DOCKETED	
Docket Number:	21-OIR-03
Project Title:	2022 Load Management Rulemaking
TN #:	244163
Document Title:	SMUD Comments Re Proposed Revisions to Regulatory Language for the Load Management Standards Regulations Submitted July 6, 2022
Description:	N/A
Filer:	System
Organization:	SMUD
Submitter Role:	Public Agency
Submission Date:	7/21/2022 3:14:37 PM
Docketed Date:	7/21/2022

Comment Received From: Joy Mastache
Submitted On: 7/21/2022
Docket Number: 21-OIR-03

SMUD Comments Re Proposed Revisions to Regulatory Language for the Load Management Standards Regulations Submitted July 6, 2022

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Additional submitted attachment is included below.

STATE OF CALIFORNIA
BEFORE THE CALIFORNIA ENERGY COMMISSION

In the matter of:	)	Docket No. 21-OIR-03
	)	
Load Management Rulemaking	)	SMUD Comments Re:
	)	Proposed Revisions to Regulatory
	)	Language for the Load Management
	)	Standards Regulations Submitted
	)	July 6, 2022
	)	
		July 21, 2022

Comments of SACRAMENTO MUNICIPAL UTILITY DISTRICT on Proposed Revisions to Regulatory Language for the Load Management Standards Regulations Submitted July 6, 2022

The Sacramento Municipal Utility District (SMUD) thanks the California Energy Commission (CEC) for its consideration of concerns raised by stakeholders regarding the unintended consequences of Staff's proposed revisions to the CEC's Load Management Standards set forth in California Code of Regulations Title 20, Division 2, Chapter 4, Article 5, Sections 1621 – 1625 (the "LMS"). We continue to believe that time varying, marginal cost-based rates and incentive structures, coupled with appropriate load flexibility and automation programs that could benefit our customers, are a key component of achieving our carbon reduction goals and strongly support the objectives of the LMS.

The Second 15-Day Language (July 2022) ("Draft Language") takes a step toward providing critical additional time for utilities to develop, test, communicate and prepare for a smooth implementation of the mandated rate proposals. Unfortunately, the proposed one additional year is insufficient. Moreover, the Draft Language still does not address some of the most significant barriers to the successful broad adoption of these rates by publicly owned electric utility (POU) customers and is ambiguous regarding exemption provisions. SMUD is concerned that these barriers could prevent the LMS from enabling effective load flexibility while also diverting key utility resources.

SMUD respectfully requests that the CEC defer adoption of Draft Language and work with stakeholders to develop additional targeted revisions that can help ensure the final rule supports its intended outcomes. SMUD continues to believe that the Joint Proposed Modifications to the 15-Day Language[1] ("Joint Redlines") widely supported by utility stakeholders, would best position the LMS for success. However, in the spirit of continued constructive collaboration with CEC staff, SMUD has also included key

[1] Joint POU comments filed to CEC Docket on April 20, 2022 (https://efiling.energy.ca.gov/GetDocument.aspx?tn=242734&DocumentContentId=76284)

clarifications to the Draft Language, illustrated conceptually in the attached appendix, that we believe would substantially address the most significant barriers. If the CEC determines it is infeasible to modify the Draft Language at this stage in the rulemaking, however, we encourage the CEC to provide clarifications with similar effect in the Final Statement of Reasons (FSOR).

Summary

SMUD appreciates the extension of the deadline for presenting rate proposals to its elected Board of Directors, its governing rate-making body. However, we continue to caution the CEC that even with that one-year extension, SMUD is unlikely to have sufficient time to test, refine, and educate its customers about the complex structure of rates that the LMS is mandating, all of which are process steps needed to successfully design such rates. Further, the Draft Language continues to ignore the fact that some customers and rate classes do not reasonably lend themselves to time varying, marginal cost-based rate structures. We also continue to be concerned that the Draft Language will require utilities to divert resources from work that is proving effective for addressing the State's carbon reduction goals. Such diversion of resources would be solely for the purpose of prematurely developing a rate structure that could not be recommended for adoption by the Board of Directors in order to comply with the LMS requirements.

SMUD also appreciates Staff's consideration of the important role pilot programs play in achieving the LMS goals. However, we are disappointed that the recognition of pilot programs does not adequately recognize their value in achieving the same goals as marginal cost-based rates---potentially in a more time, resource efficient, and cost-effective manner.

