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ATTACHMENT 1

SONOMA CLEAN POWER LOAD MANAGEMENT STANDARDS PLAN

March 7, 2024

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Executive Summary

The goals of the California Energy Commission's (CEC) Load Management Standard (LMS) regulation are to 1) encourage the use of energy at off-peak hours; 2) promote load flexibility; 3) encourage the control of daily and seasonal peak loads to improve grid reliability; 4) lessen or delay the need for new electrical capacity; and 5) reduce fossil fuel consumption and greenhouse gas emissions. To achieve these goals, the LMS regulation requires California's Load Serving Entities including Investor-Owned Utilities (IOUs), Publicly Owned Utilities (POUs), and Community Choice Aggregators (CCAs) to develop and propose rate structures that correlate to hourly marginal costs.

Recognizing the potential constraints of developing marginal cost-based rates, the regulation provides that if a CCA determines that proposing new such rates would not materially reduce peak load, the CCA must offer cost-effective load flexibility programs. These may include programs that allow customers to automatically respond to hourly or sub-hourly marginal cost-based rates, marginal prices, or greenhouse gas (GHG) signals from the CEC-maintained Market Informed Demand Automation Server (MIDAS) database. Specifically, CCAs may delay or modify compliance with such requirements if they can show that despite good faith effort, the LMS requirements must be modified to provide a more technologically feasible, equitable, safe, or cost-effective way to achieve the goals of the LMS regulation.

Sonoma Clean Power (SCP) strongly supports the intent and goals of the LMS regulation and has been working towards parallel goals through our Integrated Resource Plan, where we are striving to match hourly demand with GHG-free resources from our power supply by 2030. SCP will continue to pursue additional methods to achieve these goals through existing programs such as our GridSavvy demand-response platform, while also evaluating new programs and pilots.

SCP's LMS plan (Plan) includes evaluation of the specified marginal cost-based rate structures and programs as described in the LMS regulation with respect to cost-effectiveness, equity, technological feasibility, benefits to the grid and to customers. In this filing, SCP will demonstrate achievement of the objectives of the LMS regulation with our existing time-dependent rates, and our current and planned portfolio of load flexibility measures.

SCP's customers' existing rate structure, coupled with our current and planned load flexibility programs and pilots, already capture a substantial portion of the available load shift benefits sought in LMS regulations. A thorough evaluation by staff has determined that implementing complex new rate structures driven by hourly marginal prices by January 1, 2026, would not result in material nor cost-effective

reductions in peak load relative to SCP customers' existing time-dependent rates and programs.

Accordingly, SCP will continue to offer current and planned load flexibility programs and reevaluate the specified rate and program designs in the next update of our Plan, informed by the results from our pilots. This re-evaluation will occur every three years following adoption, and material updates will be submitted to the SCP Board of Directors for approval.

1. About SCP

Sonoma Clean Power is the community choice energy provider for Sonoma and Mendocino counties, excluding for Ukiah and Healdsburg which have existing municipal utilities. SCP serves a population of about a half-million, with our energy demand split roughly in half between residential and non-residential customers. In downtown Santa Rosa, SCP operates the only Advanced Energy Center in the United States dedicated to helping customers transition to 100% renewable energy for their homes, businesses, and vehicles. SCP is also the only power provider in California offering 100% renewable energy generated within our service territory twenty-four hours per day, every day of the year.

2. LMS Requirements and Timeline

In 2022, the LMS were updated with amendments aimed at augmenting statewide demand flexibility to support California's climate policies and the aggressive adoption of renewable energy generation technologies.[1] These revised standards are applicable to major entities such as large investor-owned utilities, large publicly owned utilities, and twelve large CCAs providing over 700GWh of electricity annually. SCP falls into this latter category.

The LMS regulation encompass four distinct areas:

1. Ensuring the accuracy of existing and future time-varying rates in the Market Informed Demand Automation Server (MIDAS) rate database, which is both publicly accessible and machine-readable.

2. Developing a standard rate information access tool to support third-party Demand Response and Load Management services.

[1] California Energy Commission. "Load Management Fact Sheet." Accessed February 2024. https://www.energy.ca.gov/sites/default/files/2022-10/Load_Management_Fact_Sheet_ADA.pdf

3. Creating and submitting location marginal price-based rates that change at least hourly to reflect marginal wholesale costs.

