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Ava Community Energy Load Management Standards Revised Compliance Plan

April 11, 2025

1 Executive Summary

Since 1974, the California Energy Commission ("CEC") held the authority to establish and revise the Load Management Standards ("LMS"). On April 1, 2023, the CEC adopted amendments to the LMS, which require all large utilities and community choice aggregators ("CCAs") to provide dynamic electricity rates in a format that can be communicated with smart devices or automation service providers. The updated standards aim to assist customers to take better advantage of time-dependent rates, with the goal of decreasing overall costs by shifting energy use from peak to non-peak time periods. In addition, any technological and behavior changes, resulting from the LMS revisions, may slow the rise of future energy costs, increase grid reliability, reduce the need for building more conventional power plants, and avoid transmission and distribution congestion.

To accomplish these goals, the LMS regulation requires California's Large Investor-Owned Utilities (IOUs), Large Publicly Owned Utilities (POUs), and Large Community Choice Aggregators (CCAs) to develop and propose rate structures that change at least hourly based upon marginal costs. If, after performing an evaluation, a load serving entity determines (LSE) not to propose new rates because offering such rates to its customers would not materially reduce peak load, the LSE must offer cost-effective load flexibility programs, including programs that allow its 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, where the LSE determines such programs would materially reduce peak load.

Each LSE must develop a compliance plan describing how they will meet the various requirements of the LMS regulation. The CCAs and POUs may delay or modify compliance with such requirements if they can show that despite good faith effort, the regulatory requirements must be modified to provide a more technologically feasible, equitable, safe, or cost-effective way to achieve the LMS regulation goals.

Ava strongly supports the intent and goals of the LMS regulation and is working towards similar goals through programs and pilots, which are helping Ava understand how it can most effectively partner with customers with behind-the-meter devices in a way that maximizes the resource and is supportive of the customer experience. Additionally, Ava's 100% Renewable Energy Policy sets a goal of purchasing 100% clean power by 2023.

Ava's compliance plan includes considerations of the specified marginal cost-based rate structures and programs, as described in the LMS Amendments, and evaluates the rate structures and programs with respect to cost-effectiveness, equity, technological feasibility, and benefits to the grid and customers.

Based on this evaluation, Ava cannot conclude that implementing complex new rate structures that change at least hourly by January 1, 2027, would result in material reductions in peak load reduction relative to Ava's existing time-dependent rates, programs, or pilots, or be cost effective. This is, in large part, because significant uncertainties exist related to the level of incremental load shift potential, customer response to market price risks, customer acceptance and adoption of a complex new rate design, the administrative costs of dynamic rate implementation, and potential cost shifts between participants and non-participants. Ava's existing rates, coupled with current and planned load flexibility programs and pilots, capture a substantial portion of the available load shift benefits from Ava's customers. In addition, implementation of unfamiliar and complex rate structures without sufficient testing and refinement of the new rate designs would likely result in low customer adoption, further

limiting realization of any potential added load shift benefits. For similar reasons, Ava's evaluation cannot conclude that implementing new programs that allow for automated response to MIDAS signals would result in incremental reductions in peak load or be cost-effective, relative to Ava's current and planned load flexibility programs and pilots.

In this compliance plan, based on the evaluation of dynamic rates and programs that follow, Ava describes a pathway for achieving LMS goals that is cost-effective, customer oriented, and technologically feasible. Ava will continue to offer time-variant time-of-use rates that customers are familiar with to encourage the use of energy at off-peak hours. Ava will encourage the management of daily and seasonal peak loads by implementing a growing portfolio of demand flexibility programs that focus on daily load shifting. Through these rates and programs, alongside Ava's 100 Percent Renewable Energy Policy, Ava is doing its part to lessen the need for new electrical capacity and reduce fossil fuel consumption and GHG emissions. Ava will reevaluate the specified rate and program designs in the next compliance plan update, with the benefit of data from dynamic rate pilots.

Ava's Plan was presented and submitted to Ava's Board of Directors ("Board") within one year of the adoption of LMS amendments on April 1, 2023. The Board adopted the plan in a duly noticed meeting on March 20, 2024, and this decision was made by Ava's Board acting as its rate-approving body. Ava will review the Plan every three years following adoption, and material Plan updates will be submitted to the Board for approval.

2 Introduction

2.1 About Ava

Ava Community Energy Authority ("Ava"; formerly known as "East Bay Community Energy Authority" or "EBCE") is a public agency located within Alameda County, formed for the purpose of implementing a community choice aggregation program ("CCA"). At the time of initial service commencement, the Member Agencies of Ava included the cities of Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Oakland, Piedmont, San Leandro, and Union City located within the County of Alameda ("County") as well as the unincorporated areas of the County itself (together, the "Members" or "Member Agencies"). The Members elected to allow Ava to provide electric generation service within their respective jurisdictions. In anticipation of CCA program implementation and in compliance with state law, Ava submitted its Implementation Plan to the California Public Utilities Commission ("CPUC" or "Commission") on August 10, 2017, and it was subsequently certified by the CPUC on November 8, 2017.

Ava launched the Program on June 1, 2018, and has been serving customers since that time.

On December 20, 2019, Ava submitted its Addendum 1 to Ava's Implementation Plan ("Addendum No. 1") to the CPUC to address Ava expansion to the cities of Pleasanton, Newark, and Tracy. Addendum No. 1 was subsequently certified by the CPUC on March 9, 2020. Eligible electricity accounts in those jurisdictions have been successfully receiving service from Ava since April of 2021.