For all the reasons SMUD detailed in its comments on the first 15-day Language filed to the docket on April 20, 2022,[2] SMUD strongly urges the CEC to clarify that implementation of programs that achieve customer response to GHG and other marginal cost indicators, will meet the compliance obligations for SMUD and other community-based utilities under the LMS. Such an allowance is needed to ensure the regulation avoids overstepping the CEC's jurisdictional boundaries and to avoid setting the LMS up for failure.

[2] SMUD Comments filed to CEC Docket on April 20, 2022 (https://efiling.energy.ca.gov/GetDocument.aspx?tn=242736&DocumentContentId=76288).

We urge the CEC to defer adoption of the Draft Language and work with stakeholders to develop targeted changes that provide the critical flexibility needed to support successful LMS offerings. Specifically, these changes should include:

- Allowing POUs to comply with the LMS through pilot rates or programs, rather than requiring an exemption or requiring a utility's rate-approving body to reject marginal cost-based rates before implementing programs.
- Clarifying ambiguous language regarding exemptions to recognize that POUs retain sole discretion over the pilot rates and programs they propose.
- Aligning the utility plan presentation and adoption process in Section 1621 with the proven process used for publicly owned utility integrated resource plans.
- Clarifying and streamlining the process for implementing exceptions and changes to the utility plans.

I. The CEC should recognize the value of programs and pilot rates by allowing POUs to implement them as an alternate compliance pathway.

SMUD recommends a separate compliance pathway (in lieu of an application for exemption) that allows POUs to offer pilot rates or programs instead of developing marginal cost-based rates by the deadline in the Draft Language. This pathway is key to supporting the successful, efficient achievement of LMS objectives for POUs. The attached appendix illustrates the type of targeted revisions to the Draft Language that could provide this pathway.

SMUD remains concerned that the Draft Language fails to recognize the value that pilot rates and programs provide for POUs and their customers. As members of the communities they serve, POUs are uniquely positioned to develop programs and rates that are tailored to those communities' needs. This success relies on working closely with customers to develop, test, and learn from pilots and programs prior to widespread deployment.

While SMUD appreciates the CEC's consideration of pilot rates and programs in the Draft Language, recognizing pilot rates and programs only as supporting materials for an exemption application fails to recognize their full value. As explained in our prior comments and summarized below, pilot rates and programs are a critical first step before full implementation of a new rate, allowing the POU a cost-effective path to understand and adjust to the impact of actual customer response to the rate design. Moreover, as outlined in our prior comments and further explained below, SMUD has concerns regarding the impact that prematurely implementing dynamic rate structures could have on electric system reliability and California's broader environmental goals. It is imperative that dynamic pricing does not jeopardize or endanger California's broader environmental goals such as accelerated renewables, electrification priorities, and energy affordability.

The flexibility provided by having the option of offering *either a rate or a program* will allow POUs to move forward with dynamic pricing options immediately in a measured and cost-effective manner designed to achieve the highest levels of customer adoption and success. It will also allow these utilities to build on existing policies and processes. Additionally, carefully designed and tested programs can deliver load flexibility benefits more expeditiously and without resulting in overly complex rates and billing.

i. *Programs may provide much or all of the same benefit as marginal cost-based rates, with potentially greater adoption*

As we shared with the CEC in our comments submitted to staff on May 27, 2022, and attached to these comments, SMUD is actively piloting program designs that decouple the economic load management signals from the customer incentive structure.[3] Simple incentive programs may capture most of the benefit of a marginal cost signal while increasing customer value and adoption. Based on our experience, SMUD knows that giving customers the option to participate in programs that leverage the advanced and automation capabilities of their own devices, such as thermostats and electric vehicles, to respond to price-based operational signals for deeper bill and carbon savings, will result in a higher adoption rate. We expect to develop about 165 MW of flexible load programs by 2030, and possibly more as our programs continue evolving to leverage advancing technology.

ii. *The one-year deadline extension proposed in the Draft Language for developing and presenting rates to the utility's governing body is insufficient*

