportunities
 - TOU default for all customer classes at 4 of 5 top electric utilities in CA
 - 5-minute GHG signal from CPUC's Self Gen Incentive Program (SGIP)
 - Connected devices increasingly available
- Challenges
 - No statewide access to machine-readable rates
 - Lack of responsive automation (because of above)
 - Broadband Internet access in ~75% of CA homes¹

¹ Source: broadbandnow.com



History

1982 Load Management Standards

- “Marginal cost rates” → TOU rates for large customers
- Residential load-control programs
 - Air conditioners, Water heaters, Pool pumps
- Commercial building audits

(...two decades pass...)

2001 California Energy Crisis

- CEC – CPUC – CAISO joint strategy
 1. Install interval metering for all customers
 2. Support widespread TOU and CPP + mass-market automation
 3. Support RTP + mass-market automation



Basic Tenets

All customers should be able to:

- Readily find the current price of electricity for their building
- Connect their devices to their time-varying electricity rate
- Quickly give their automation service provider access to their rate
- Choose to receive prices or GHG signals that change hourly or sub-hourly
- Purchase automation that can respond to price or GHG emission signals
- Feel confident that cybersecurity risks are low or nonexistent



5-year Load Flexibility Roadmap

1. CEC publishes a central statewide **Rate Database: MIDAS**
2. Utilities establish a system to enable third-party **automation services**
3. CEC creates **Flexible Demand Appliance Standards**
4. Utilities establish **programs** to help customers respond to prices and GHG emissions
5. Utilities offer locational marginal hourly and sub-hourly **rates to all customers**



Proposed Amendments





Proposed Amendments

1

Rate Database

- Maintain the accuracy of existing and future time-varying rates in the publicly available and machine-readable MIDAS rate database.

2

Automation Services

- Develop a standard rate information access tool to support automation services (RateID/RIN)

3

Hourly Rates

- Develop and submit locational rates that change at least hourly to reflect marginal wholesale costs.

4

Customer Education

- Integrate information about new time-varying rates and automation technologies into existing customer education and outreach programs.



1. Rate Database

- MIDAS Database available at <http://midasapi.energy.ca.gov>
- 3 IOUs rate data received and uploaded
- Includes GHG and Flex Alert signals
- **Proposal:** Utilities use data upload tool to keep rate database current whenever a time-dependent rate changes

Market Informed Demand Automation System (MIDAS)

Run API Test Table Management Uploads Admin About

Price Management Close

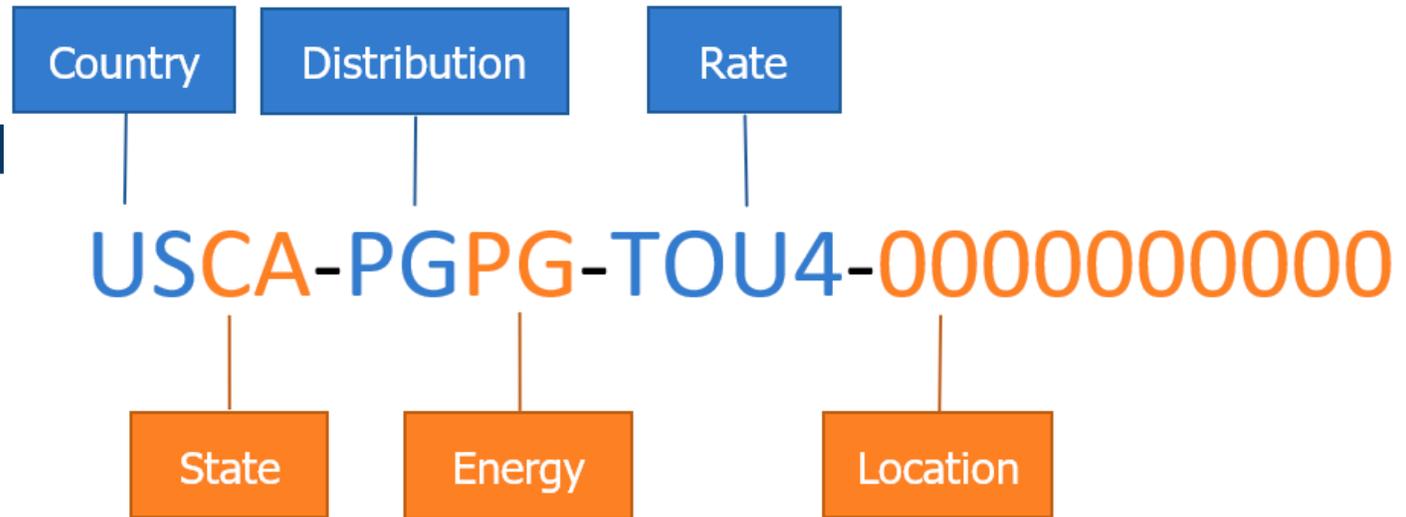
+ Add Price Refresh						
Date End	Day Type Start	Day Type End	Time Start	Time End	Price	Unit
6/1/2021	1 - Monday	5 - Friday	06:00:00 PM	04:59:59 AM	0.1006	kWh
6/1/2021	6 - Saturday	8 - Holiday	03:10:00 PM	11:59:59 AM	0.1006	kWh
6/1/2021	1 - Monday	5 - Friday	09:00:00 AM	11:59:59 AM	0.1006	kWh
6/1/2021	1 - Monday	5 - Friday	05:00:00 AM	07:59:59 AM	0.1388	kWh
10/1/2021	1 - Monday	5 - Friday	10:00:00 AM	12:59:59 PM	0.103	kWh