4. Integrating information about new time-varying rates and automation technologies into existing customer education and outreach programs.[2]

Section 1623.1(b)(2) of the regulation directs CCAs to seek approval from their Boards for at least one dynamic rate for each customer class in cases when its rate-approving body determines such rate will materially reduce peak load. The application must be submitted within two years of the regulation effective date, or by April 1, 2025. Approved rates would be implemented the following year, or by April 1, 2026, per section 1623.1(b)(4).

Section 1623.1(a)(1) first requires each CCA to evaluate, as part of its plan, the cost effectiveness, equity, technological feasibility, benefits to the grid, and benefits to customers, of dynamic rates for each customer class. After this evaluation, CCAs may instead propose and evaluate specified programs and/or delay or modify compliance with the LMS requirements.

A notable distinction made in the regulations for CCAs is that the LMS allows CCAs to either create their own rates or programs or participate in already existing IOU programs and rate offerings, with their governing board's approval. The following sections of this document explain how SCP intends to meet the objectives stipulated by the CEC Load Management Standards.

3. CCA Rate Design Process

CCAs governing boards have jurisdictional responsibility over setting rates on behalf of their customers. Public Utilities Code Section 366.2(c)(3) provides that that CCAs retain jurisdiction for setting rates for the electricity they purchase on behalf of their communities. This localized control empowers CCAs to develop energy programs, determine pricing structures, and prioritize renewable energy sources according to the preferences and goals of the communities they serve. SCP sets rates locally through a transparent process involving community stakeholders and board members representing each community served by SCP. Local rate-setting reflects our region's economy and geography and allows for input from customers and communities served.

[2] California Energy Commission. "Load Management Standards." Accessed February 2024. https://www.energy.ca.gov/programs-and-topics/topics/load-flexibility/load-management-standards

SCP, like other CCAs, established the generation rate components for customers. Our shared customers with the incumbent IOU – in SCP's case, Pacific Gas & Electric (PG&E) – pay PG&E's rates for transmission, distribution, public purpose programs, nuclear decommissioning, wildfire insurance, wildfire hardening, etc. Section 1623.1(b)(2) states that a marginal cost-based rate can mirror the IOU whose service area the Large CCA exists. At the time of the publication of this report, PG&E does not yet have an approved dynamic rate. PG&E also has numerous ongoing real time rates in development, including its AgFIT Pilot and Vehicle to Grid Integration RTP Pilot.[3] Assuming that such rates are adopted for all customer classes, SCP will be able to assess whether it could adopt those same rates as is for its own customers, following a determination as to whether those rates would be proven to as cost effective, equitable, technologically feasible, and beneficial to its own customers.

Like many other CCAs, SCP works with Calpine Energy Solutions (Calpine) to provide back-office services, which includes rate design implementation and billing services. In order to develop its own marginal rate, SCP, through Calpine, would need to develop a real-time pricing index that obtains data from California Independent System Operator (CAISO) markets, and integrate that data into Calpine's system. In discussion with Calpine, uploading daily marginal rate pricing will be an issue. Under current processes and MIDAS data server capabilities, it can take upwards of three days to upload rates. While this may be a problem that may be streamlined over time, it remains a large roadblock to understanding how this will be implemented. Unfortunately, at this point in time, it is not feasible to assure that this data level is achievable while also being cost effective, equitable, technologically feasible, and beneficial to customers.

To be cost effective, the new system's cost of development and continued monitoring when combined with customer benefit would need to be greater than a current programs' efficacy of driving customer savings. Some of the identified costs for developing such a system are staff time, pilot program development, customer information system upgrades, new software and device rollout, and additional continued program administration. There are also intangible costs such as customer satisfaction by further increasing billing complexity and potentially opening customers to greater rate fluctuation. Benefits would include avoided energy and capacity costs by creating more responsive customers, and potential environmental

[3] Docket 23-LMS-01, Pacific Gas and Electric Company E-Filing 2023 Compliance Plan for the Load Management Standards submitted October 2, 2023, pp. 5-6.

benefits by being able to reduce demand through pricing signals on a more targeted basis.

Equity includes both customer access to the benefits of adopting such a rate and while reducing potential negative outcomes of adopting such a rate, especially if they occur between rate adopters and those who opt out. SCP is particularly concerned with the potential impact exposure to hourly rates could have on customers who are unable to shift their load to meet pricing fluctuations – these customers often tend to be smaller business or residential customers (a subset which also include more disadvantaged classes such as California Alternate Rates for Energy (CARE) program and the Family Electric Rate Assistance Program (FERA) or Medical Baseline customers), and are often less able to take advantage of more granular rate schedules.