As noted above, while SMUD appreciates the Draft Language's recognition that more time will be needed to develop time dependent rates, the proposed delay of one year does not provide sufficient time to test, refine, and educate its customers about the complex structure of rates that the LMS is mandating. All of these steps are needed to successfully deploy new rates that will meet the customer's needs and encourage customer adoption. Furthermore, extending the deadline by one year does not address the core issue that, as proposed in the current Draft Language, utilities would be mandated to divert time and resources to prepare rate structures for their rate-approving body that could not ultimately be recommended for adoption.

iii. *Requiring POUs to develop rates that could not be supported diverts resources that could otherwise be dedicated to advancing clean energy goals*

SMUD is concerned that requiring POUs to propose new marginal cost-based rates for which there is no incremental benefit relative to programs that are already in place, or in planning, is not cost effective. A simple Time of Day rate captures a significant amount of the peak load reduction benefit available through load management.

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[3] SMUD's comments, titled "SMUD Flexible Load Management Programs" were submitted directly to LMS staff on May 27, 2022. These comments are not currently posted to the docket.

Unnecessarily going through the process mandated by the Draft Language to present rate proposals to our governing Board (proposals that we could not recommend the Board adopts) would divert utilities' limited resources that could otherwise be dedicated to achieving the State's clean energy and decarbonization goals. In addition, requiring POUs to develop rate proposals that cannot ultimately be supported would likely cause significant confusion for customers, which could hinder adoption of future rates and programs.

iv. *Premature expansion of dynamic pricing runs the risk of unanticipated impacts to electrification adoption*

As SMUD has also explained in prior comments, premature expansion of dynamic pricing could result in unanticipated electric rate impacts that may disincentivize the accelerated electrification of other sectors like transportation. Transportation emissions are far greater than a utility's carbon footprint. To encourage consumers to choose cleaner vehicles, electric water heaters, heat pumps, etc., electricity rates must remain affordable, consistent, and predictable. Without adequate planning or broad adoption, this also runs the risk of creating inadvertent impacts on under-resourced communities.

II. The CEC should clarify ambiguous provisions regarding exemptions to ensure that utilities retain sole discretion over any pilot rates and programs they propose.

As currently proposed, the Draft Language states that exemption applications "may be supported by proposing pilot programs that demonstrate how and when a utility or CCA will come into compliance …" SMUD is concerned that this language is ambiguous and may infringe on a POU's ability to determine the best pilot rates and programs for their customers.

For example, it is unclear whether *only* pilot programs that "demonstrate" future compliance may be considered as supporting materials for this exemption. SMUD observes that pilots and programs are typically designed to test effectiveness and may lead to alternative implementation paths; they do not necessarily demonstrate "how and when" compliance will be achieved. Further, there is no metric for how compliance with this demonstration will be achieved.

Of equal concern, it appears that the Draft Language may allow the CEC to direct POUs how to design their pilot rates or programs. Under the current exemption scheme, the Draft Language specifies that utilities may propose pilots as support for an exemption request. It also asserts the right of the Executive Director and the Commission to request revisions as a condition of approving the exemption. It would be inappropriate and ineffective for the Executive Director or the Commission to substitute its judgement for that of the POU for purposes of determining what pilot programs and rates are needed to advance load flexibility for its customers.

SMUD recommends that, at minimum, the CEC should clarify that a *description* of the pilots, not new pilot proposals, are *examples* of supporting documentation for an exemption application.

III. The Load Management Standards should align the plan presentation and adoption process in Section 1621 with the proven process used for POU integrated resource plans.

As structured the Draft Language gives each utility six months to submit a plan for the CEC's approval to demonstrate how the utility will comply with the LMS requirements. SMUD remains concerned that the CEC takes for itself, notwithstanding any action or approval of the utility's rate-making body, the right to force changes to the utility's plan and to bring enforcement actions against the utility if the CEC's changes are not promptly implemented. This approach encroaches on the rate-making body's Constitutional and statutory authority and introduces an extreme level of uncertainty for POUs and their elected officials.

SMUD strongly recommends the Commission adopt a regulatory structure that (1) requires utilities to provide periodic reports to the Commission, and (2) allows the Commission to propose revisions to utility plans and applications; this process respects utilities' constitutional and statutory authority, has precedents in state law, and mirrors other regulatory review structures that successfully balance local decision making with regulatory oversight. For example, under state law, the CEC's review of select POU Integrated Resource Plans (IRPs) vests the authority to develop and update IRPs entirely with the POU and its governing board. *See* Cal. Pub. Util. Code § 9621. In addition, the CEC has the complementary authority to review and recommend revisions to the IRPs, and it may seek additional information regarding the IRPs to facilitate that process. *See id.* § 9622.