On December 8, 2022, Ava submitted its Addendum 2 to Ava's Implementation Plan ("Addendum No. 2") to the CPUC to address Ava expansion to the City of Stockton. Addendum No. 2 was subsequently certified by the CPUC on March 8, 2023. Eligible electricity accounts in those jurisdictions are currently preparing to begin service with Ava after January 2025, per CPUC Resolution E-5258.

On September 28, 2023, Ava submitted its Addendum 3 to Ava's Implementation Plan ("Addendum No. 2") to the CPUC to address Ava expansion to the City of Stockton. Addendum No. 2 was subsequently certified by the CPUC on December 18, 2023. Eligible electricity accounts in those jurisdictions are currently preparing to begin service with Ava after January 2025.

The Program now provides electric generation service to approximately 640,000 residential and commercial accounts. With the enrollment of the City of Stockton, Ava expects to provide service to approximately 111,700 additional accounts, and another 7,300 additional accounts with the enrollment of the City of Lathrop. As such, Ava anticipates providing service to approximately 760,000 accounts in total beginning in 2025. Energy consumption in 2025 is forecast to be 8,765 GWh. Capacity requirements in 2025 are forecast to be 2,617 MW.

2.2 Ava's 100 Percent Renewable Energy Policy

Currently, Ava offers its customers two different product choices: (1) Bright Choice, which offers a fixed percentage savings relative to PG&E's generation rates with renewable and carbon-free content set to meet an annual target en route to a 100% carbon-free objective in 2030; and (2) Renewable 100, which offers a 100% renewable electricity mix at a small fixed per-kWh premium relative to PG&E's generation.

Ava will provide much of its electricity from renewable sources such as solar, wind and small hydroelectricity—which do not pollute or produce greenhouse gases. Switching from conventional energy sources to renewable energy is the single most effective way to accomplish its communities' climate

action goals. Ava's Board of Directors established the goal of purchasing 100% clean power by 2030 — a full 15 years before the state's goal date.

2.3 Load Management Standards

The central focus of the CEC's LMS Rulemaking is to encourage customers to shift electricity use from peak times of day when it is expensive and polluting to cheaper and cleaner off-peak times of the day. According to the Public Resources Code, section 25132, load management is defined as "any utility program or activity that is intended to reshape deliberately a utility's load duration curve." Load management reduces the need for new electrical generation and backup generation, thus lowering customer energy costs, and is a key strategy to ensure grid reliability and resilience, distributed energy resources integration, and GHG emissions reduction.

The CEC adopted 20 CCR § 1623.1 (the "LMS amendments") through a rulemaking on April 1, 2023. The LMS Amendments require publicly- and investor-owned utilities and Large CCAs to offer customers access to rate structures and programs that provide the information needed to manage and optimize their energy use. Specifically, the revisions require development of marginal cost-based rates or load flexibility programs.

The LMS Amendments define marginal cost as "the change in current and future electric system cost that is caused by a change in electricity supply and demand during a specified time interval at a specified location."[1] Total marginal cost is calculated as "the sum of the marginal energy cost, the marginal capacity cost (generation, transmission, and distribution), and any other appropriate time and location dependent marginal costs, including the locational marginal cost of associated greenhouse gas emissions, on a time interval of no more than one hour."

In this Plan, Ava uses the term dynamic rates to refer to rates that reflect generation marginal cost signals on an hourly or sub-hourly basis. As a CCA, Ava is authorized and responsible for setting and recovering only the generation cost components for each applicable electric rate. Pacific Gas and Electric ("PG&E"), the investor-owned utility for Ava's service territory, is responsible for setting distribution, transmission, and any other non-generation cost components for each rate.

2.3.1 Ava's Compliance Roadmap

Adopted LMS amendments section 1623.1(a) requires Ava, along with the other large community choice aggregators and large publicly owned utilities, to develop and submit a compliance plan in response to meeting the revised LMS requirements. The following table is a roadmap identifying where each regulatory requirement, along with the due date, is addressed within Ava's compliance plan.

LMS Section	Regulatory Requirement	Due Date	Plan Section
§1623.1(c)	Within three months of regulation effective date, 4/1/2023, upload existing time-dependent rates to the MIDAS database.[2]	7/1/2023	3.1.1

[1] Energy cost computations shall reflect locational marginal cost pricing as determined by the associated balancing authority, such as the Los Angeles Department of Water and Power, the Balancing Authority of Northern California, or other balancing authority. Marginal capacity cost computations shall reflect the variations in the probability and value of system reliability of each component (generation, transmission, and distribution). 20 CCR 1623.1(b)(1).