Total records: 248



2. Automation Services ← RIN

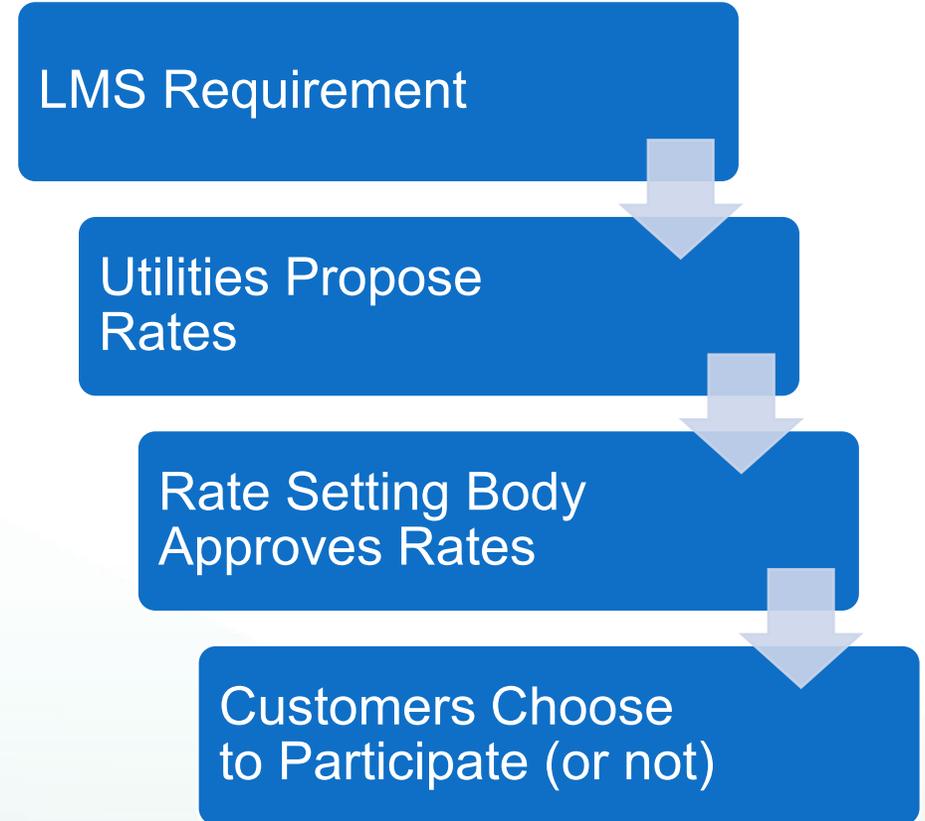
- Third-party automation service providers need customer rates to optimize device performance
- CEC staff developed a standard Rate Identification Number (RIN)
- **Proposal**: utilities create a single statewide standard platform for delivering customer RIN to authorized providers





3. Hourly Rates

- CEC's MIDAS enables widespread automation in response to publicly available time-dependent rates and GHG emission signals
- **Proposal**: Utilities create hourly and sub-hourly rates allowing customers to save money by shifting loads.





4. Customer Education

- Many customers are unaware of price-responsive automation technologies and services
- **Proposal**: Require utilities to include information about time-varying rates, automation, and third-party service options in marketing and outreach efforts





Thank You!

List Serve Sign Up:

www.energy.ca.gov/proceedings/energy-commission-proceedings/load-management-rulemaking

Questions:

Stefanie Wayland

Load Management Standards Lead

stefanie.wayland@energy.ca.gov

Public Comments

3-MINUTE TIMER

- Limited to 3 minutes per commenter
- To comment
 - By computer: use the "raise hand" feature in Zoom
- Over the telephone: dial *9 to "raise hand" and *6 to mute/unmute your phone line
- You can type questions into Q&A at any time
- State your name and affiliation before speaking