IV. The LMS should clarify ambiguous language and provide a streamlined process for implementing exceptions and changes to the utility plans.

Emerging technologies, including well-designed load flexibility programs, play a critical role in SMUD's 2030 Zero Carbon Plan, specifically to eliminate the last 10% of carbon emissions. Nevertheless, we support the inclusion of a narrowly defined process allowing an exemption to the prescriptive LMS requirements, in recognition of the different circumstances of each utility and the customers they serve, to ensure continued reliability, safety, and affordability of electric systems and service.

While SMUD strongly recommends that the CEC should provide a separate compliance pathway for POUs, SMUD otherwise anticipates making use of the exemption process to implement its pilots and programs. It is critical for the exemption process to include clear, well-defined parameters and timeframes so that utilities have certainty in how to comply with the requirements and are not subject to extended delays waiting for an exemption determination.

SMUD continues to believe that the exemption process specified in the Joint Redlines is the most effective and appropriate framework for exemption applications under the LMS. At minimum, however, SMUD recommends that the CEC develop targeted revisions or provide express clarification to the framework proposed in the Draft Language to ensure the exemption process is robust and practical. SMUD recommends the following elements be addressed:

- Timely action on requests. As currently proposed, the Draft Language does not specify parameters for the Executive Director or Commission review of exemption applications. SMUD recommends clarifying that the Executive Director must provide a determination within 30 calendar days of receipt of a complete application, consistent with the timeline in Cal. Code Regs. Tit. 20 §1232.1. Moreover, we recommend clarifying that if the Executive Director does not provide a determination within 30 days, the application shall be deemed approved.
- Appeals process. SMUD recommends that the CEC include a process by which utilities may appeal or request a rehearing of a decision regarding exemption application approval.
- Requirements that may not apply in all cases. The Draft Language requires exemption applications to include the expected date by which the exemption will no longer be needed. However, for some customer classes, such as street lighting, automated responses to marginal price signals may not ever be shown to materially reduce peak load such that implementation of dynamic pricing would never be cost-effective. SMUD recommends either removing the requirement to specify the duration for which an exemption is needed or clarifying in the FSOR that the exemptions may be granted without such information.

V. SMUD remains concerned that the Draft Language does not fully reflect the limits of the CEC's Load Management Standards authority.

As outlined in each of our prior comment letters, SMUD concurs with the position of the California Municipal Utilities Association (CMUA) that while the CEC has authority and legislative directive to make recommendations on standard rate structures to support load flexibility, the CEC does not have the authority to dictate specific rates or rate structures. SMUD agrees with CMUA and other commenters that, notwithstanding Staff's recognition that the POU governing boards may elect not to approve the required rates, the Draft Language would go beyond the intent of the authorizing statute and infringe on the ratemaking authority of the POU governing boards.

Conclusion

As SMUD has previously noted, we continue to caution the CEC that two years is insufficient time to test, refine, and educate our customers about the complex structure of rates that the LMS is mandating. Additionally, the Draft Language still ignores the fact that not all customers and rate classes are suited to time varying, marginal cost-based rate structures.

SMUD still has significant concerns that the structure of the LMS regulation raises jurisdictional boundary issues, and that the CEC has exceeded its authority in the Draft Language. SMUD agrees that an effective LMS is critical to achieving the State's goals, but we fear that the one-size-fits-all approach taken in the Draft Language has unintended consequences of distracting resources from these goals.

SMUD again urges the CEC to defer adoption of the Draft Language and continue working with stakeholders to refine the LMS so that it recognizes the importance of pilots and programs, as well as rates, in achieving a broad adoption of automated response to dynamic price signals and supporting California's climate goals. Specifically, we urge the CEC to allow POUs to comply with the LMS through implementation of pilot rates or programs. At minimum, however, the exemption in the Draft Language must be clarified to recognize that utilities retain sole discretion over the pilot rates and programs they propose. In addition, the program exemption process must be updated to be clear and objective. If these necessary corrections cannot be implemented in the regulatory language, we recommend the CEC express the necessary corrections in its FSOR.