[2] On June 1, 2023, the CEC issued Order No. 23-0531-10 in response to a request for extension from the IOUs and

§1623.1(a)(1)	Within one year of regulation effective date, develop and submit compliance plan addressing how Ava plans to comply with LMS requirements, including evaluation of marginal cost-based rates and programs, to Ava's Board. The plan must be considered for adoption within 60 days after submission.	4/1/2024	2.3.2.1
§1623.1(a)(3)(A)	Submit compliance plan to the Executive Director on the CEC within 30 days of adoption of the plan. Respond to requests for additional information and/or recommendations within 90 days.	4/19/2024	2.3.2.2
§1623(c)(4)	Within one year of regulation effective date, provide customers access to their Rate Identification Numbers ("RIN") on billing statements and in online accounts using both text and QR.	4/1/2024	3.2
§1623(c)(2)	Within 18 months of regulation effective date, develop and submit to the CEC, in conjunction with the other obligated utilities, a single statewide standard tool for authorized rate data access by third parties, and the terms and conditions for using the tool. Upon CEC approval, maintain and implement the tool.	10/1/2024	3.3
§1623.1(b)(3)	Within 18 months of regulation effective date, submit to the CEC Executive Director a list of load flexibility programs deemed cost effective by Ava. The portfolio of programs must provide at least one option to automate response to MIDAS signals for each customer class where Ava's Board has determined such a program would materially reduce peak demand.	10/1/2024	5.2.5.1
§1623.1(a)(3)(C)	Submit annual reports to the CEC Executive Director demonstrating implementation of plan, as approved by Ava's Board.	One year after the plan receives CEC approval, and annually thereafter.	2.3.2.4
§1623.1(b)(2)	Within 27 months of the regulation effective date, submit at least one marginal cost-based rate to Ava's Board for approval for any customer class(es) where such a rate will materially reduce peak load.	7/1/2025	4.3.5
§1623.1(b)(4)	Within 51 months of the regulation effective date, offer customers voluntary participation in	7/1/2027	4.3.5 and 5.2.5.2

Large CCAs. The Order approved an extension for CCAs to upload time-dependent generation rates by August 1, 2023, and remaining time-depending rates with rate modifiers by October 1, 2023.

	either a marginal cost-based rate, if approved by Ava's Board, or a cost-effective load flexibility program.		
§1623.1(b)(5)	Conduct a public information program to inform and educate affected customers why marginal cost-based rates or load flexibility programs and automation are needed, how they will be used, and how these rates and programs can save customers money.	Ongoing, dependent on offerings	6.2
§1623.1(a)(1)(C)	Review the plan at least once every 3 years after the plan is adopted and submit a plan update to the Board if there is a material change.	Every 3 years	2.3.2.3

2.3.2 Ava's Compliance Plan Administration

2.3.2.1 Plan Development and Board Approval Process

Adopted LMS amendments section 1623.1(a) requires each Large CCA to submit a compliance plan consistent with the applicable requirements of the LMS, as well as actions taken to meet those requirements to its rate-approving body. The compliance plan must be submitted within one year of the regulation effective date, or by April 1, 2024, and must be considered for adoption by the rate approving body in a duly noticed public meeting within 60 days of submission.

This Plan meets the requirements of section 1623.1(a). The Plan was submitted to the Board prior to April 1, 2024, and presented to Ava's Board at a duly noticed meeting on March 20, 2024. Ava's Board approved this Plan. The description of how Ava complies with each element of the regulatory requirements of the LMS amendments is provided in the subsequent sections of this Plan.

2.3.2.2 CEC Review process

Adopted LMS amendments section 1623.1(a)(3) specifies that, upon adoption by the Large CCA rate approving-body, the plan must be submitted to the CEC Executive Director within 30 days for review. Ava's Board is the sole authority to approve rates and in this regulatory proceeding, the CEC's role is limited to determining whether this adopted Plan complies with the regulation.

Following the Plan's presentation and adoption by Ava's Board on March 20, 2024, the Plan will be submitted to the CEC by April 19, 2024 for review. Any requests for additional information or recommended changes will be addressed, and a written response submitted to the CEC within 90 days as required in the regulation.

2.3.2.3 Triennial Plan Review

Adopted LMS amendments section 1623.1(a)(1)(C) requires each Large CCA to review its compliance plan at least once every three years. The CCA must submit a plan update to its rate-approving body where there is a material change to the factors considered in evaluating marginal cost-based rates and programs. Material revisions to the plan shall follow the same process as the initial plan approval.

This Plan will be reviewed by Ava every three years following the date of adoption and material updates will be submitted to Ava's Board for approval. Subsequently, this Plan and any approved material updates will be duly submitted to the CEC.

2.3.2.4 Annual Reporting

Adopted LMS amendments section 1623.1(a)(3)(C) requires each Large CCA to demonstrate implementation of its LMS compliance plan through a submission to the CEC Executive Director. Each Large CCA must submit an initial report one year after adoption of the plan by the CCA's rate-approving body, and annually thereafter. Ava will submit annual reports to the CEC Executive Director describing the implementation of this Plan.

3 Access to Price Signals

3.1 Upload of time Dependent Rates

Section 1623.1(c) of the LMS Amendments requires each Large CCA to "upload its existing time dependent rates applicable to its customers to the Commission's Market Informed Demand Automation Server (MIDAS) database" within three months of the regulation effective date, or by July 1, 2023. On June 1, 2023, the CEC issued Order No. 23-0531-109 in response to a request for extension from the IOUs and Large CCAs. The Order approved an extension for CCAs to upload time-dependent generation rates by August 1, 2023, and remaining rate modifiers by October 1, 2023. Each uploaded rate is associated with a RIN, which is used to uniquely identify each permutation of rate and rate modifier. The MIDAS database will provide information about the rate and any associated marginal signals to which the customer may automate response for each associated RIN. Large CCAs are also required to upload any new time-dependent rates or changes to existing rates prior to the effective date. All uploaded time-dependent rates must include all applicable time dependent cost components.