The development of a marginal rate is technologically feasible at this point in time. All LSEs have the ability to access power costs, load profiles, and energy consumption data across all customer classes. Additionally, technology is currently available to customers so that they may take advantage of such rates. However, while it is clear the technology to implement a marginal rate exists, it remains unclear how this technology will be adopted, and at what speed. This technological adoption question will be driven heavily by the outcome of the other criteria. For example, if not enough customers decide to install customer side technology, this will have an immediate impact on the cost effectiveness. Similarly, if the adoption rate is slow by certain customer classes, this will exacerbate inequity.

Finally, as mentioned above, a marginal rate must be beneficial to both the grid and to customers. On the customer side, customers could see reduced rates if they are able to appropriately respond to marginal pricing signals. However, this benefit could easily shift to a burden if customers are unable to meet an increased risk to price fluctuations. While this potential risk could be mitigated in other ways such as hedging, it is not clear that would be a desired outcome as that would lead back to essentially the status quo with additional steps. As for grid benefits, there could be potential increased optimization of available assets, reduced compliance penalties, and further reduction of emissions.

Part of this design process includes providing Rate Identification Numbers (RINs) into customer billing statements per Section 1623(c)(4). Currently, the large IOU whose territory a CCA exists in acts as the CCA's billing agent - in SCP's case, the billing agent is PG&E. SCP is actively working with both Calpine and PG&E to provide its RINs to customers in their billing statements.

4. Current Load Flexibility Programs

In addition to developing renewable and low-GHG resources to meet customer demands on an hourly basis, SCP offers an evolving suite of load flexibility programs to help customers contribute to reliability and GHG reductions by reducing energy demand during peak grid demand.

GridSavvy Rewards is SCP's flagship event-based demand response program that was relaunched in 2022. GridSavvy Rewards are being developed as a critical tool to introduce the collaborative impact which can be made when we are all working collectively toward an outcome. GridSavvy Rewards provide multiple participation options that include automated demand response using integrated and dispatchable smart thermostats and EV chargers, as well as a behavioral demand response option known as GridSavvy Alerts. GridSavvy Alerts allow customers to participate without the need for additional technologies – participating customers are able choose how they will reduce use in their home when asked to do so in response to a peak demand event.

The goal of GridSavvy Rewards is to use cumulative customer efforts to address grid reliability issues. These issues are caused by incident demand that exceeds available generation resources or that incurs higher than typical costs due to congestion in the distribution system. In addition, the program aims to inform and educate participants about the importance of when electricity is used and empower participants to make a difference using whatever method they chose to reduce use during peak demand conditions.

4.1 Current Programs Equity and Accessibility

The behavioral demand response program option, GridSavvy Alerts, provides a means for participation available to customers across socio-economic classes, and culturally diverse groups throughout SCP's service territory. Unlike other available offerings, no upfront investment in technology is needed to participate, which allows customers to engage with the program option and earn rewards for participating with no upfront costs and no penalties for not participating. Participants are encouraged to decide on their own how they intend to reduce energy use during the event. SCP staff provide pragmatic advice on useful strategies to reduce use which include delaying laundry and dishwasher cycles, adjusting thermostat settings, and limiting plug loads during peak demand events.

The initial launch of GridSavvy Alerts in 2022 was offered to all income qualified customers enrolled in the CARE/FERA programs. To maximize the ability of this program to support grid needs, SCP also targeted the program to the top 10% of electricity users.

Under the Alerts program option, participants are notified via text, email, or voice call when a peak demand event is expected which expands participation to our customers who may not use a mobile device or have access to the internet. Additionally, all materials are provided in both English and Spanish.

4.2 Current Programs Event-Based Demand Response Strategy

Load forecasts from the CAISO are compared to our local load forecasts to prioritize event days and help determine when higher than expected demand is anticipated. Enrolled SCP customers are notified to limit the use of electricity during a specified event window, generally between 5-7pm during the months of May through October. Communication with customers in their preferred language and communication method is critical to building a program with the greatest access and engagement and that is equitable to all Sonoma Clean Power customers.