We look forward to continuing to find ways to work with the CEC to ensure that California attains its climate objectives.

/s/

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cc: Corporate Files (LEG 2022-0106)

§ 1623. Load Management Tariff Standard.

(a) Marginal Cost Rates. This standard requires that each utility and CCA develop marginal cost-based rates or public programs, structured according to the requirements of this article ~~and that the utility or CCA submit such rates to its rate-approving body for approval~~.

(2) Within two (2) years of the effective date of these regulations, each utility and CCA shall apply to its rate-approving body for approval of at least one marginal cost-based rate, in accordance with 1623(a)(1), for each customer class where automated response to price signals will materially reduce peak load.

(d) Public Programs. Utilities and CCAs shall encourage mass-market automation of load management through information and programs.

(1) No later than eighteen (18) months after the effective date of these standards, each utility and CCA shall submit to the Executive Director a list of load flexibility programs deemed cost-effective by the utility or CCA. The portfolio of identified programs shall provide any customer with at least one option for automating response to MIDAS signals indicating marginal cost-based rates, marginal prices, hourly or sub-hourly marginal greenhouse gas emissions, or other Commission-approved marginal signal(s) that enable automated end-use response.

(2) Within three (3) years of the effective date of these regulations, each utility and CCA shall offer to each of its electricity customers voluntary participation in either a marginal cost rate developed according to Section 1623(a) if such rate is approved by the utility's or CCA's rate-approving body, or a cost-effective program identified according to Section 1623(d)(1) ~~if such rate is not yet approved by the utility's or CCA's rate-approving body~~.

§ 1621. General Provisions.

(e) Exemptions, Delays, or Modifications

(1) Utilities and CCAs may apply to the Executive Director for an exemption from the requirements of Sections 1621 and 1623 of this article, to delay compliance with its requirements, or to modify a load management standard compliance plan. ~~The Commission may, by resolution, order a utility or CCA to modify its approved load management standard plan. Upon such order by the Commission, a utility or CCA shall submit an application to modify its plan within 90 days of the Commission's order.~~

(2) Applications for exemptions or delays shall set forth the requested period during which the exemption or delay would apply and indicate when the utility or CCA reasonably believes the exemption or delay will no longer be needed. The application further shall demonstrate one or more of the following:

(A) that despite a utility's or CCA's good faith efforts to comply, requiring timely compliance with the requirements of this article would result in extreme hardship to the utility or CCA,

(B) requiring timely compliance with the requirements of this article would result in reduced system reliability and efficiency, or

(C) requiring timely compliance with the requirements of this article would not be technologically feasible or cost-effective for the utility or CCA to implement. Applications for exemptions or delays may, but are not required to, be supported by ~~proposing~~ descriptions of pilot programs planned by the utility or CCA that support development of marginal cost-based rates or otherwise support automated response to cost signals~~demonstrate how and when a utility or CCA will come into compliance with the requirements of this article~~.

STATE OF CALIFORNIA
BEFORE THE CALIFORNIA ENERGY COMMISSION

In the matter of:	)	Docket No. 21-OIR-03
	)	
Load Management Rulemaking	)	SMUD Flexible Load Management Programs
	)	
	)	
	)	May 27, 2022
	)	
	)	

SACRAMENTO MUNICIPAL UTILITY DISTRICT
Flexible Load Management Programs

The Sacramento Municipal Utility District (SMUD) thanks the California Energy Commission (CEC) for its continued work to craft a responsible, effective, and achievable Load Management Standard. We strongly support the objectives of the Load Management Standard (LMS) and appreciate the opportunity to provide additional information into the record to support SMUD's request for a LMS that offers the flexibility for utilities to design and implement programs and pilots that are functionally equivalent to time varying marginal cost-based rates for all rate classes. We continue to urge the CEC to adjust the proposed regulatory language to allow a compliance path through such programs and pilots without first having to divert critical utility resources to rate processes that cannot be successful.

In support of this rate OR program approach, as detailed in our previously filed comments, SMUD submits the attached supplemental information regarding several new flexible load management programs that SMUD is currently in the process implementing that will more effectively and efficiently achieve the same benefits as rates without the risk of rushing into untested rates that have a high chance of alienating the very customers we are working to engage.