3.1.1 Existing rates uploaded to MIDAS

On July 25, 2023, Ava completed the upload of all its base rates to MIDAS, totaling 102 RINs. A message confirming successful upload was returned for each rate file loaded to MIDAS. Ava sent an email to CEC staff confirming successful MIDAS upload on July 31, 2023, and received acknowledgement from the CEC's MIDAS Lead the same day.

On October 1, 2023, Ava uploaded all remaining rate modifiers, such as PCIA vintage, associated with current time dependent rates. Ava notified CEC staff of the successful upload on October 1, 2023, and provided a spreadsheet tying RINs to rate modifier combinations upon request.

3.1.2 New and updated rate uploads

As discussed in 2.2 section 2.2, Ava's rates mirror PG&E's, with a 5% discount or ¼ cent per kWh premium being applied depending on whether a customer takes service on Bright Choice or Renewable 100, respectively. As such, Ava rates change with every PG&E rate change, and new MIDAS uploads are required to account for these updates. For example, On Jan 25, 2023, Ava re-uploaded its rates to MIDAS to reflect PG&E's Annual Electric True-Up (AET.) Going forward, Ava will continue to re-upload rates as needed. Ava will also upload new rates as new time-dependent rates or rate components are developed. Ava will follow a similar process to the successful existing rate uploads in 2023 and 2024. Ava will continue uploading all its rates per the API parameters established by the MIDAS API Process.

3.2 Providing RINs to Customers

Adopted LMS amendments section 1623(c)(4) requires each Large CCA to provide customers access to their RIN(s) on customer billing statements and online accounts using both text and quick response ("QR")

or similar machine-readable digital code. This access must be provided within one year of the regulation effective date, or by April 1, 2024.

Ava creates RINs based on rate schedule, product (Bright Choice or Renewable 100), and PCIA vintage. Ava provides a mapping of rates to RINs to SMUD, who will then apply the correct RIN to each eligible customer's bill. RINs are provided to PG&E via the EDI 810 transaction, and PG&E then converts the RIN to a QR code. The QR code will provide the RIN when scanned.

Given that PG&E acts as the billing agent for Ava, the design, placement, and input for RINs on the bill by Ava is restricted. Nevertheless, Ava has collaborated with PG&E and SMUD to furnish RINs and customer information, facilitating their inclusion in the billing statement. Ava customers will see two RINs, one for the CCA-associated component(s) of their bill pertinent to their generation rates and another for the PG&E-associated component(s) of their bill related to transmission and distribution rates. There may be multiple RINs for customers with group bills and corrected billing. To Ava's knowledge as of April 11, 2024, the date of this Plan submission, PG&E has completed the implementation of RINs on customer bills.

3.3 Single Statewide RIN Access Tool

The LMS Amendments require Large IOUs, POUs, and CCAs to develop a Single Statewide Tool ("Statewide Tool") that would enable third parties to:

- Obtain RINs for individual customers
- Provide average or annual bill estimates for eligible rates if the large IOU, POU, or CCA has an existing rate calculation tool
- Switch customers to other rates for which a customer is eligible

The Statewide Tool must incorporate reasonable and applicable cybersecurity measures, minimize enrollment barriers, and be accessible in a digital, machine-readable format. The Large IOUs, POUs, and CCAs must submit specifications for the tool's development for adoption at a CEC Business Meeting by October 2024, and then implement and maintain the statewide tool thereafter.

Ava has been working with the other regulated load serving entities (LSEs) on creating the statewide RIN tool pursuant to 20 CCR Section 1623(c). A proposed plan for the tool was submitted to the CEC for review on October 1, 2024. Ava will comply with 20 CCR Section 1623(c)(3).

3.3.1 Resource commitment and implementation

Ava has been actively engaged in the development of the Statewide Tool. Ava attended the first Statewide Tool meeting on September 20, 2023; represented CCAs at the Commissioner Workshop on Load Management Standards Implementation on January 17, 2024; and plans to continue participating in working group meetings with the regulated parties to help define and plan for the Statewide Tool specifications.

Ava's internal infrastructure will likely need to be updated to integrate with and support the tool. Ava has committed members of its Technology & Analytics and Public Policy teams to support the tool planning process but is unable to identify the full scope of integration work until the final tool specifications are approved. A more comprehensive review of infrastructure and staff needs will be conducted as the tool takes shape.

As a CCA, Ava does not earn a rate of return on its infrastructure investments. Any costs incurred by Ava associated with developing the Statewide Tool would be spread among all Ava customers. A specific funding mechanism for tool development and operation has yet to be determined by the working group.

3.3.2 Statewide tool considerations

The development of the Statewide Tool will continue to require significant attention from all parties to ensure its effectiveness. Ava urges the Commission to convene further working groups or workshops with stakeholders to encourage collaboration. The following subject areas could be addressed during working groups/workshops:

- How the Statewide Tool will integrate with MIDAS and the price machine being considered by the CPUC for integration of dynamic rates
- Barriers and/or or open questions regarding the Statewide Tool's rate comparison and change features, including:
    - How to address different LSE's treatment of rate modifiers in MIDAS
    - How to integrate existing rate change processes and comparison tools
- Cybersecurity measures and the treatment of personally identifiable information
- Cost recovery for tool development, operation, and maintenance
- Processes for vendor selection for tool development, operation, and maintenance
- How to ensure a seamless customer experience for both unbundled and bundled customers

4 Dynamic Rates

4.1 Overview of Current Time-Dependent Rates

Ava's portfolio of time-dependent rates includes at least one time-dependent rate for every customer class. Ava has five customer classes: residential, small and medium business, large commercial and industrial, agriculture, and lighting. Apart from street lighting and unmetered customers, all customers have access to Time-of-Use ("TOU") rates and 72% of Ava customers, as defined by a meter, are on TOU rates. 97.5% of customers not on TOU rates are on E1. Please see the following table for details on Ava's rates by customer class and the percentage of customers in that customer class on TOU rates.