The GridSavvy Alerts program option also requires that any Energy Emergency Alerts (EEA), commonly known as a Flex Alerts issued by the CAISO, be included as an event to participants in the program. These events can include longer durations and can be issued on multiple days. GridSavvy Alerts can ensure even greater awareness during these critical Flex Alerts to ensure that California can keep the lights on when load shifting is the last available tool to reduce grid stress. Notifications for events are sent up to 24 hours prior to an event when possible.

4.3 Current Programs Measurement and Verification

The Alerts program option provides our customers with the ability to participate without installing any technology behind the meter. The only requirement is that the customer have a PG&E installed SmartMeter™. The SmartMeter allows SCP to measure energy use during the event. In collaboration with AutoGrid Systems, Inc., SCP evaluates historic interval data for all participating SCP customers and determines what use would be expected on a typical day. Qualified shed uses CAISO's high 5-of-10 baselining methodology which averages the highest 5 usage days from the previous 10 days to determine usage of a typical non-event day. The interval data from the scheduled event window is compared against the average to

determine the usage reduction during the event. Customers earn rewards of $2/kWh of load shed during an event to be paid out by check or bill credit at the end of the season or donated to a local community partner non-profit.

4.4 Current Programs: Year One Results

SCP's initial Alerts program option outreach featured letters and postcards and offered a $25 enrollment incentive provided via an e-gift card. Testing was conducted to identify what type of external messaging was most effective to encourage customers to open the envelope and engage with the program and concluded that there was not a significant difference in the level of engagement based solely on the envelope design. Enrollment was easy and was offered in English and Spanish, both as an online form and a mailed version for customers that wished to participate but did not have access to, or familiarity with, computer-based applications.

During the 2022 event season, approximately 2,000 people enrolled in GridSavvy Alerts. 5% of participants requested communication in Spanish. The per event average load shed reached 500 kW (0.5 MW) and the season total reached 35,000 kWh of qualified shed. The average earned reward was $38.00.

The 2022 event season included an unprecedented heat wave that spanned August 31st through September 9th. During this time, CAISO called daily Flex Alerts from 4-9pm and GridSavvy Alerts participants were notified directly that the grid was experiencing higher than expected demand and help that was needed to assure power was not interrupted for any of California's electricity users.

In 2022, GridSavvy Alerts stood as an example of what could be accomplished by similar programs once scaled. Although only a small part of a larger effort, programs such as GridSavvy Alerts may one day create a non-generation solution to reduce the chances of requiring rolling blackouts or the firing of diesel generators to meet demand during critical grid conditions.

4.5 Current Programs: Year Two Results

If 2022 represented an example of the need for and importance of programs such as GridSavvy Alerts, 2023 offered an opportunity to understand the impacts of such a program at scale. Due to the success of the 2022 event season, SCP cast a broader net during the 2023 season enrollment campaign. The GridSavvy Alerts program

option was promoted to all of SCP's customers who were not enrolled in a competing program or had already enrolled in a previous year.

The program grew to over 7,200 participants during the 2023 event season and while 2023 did not include events in response to CAISO issued Flex Alerts, participants successfully shed 3,000 kW (3.0 MW) during events that were forecasted to have higher than expected demand. Participants can log on to a customer portal to review their performance from prior events.

SCP continues to demonstrate the effective load shed that could be developed into an indispensable lever to limit the worst outcomes when the grid is unable to meet the demands of Californians.

4.6 Future Years

In 2024, SCP plans to do even more to expand and develop this critical tool. With a goal to enroll an additional 6,000 SCP customers, we believe that the program can tackle tough questions around human behavior and motivation that prompts real action. Using the participants chosen communication method, SCP will test messaging and outreach to attempt to better understand the most effective approach to engage with customers and encourage them to mobilize when the need is the greatest. By including a robust educational component and accumulated performance data, our goal is to drive greater engagement by understanding key messaging impacts.

Creating program segments and using customer demographics and tracking to identify variations in messaging and incentive impacts could be used as a tool to both support improvements in demand side management but also could be used as a model for other programs to best understand customer behaviors. GridSavvy Alerts extracts learning without the use of surveys by using performance data to gain useful insights.

5 Conclusion

SCP strongly supports the goals of the CEC's revised Load Management Standards. With the direction of our board, staff will continue to offer programs that meet the aims of LMS while monitoring their impact. In addition to supporting the aim of the program, we applaud CEC staff for proactively carving out various venues by which LSEs can contribute to LMS goals. Providing LSEs the opportunity to develop cost-effective programs in addition to narrowly requiring real time rates will support continued innovation in these programs.