/s/

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cc: Corporate Files (LEG 2022-0075)

SMUD Flexible Load Management Programs

CEC Docket 21 OIR 03

May 26, 2022

Powering forward.
Together.

SMUD

Time variant marginal cost-based signals are a necessary component for meeting capacity and electrification critical to SMUD's 2030 Zero Carbon Plan

SMUD | 2030 Clean Energy Vision

CORE VALUES

- Safety & Reliability
- Affordability
- Environmental Leadership
- Community Vitality

DRIVERS

External

- Aggressive climate change mandates & goals
- Rapidly changing DER & emerging technologies
- Rapidly changing customer expectations
- Increased operating risk (wildfires, cybersecurity, etc.)
- Power market evolution

Internal

- Organizational agility
- Optimization of customer DER assets
- Rate equity

VISION

A powerful partner for an inclusive, zero carbon economy

STRATEGIC OBJECTIVES

1. Absolute zero carbon by 2030
2. Maintain world class reliability
3. Maintain affordable rates

Innovation

- Accelerate digitalization
- Drive acquisition of new data
- Embrace new technologies
- Expand new business models
- Build new ecosystem

Partnering

- Board and employees
- Customers
- Community and the region
- Private sector
- Regulators and market operators

Organizational Agility

- Drive ONE SMUD
- Drive cost and operational efficiencies
- Reshape culture
- Galvanize inclusive workforce of the future
- Transform IT systems and processes

SMUD

SMUD supports the objective of the proposed Load Management Standard (LMS).

Time varying marginal cost-based rates are only one way to encourage customers to shift energy consumption to periods of peak clean energy generation

- SMUD's Time Of Day (TOD) rate structure has almost 100% adoption rate due to comprehensive research, testing, education and implementation process that took over almost 7 years.
- Minimal incremental value to be achieved by premature implementation of hourly/sub-hourly rates.
- Successful statewide demand response depends on customer adoption, and a positive customer experience is critical; a bad experience could move the customer away from adoption.
- Cannot recommend our Board adopt a rate we cannot successfully implement.

Programs and Pilots are more effective approaches to achieve this objective

- We will make progress more quickly by putting resources into load management programs and pilots.
- Simple incentive programs can capture most of the benefit of a marginal cost-based signal while increasing customer value and adoption.
- Automation technology can respond to a dynamic signal, while the customer savings are provided through simple, understandable messages and fixed compensation mechanisms rather than overly complex rates.
- The flexibility provided by having the option of offering *either a rate or a program* will allow utilities to move forward with dynamic pricing options immediately in a measured and cost-effective manner designed to achieve the highest levels of customer adoption and success.

SMUD is looking at pricing and other grid control mechanisms to provide the most reliable and cost-effective grid services

SMUD is implementing several programs and pilots to engage behind the meter devices most effectively.

Critical Peak Pricing

- Enabling component of My Energy Optimizer Partner program
- Used to influence/ compensate aggregator or OEM dispatched thermostats and batteries
- Program launch summer 2022, aim for 10 MW by June 2023
- $0.50/kWh premium during events (12-15 per summer, 1-4 hours each), discount of $0.013/kWh in non-peak summer hours

Managed Charging

- 1,000 customer pilot launching summer 2022
- Signal EV's via telematics and price communication application to manage transformer loading and renewable charging
- EVs dispatched in different groups behind a residential transformer to manage loads
- Simulate future zero carbon supply and heavily loaded transformers

Price Communication Application

- Developed as an open publisher for TOU, CPP, dynamic prices
- Used for price-to-device pilots
- Simple integration for vendors
- Can publish day ahead and real time pricing
- Used to dispatch water heaters, storage, to be used for EV's, Thermostats, switches