Table 1 Ava's Current Rates

Customer Class	**Available TOU Rates[3]**	**Available Non-TOU Rates**
Residential	• E-6 • EM-TOU • E-TOU-B • E-TOU-C • E-TOU-D • EV2-A • EVA • EVB • E-ELEC	• E-1
Small and medium business	• A-1X • A-10PX • A-10SX • A-10TX • A-6 • B-1 • B1-ST • B-6 • B-10P • B-10S • B-10T	• A-1 • A-10P • A-10S • A-10T • A-15
Large commercial and industrial	• B-19P • B-19PR • B-19PS • B-19S • B-19SR • B-19SS • B-19SV • B-19T • B-19TR	

[3] Ava has additional rate variants including legacy grandfathered rates, rates that vary with demand. CARE service is available on Schedules E-1, E-6, E-TOU-B, E-TOU-C, E-TOU-D, EV2, E-ELEC, and EM-TOU.

	• B-19TS • B-20P • B-20PR • B-20PS • B-20S • B-20SR • B-20SS • B-20T • B-20TR • B-20TS • BEV-1 • BEV-2P • BEV-2S • E-19P • E-19PR • E-19S • E-19SR • E-19T • E-19TR • E-20P • E-20PR • E-20S • E-20SR • E-20T • E-20TR • E-37S	
Agriculture	• AG-A1 • AG-A2 • AG-B • AG-C • AG-4A • AG-4B • AG-4C • AG-5A • AG-5B • AG-5C • AG-5D • AG-FA • AG-FB • AG-FC • AG-RA • AG-RB	• AG-1A • AG-1B •

	• AG-VA • AG-VB	
Lighting		• LS-1 • LS-2 • LS-3 • TC-1

4.1.1 Residential Rates

Ava's E-TOU-C is the standard rate for residential customers. Residential customers pay different rates depending on the season and time of use period, summarized in the table below. These time periods align with Ava's highest peak loads and marginal electricity prices, while also being simple and easy for customers to understand.

Table 2 E-TOU-C Time-Of-Use Periods

Time-Of-Use Periods	**Hours**
On-Peak	4 – 9 pm every day
Off-Peak	All other times

Ava's other TOU rates provide options for customers in terms of difference in peak and off-peak periods to shift energy use. In May 2021, residential Alameda County customers were transitioned from the flat E-1 rate to TOU-C. Tracy customers were transitioned in April 2022. Ava provided bill protection credits to customers who fared worse on E-TOUC than they would have on E-1. Only 18,755 (~9%) Ava customers received credit; the vast majority of customers financially benefited from switching to E-TOUC.

Ava's EV2-A is the standard rate for residential customers that charge their EVs at home. This rate encourages customers to charge their EVs during off-peak times when energy is abundant and energy prices are low.

4.1.2 Non-Residential Rates

Ava's B-1 is the standard rate for small and medium commercial customers. Ava's B-19S is the standard rate for medium/large commercial customers. Ava's AG-A1 is the standard rate for agriculture customers. All these rates are similar in concept to residential TOU rates, except there are additional demand charges. Non-residential customers have been offered TOU rates for a much longer period than residential customers. Non-residential customers were required to transition to updated TOU rates that align with today's energy availability in March 2021.

4.2 Ava's Rate Development Process

Community Choice Aggregators (CCAs) governing boards have jurisdictional control over rate setting 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 local control empowers CCAs to tailor energy programs, determine pricing structures, and prioritize renewable energy sources according to the preferences and goals of the communities they serve.

4.2.1 Rate Review and Setting Process

Ava staff must receive Board approval to revise the service level value propositions (e.g. offering a greater or lesser discount on Bright Choice.) The rate review and setting process is as follows:

1. *Executive Committee meeting*. Staff will provide a staff report containing analysis of PG&E rates and preliminary recommendations for changes to EBCE's value proposition, if any.

2. *Community workshops.* Based on feedback received at the Executive Committee meeting, staff will revise analysis if needed, and solicit comments from the community. This will be achieved through three (3) community meetings in geographically diverse locations. Staff will consolidate feedback from these meetings into a supporting document that will be presented to the Board. Written comments will be accepted in lieu of, or in addition to, verbal comments made during these workshops. A specific email address will be provided to the public to submit comments, along with a clear deadline for submittal.

3. *Community Advisory Committee (CAC) meeting.* The CAC will receive a presentation from staff and discuss the staff recommendation.

4. *Board meeting.* Staff will present analysis, findings, and recommendations derived from feedback from an Executive Committee meeting, Community Workshops, and a Community Advisory Committee meeting. The Board will have the opportunity to vote on staff recommendations. If the Board requests further analysis, the process will return to the Executive Committee. The Executive Committee can then make a final recommendation that will be brought to the next Board meeting.

4.2.2 Ava Value Proposition

Ava Staff is authorized to adjust Ava's rates to maintain the approved value proposition for each service level. If there are changes to PG&E generation rates or fees that result in a more beneficial value proposition for customers, Ava Staff is authorized to not adjust the rates. The following table demonstrates Ava's value proposition over time:

Table 3 Ava Value Proposition Over Time

Product	**June 2018**	**July 2020**	**January 2022**	**July 2022**	**July 2023 (Current)**
Bright Choice	1.5% below PG&E	1% below PG&E		3% below PG&E	5% below PG&E
Renewable 100	1 ¢ per kWh above PG&E			¾ ¢ per kWh above PG&E	¼ ¢ per kWh above PG&E
Brilliant 100	Parity to PG&E	Closed as opt-up option	Discontinued for all customers		

4.2.3 Rate Implementation

Aligned with the objectives of Ava's value proposition, to ensure that any new rate will be successful, cost effective, and beneficial to its customers, Ava may engage in the following proactive measures:

- Conducting pilots to determine the effectiveness of different rate options and reception by customers.

- Developing and implementing iterative outreach and education campaigns.
- Developing and implementing new education tools, such as rate comparison tools and reports.

After rate implementation, Ava would be committed to monitoring the rate's effectiveness with respect to shifting peak load and customer feedback.

4.3 Evaluation of New Dynamic Rates

Consistent with the LMS Amendments,[4] the following section of the Plan evaluates the cost-effectiveness, equity, technological feasibility, and benefits of dynamic rates for each customer class. This Plan provides that new dynamic rates would be implemented on the schedule specified in the LMS Amendments, which includes applying for Board approval of at least one dynamic rate by July 1, 2025, and offering voluntary participation in dynamic rates to all customers by July 1, 2027, where such a rate is determined to materially reduce peak load cost effectively.

Ava does not currently have sufficient information to conclude that proposing and implementing dynamic rates would be cost effective or provide benefits to Ava customers. Significant uncertainties exist related to the level of incremental load shift potential, customer response to market price risks, customer acceptance and adoption of a complex new rate design, the administrative costs of dynamic rate implementation, and potential cost shifts between participants and non-participants.

To address these uncertainties, Ava is participating in dynamic pricing pilots and rates with PG&E.[5] See **Table 4** below for a breakdown of the pilots and rates Ava considered. Specifically, Ava is participating in both the PG&E Expanded Pilot 1 and Expanded Pilot 2. Ava will re-evaluate the proposal of dynamic rates in the next update of this plan with the benefit of additional information from pilots.

[4] 'The plan must evaluate cost effectiveness, equity, technological feasibility, benefits to the grid, and benefits to customers of marginal cost-based rates for each customer class." 20 CCR 1623.1(a)(1)(A).
[5] Participation is subject to Board approval. Ava staff plan to bring participation to the Board for voting in April 2024.

Table 4 Dynamic Rates and Rate Pilots

	DAHRTP BEV	DAHRTP Export	DAHRTP Com/Res	Vehicle-Grid Integration	Expanded Pilot 1	Expanded Pilot 2
Type	Rate	Pilot	Pilot	Pilot	Pilot	Pilot
Eligibility	BEV	Non-Nem BEV	B-20, B- 19, B-6, E-ELEC	EV2-A, E-ELEC, B6, B10, B19, B20	AG-A1, AG-B, AG-C	B-6, B-10, B-19, B-20, E-ELEC, EV2-A
Regulatory Authorization	D.21-11-017	D.22-10-024	D.22-08-022	Resolution E-5192	D.24-01-032	D.24-01-032
Targeted start date	Feb 28 2025	Feb 28 2025	Feb 28 2025	Sept 2024	June 2024	June 2024
Generation Import	MEC, MGCC, RNA	MEC, MGCC, RNA	MEC, MGCC, RNA	MEC, MGCC	MEC, MGCC	MEC, MGCC
Generation Export	None	MEC, MGCC	None	MEC, MGCC	None	None
Distribution	Same as OAT	See DAHRTP BEV	Same as OAT	Primary distribution capacity costs	Hourly dynamic delivery capacity charges. Line losses recovered through volumetric rates.	Hourly dynamic delivery capacity charges. Line losses recovered through volumetric rates.
Transmission	Same as OAT	See DAHRTP BEV	Same as OAT	Same as OAT		
Demand charges	Monthly subscription charges	See DAHRTP BEV	Same as OAT	Same as OAT		

4.3.1 Cost-Effectiveness

The first evaluation factor specified in section 1623.1(a)(1)(A) is cost effectiveness. Ava does not currently have data to undertake, much less support, a finding that dynamic rates are cost-effective. Ava will conduct an analysis of the estimated costs and benefits to Ava and its customers once results from the rates and pilots in **Table 4** are available, including reviewing results from other Load Serving Entities across the State. Furthermore, the LMS Amendments do not specify which cost effectiveness test (e.g. participant cost test, total resource cost test, societal cost test, etc.) should be used, nor do they provide clarity on what costs or benefits should be considered. Pending receipt of data from the above-listed pilots, and in the absence of any methodological guidance from the LMS Amendments, Ava can provide only a qualitative discussion of cost-effectiveness considerations, including estimated costs and potential benefits.

4.3.1.1 Estimated Costs

Significant investment in planning, customer education and marketing, and technology development is required to implement new rates for all customer classes, particularly rates that are far more complex than those currently available. Ava has identified the following cost categories associated with implementing dynamic rates:

- *Rate design costs* would include the costs of initial market research, implementing pilots to test rate options, and analyzing the results of those pilots to refine the final design. Once pilots are complete and evaluation data is analyzed, the final rate recommendation needs to be designed.