Updated (AC) Load Control

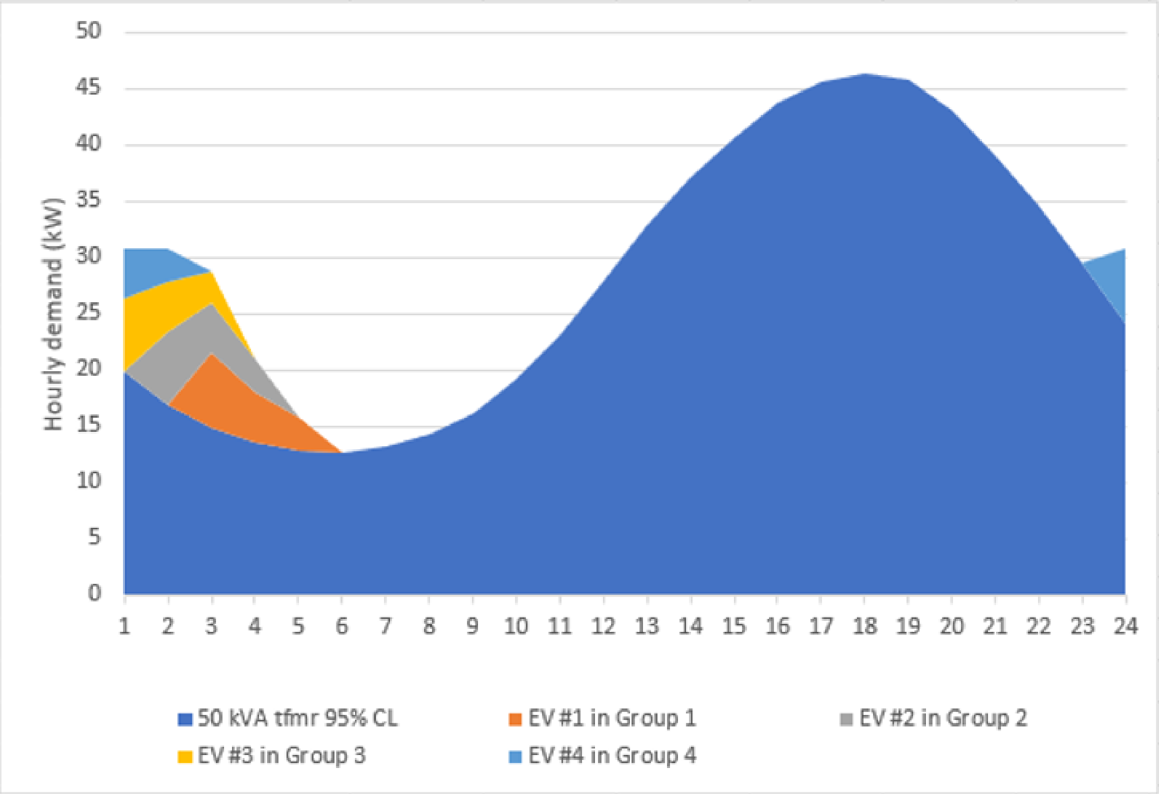
- 2-way communicating switches to replace legacy AC compressor switch program
- Existing switch customers and customers without internet or with privacy concerns will be target market
- Critical peak pricing used for influence / compensation
- Program launch in 2023

Optional residential Critical Peak Pricing rate

Who can participate?	 ~30,000 customers with **smart thermostats**  Customers with **solar and storage**  Customers with **storage only** Participants must be enrolled in a qualifying program providing device automation to the rate.
What?	• In times of extreme grid stress, SMUD declares a Critical Peak Pricing "event." • SMUD asks customers to conserve energy and use batteries (where applicable). • Opted-in customers pay more during "events" in exchange for a discount on summer Off-Peak and Mid-Peak hours.
When?	 • June, July, August, September • 1 to 4 hours per event with advance notice • No more than 50 hours per summer
Why?	• Conserves energy & reduces stress on grid during peak events, helping make energy available for others. • Reduces need for energy from less environmentally friendly power plants. • Opted-in customers receive discount rate during summer Off-Peak and Mid-Peak hours.