- *Setup costs* include coordinating with external vendors and PG&E on Information Technology system updates to enable settlement over new intervals, data integration, updating the bill presentment to reflect these intervals, and developing new or updating existing customer tools. Having tools available for customers to self-service and monitor their costs and usage will be important for success with hourly rates.

- *Recruitment and retention costs* include marketing and enrollment costs. Ava anticipates spending significant time educating customers through an extensive, phased marketing campaign and targeted outreach in a variety of languages. This effort will only be successful if significant time and funds are invested. Shifting to complex hourly rates while maintaining a positive customer experience – which is key for adoption and longer-term retention of the rate – will require informing and educating customers to, at a minimum, understand and monitor hourly rates, energy market dynamics, pricing, and temperature trends that may significantly impact their bills.

Ava anticipates the above costs to make a dynamic rate available are fixed and do not vary by load, electricity usage, or enrollment level. While Ava does not currently have pilot results to inform implementation costs, Ava estimates significant resources to develop, implement, and maintain hourly rates for customers will be required. Depending on the scope of the costs, implementing complex new rates may necessitate a rate increase for all customers to bring in additional revenue.

Potential Benefits to Ava

This section of the Plan describes the potential benefits associated with implementing new dynamic rates and the estimated realization of incremental benefits based on design effectiveness, adoption levels, and additional load shift capacity available to be captured.

4.3.1.1.1 Potential Benefits

Ava has identified the primary potential benefits to Ava as being avoided costs. More specifically the following:

- Avoided capacity costs, resulting from a reduction for new capacity additions or resource adequacy procurement.

- Avoided energy costs, resulting from shifting demand from higher-cost periods to lower-cost periods.

Secondary benefits can also flow from the realization of avoided capacity and energy procurement needs. For example, to the extent that load shifting reduces the need for new capacity and wholesale energy purchases during peak periods, these reductions can also contribute to the following:

- Avoided transmission and distribution in the form of reduced need for capital investments to deliver energy during peak periods.

- Avoided GHG compliance costs associated with a reduction in generating or purchasing energy from fossil -fueled resources that may otherwise be needed to serve load during peak periods.

- Improved air quality, public health, and environmental outcomes associated with a reduction in operations of fossil-fueled resources. While these benefits do not accrue directly to Ava, they provide value on a societal basis.

It is important to note that because dynamic rates are designed to only recover the marginal cost of service at a given time, any potential cost savings would be entirely passed through to participating customers. For example, any reductions in Ava's generation and capacity procurement costs resulting from customers shifting their load to hours with lower marginal energy or capacity costs would be accompanied by an equal reduction in the revenue recovered from those customers during those hours relative to existing tariffs.

4.3.1.1.2 Realization of Benefits

As a retail electric service provider and a CCA, Ava anticipates that the greatest potential direct benefits would be derived from avoided capacity and energy procurement costs. However, the realization of any of the above-identified benefits from new dynamic rates is highly dependent on the following several factors:

- The effectiveness of the rate design in shifting customer usage patterns.
- The operational value of the load shift.
- The adoption levels of the new rates.
- The customer experience on the new rate.

In addition, with respect to avoided GHG compliance costs and improved air quality, public health, and environmental outcomes, the realization of benefits also depends on the relative utilization of fossil-fueled resources to serve peak load versus periods of lower demand. A discussion of each factor's expected effect on the benefits attributable to developing new dynamic rates is detailed in the next section of the Plan.

4.3.1.1.2.1 Estimated Design Effectiveness

Effective rate design is necessary to achieve predictable load shift during the most valuable peak hours of the day. The risk of not having sufficient generation, which spurs the need for new capacity additions or resource adequacy procurement, is typically concentrated in a small number of peak hours each year when serving peak load is most challenging. Accordingly, to realize any avoided capacity benefits, it is vitally important that a new rate design can achieve consistent and meaningful load reductions during those peak hours. Reducing capacity and energy procurement during peak periods relies on consistent shift in demand patterns.

Time to develop and test the effectiveness of rate design options will be especially important when shifting to a complex new rate structure that could include several price signal changes within a peak period or even within an hour. If customers do not understand the signals or the time periods during which they are provided, their response may not be predictable, leading to reduced efficacy and potentially adverse bill impacts. Ava's ideal dynamic rate development process would include market research, testing the effectiveness of different rate options through pilots, analyzing the results, and considering refinements before proposing a rate. Completing these steps helps to ensure that the rate sends the right signals and takes into consideration customers' willingness to respond either directly or

via automated technologies/devices while fully recognizing that the process can take significant time and resources.

The LMS Amendments direct Large CCAs to propose new dynamic rates for every customer class to the Board by July 1, 2025. That timeline does not provide sufficient time for Ava to gain results from the dynamic rates and rate pilots, review results from other Large CCAs, test responses to different rate options, and analyze the results, and design a rate for even one rate class. In addition, the dynamic rate pilots have been delayed and results of those studies may not be available before July 1, 2025. Without the results from pilots, Ava cannot conclude that a complex new rate design would result in any incremental, dependable load shift or ensure a positive customer experience for any of its customers.