SMUD

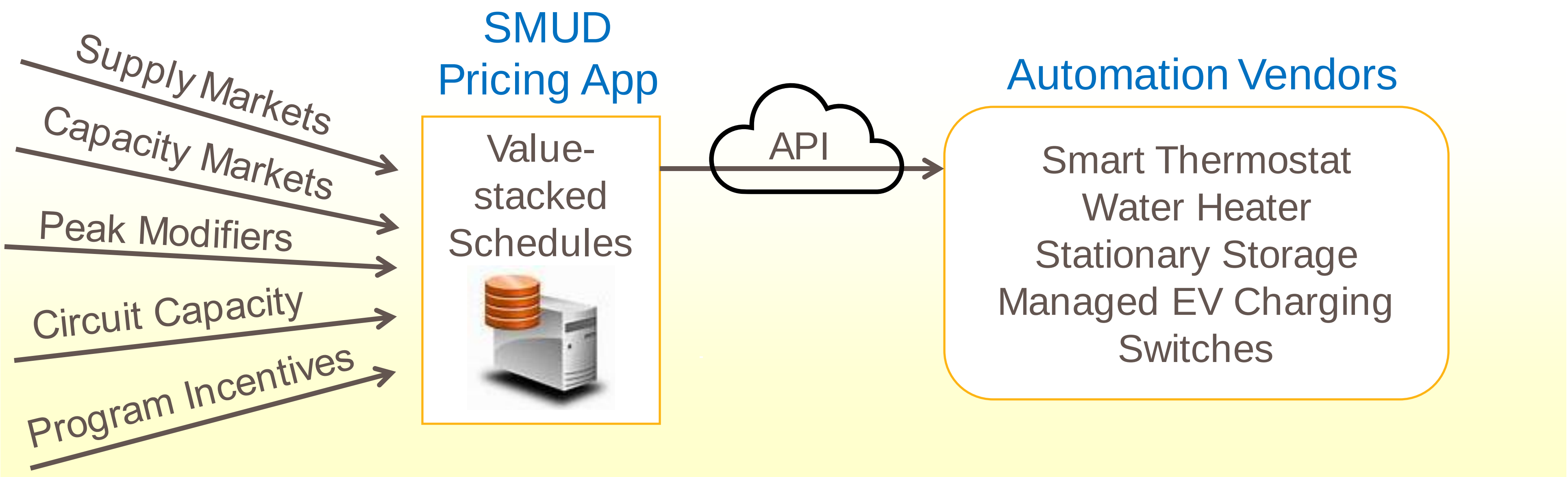
Residential Managed EV Charging



- Vehicle telematics used to shape EV charging based on supply-side price optimization, with customers setting "charge by" constraints on their vehicle app or enrollment website
- Customers will receive $150 up front and $20/quarter incentive for enrollment and participation in the pilot. Billing will remain on their existing rate.
- To mitigate transformer overload, transformer forecasted capacity (without EV load) will be allocated in staggered capacity discount periods to reduce the likelihood of coincident charging
- Renewable charging will be encouraged through day-time discount periods
- Experiments will simulate 2030 conditions in the Zero Carbon Plan

SMUD®

Price Communication Application



2018	2019	2020	2021	2022	2023
Proof of Concept	Pilot Integration & Iteration	Market Price Stacking	Managed External API Platform	VPP Program Integration	Enterprise Operations Integration

NextGen AC Load Management Program

- Start recruitment in 2023. Have 2,000 participants by summer 2023, then add 4,500 more by 6/1 each year until 42,500 is reached (9 years).
- Targets existing customers on our legacy 1-way A/C load management program (Peak Corps), customers without broadband router access and those customers concerned about privacy of sending their data over the internet.
- Provides a solution to 50,000+ homes in Sacramento county where smart Wi-Fi thermostats will not work on homes with Zoned/SmartVent HVAC systems.
- Participants receive a $30 one-time enrollment incentive.
- Requires enrollment in the TOU-CPP rate.
- Event dispatch: Up to 50 hours per summer with events lasting 1 to 4 hours.
- Customers chose 50% or 67% cycling level.
- Retains emergency dispatch capability.
- Includes system level control in the beginning few years. Includes distribution level control when it’s integrated into our DERMS.

SMUD®

SMUD is also analyzing foundational pricing for grid services.

Looking comprehensively at what grid services we will need to meet 2030 plan goals.

- Capacity (bulk generation, transmission, local distribution)
- Energy
- Ramping
- Regulation
- Frequency Response
- Spinning or other reserves

Customer adoption and confidence in delivery of cost-effective grid services.

- What price-responsive devices will be in customer homes and businesses? What scale?
- What impacts to customer of price response, what available flexibility?
- How reliable, predictable is price response for different grid service needs?
- What are costs relative to aggregator approach?
- How well can pricing serve as an optimization mechanism across T/D set of grid services?
- How to manage complexity, risk for customer?
- What is/are appropriate pilot scope(s) to test most valuable price-based grid services?

SMUD urges the CEC to adopt an LMS that provides utilities the flexibility to implement programs and pilots, without first requiring utility rate-making bodies to reject rate proposals