4.3.1.1.2.2 Estimated Adoption Level

The estimated adoption level of new hourly dynamic rates directly impacts the value of load shift benefits. Based on available information, Ava anticipates that dynamic rates rolled out to customers by July 1, 2027, would likely have low adoption and retention levels. Ava's assumption is based on several key factors and studies, including the uncertainty in bill impacts from complex new rate structures, the time needed to educate customers to promote a positive experience, and the cost and limited accessibility of enabling behind-the-meter automation technology.

- Bill savings are a significant driver for customer rate adoption. The predictability of bill impacts gives customers the assurance of how they can leverage a rate to see bill savings. With dynamic rates, customers take on additional risk of price fluctuations, which may not be sustainable in the long term.

- One method of mitigating the uncertainty of bill impacts from new dynamic rates is to fully educate and inform customers. Ava is dedicated to a culture of delivering the best possible customer experience when transitioning customers from one rate structure to another or when offering optional rates. Limited time to engage and educate customers on new complex hourly rates, and the potential benefits and risks associated with participation, may lead to confusion about bill impacts and low uptake. Customer experience is a priority for Ava, so negative experiences may have an unintended negative impact to the brand and act as a deterrence on current and future initiatives.

- Realizing the benefits of dynamic rates is dependent on customers' ability to access and adopt enabling technology. There are challenges and uncertainties associated with utilizing these devices for grid services, as further discussed in Section 5.2.1.2.2. Ava expects that limited adoption of the needed technology would translate to limited benefits from dynamic rates, but accessibility of customer-owned automated devices that allow for response to hourly or sub-hourly signals is a near-term constraint.

Research conducted by PG&E on dynamic pricing shows that residential customers have a strong preference for TOU rates over dynamic pricing, and that customers who understand dynamic pricing

better are not necessarily more likely to adopt dynamic pricing. PG&E also found that most surveyed large commercial and industrial customers prefer TOU and peak day pricing over dynamic rates.[6]

4.3.1.1.2.3 Estimated Incremental Load Shift Capability

The primary potential benefits of dynamic rates are based on reducing peak load and associated avoided wholesale energy costs, which may carry additional benefits associated with reduced transmission and distribution costs, reduced GHG compliance costs, and improved air quality, public health, and environmental outcomes. Ava's existing time-dependent rates and existing and planned load flexibility programs are designed to capture these same benefits and to create a customer-centric experience, which is simple and easy-to-understand and have been supported with extensive customer outreach and education. Any incremental benefits associated with implementing dynamic rates rely on achieving incremental load shift relative to Ava's existing rates and planned new programs. The following summarizes the current load shift capability of Ava's existing rates and planned new programs and potential incremental load shift opportunities.

- Ava's TOU rate structures mirror PG&E's rates and were designed to shift peak time periods energy use to off peak periods, thus reducing grid stress and resulting in financial benefits from combined energy and capacity savings.
- Ava has a collection of existing and planned load flexibility and demand response programs that assist customers in optimizing DERs to reduce consumption during peak times. These programs complement Ava's existing TOU rate structure and provide additional load shift benefit. Ava's programs and pilots are discussed further in Section 5.1.
- Ava does not yet have pilot data to evaluate more complex dynamic rate options in which hourly market price risk is passed directly to the customers. Without the benefit of pilot results and given the inherent complexity of new dynamic rates coupled with the risk of adverse bill impacts, and the existence of more customer-friendly TOU rates and planned new programs, Ava cannot conclude that such dynamic rates would likely result in incremental load shift benefits.

4.3.1.2 Discussion

Based on the evaluation of available information, Ava cannot conclude that implementing dynamic rates for any customer class would be cost-effective. There are significant uncertainties both in the magnitude of value that can be captured and Ava's ability to realize the value based on design efficacy, how customers would react to hourly market risks, and expected adoption levels. According to the whitepaper, *Time-Varying and Dynamic Rate Design*, authored by the Regulatory Assistance Project ("RAP") and the Brattle Group,[7] real-time/dynamic pricing presents high rewards but also high risks. A 2004 Lawrence Berkley National Laboratory whitepaper concludes that most dynamic rate programs in the early 2000s, implemented across the country, did not achieve significant level of participation. Another takeaway from

[6] PG&E presented this research at supplementary working groups in the CPUC's Demand Flexibility proceeding. Slides summarizing these results were made available to stakeholders participating in the Demand Flexibility proceeding.

[7] *Time-Varying and Dynamic Rate Design*, RAP and the Brattle Group, July 2012, page 17.

the survey is that although many customers on dynamic rates are price responsive, a substantial fraction are not.[8]

Significant changes are occurring in the rate and program landscape, including a shift to battery energy storage systems, implementation of the net billing tariff, the adoption of an income-graduated fixed charge, and the implementation of programs that incentivize customers to reduce demand during emergency events, such as the Emergency Load Reduction Program and critical peak pricing. The combination of multiple concurrent rate variables can make evaluating dynamic rate and demand flexibility difficult. Isolating and quantifying the benefits of just dynamic rates becomes a challenge, and these overlapping efforts complicate signaling a customer to change energy use behavior and may increase development costs. For example, introducing fixed charges, such as the income-graduated fix charge, dilutes the hourly variability that dynamic rates are trying to reflect.

Until pilot results provide data with which to perform a comprehensive analysis, Ava cannot readily ascertain rate development costs, estimated customer benefits, or whether those benefits would be likely to offset costs. Ava will continue to gather information to inform evaluation of future rate and program designs. As data becomes available from pilots, Ava anticipates exploring cost-effectiveness analyses and/or quantifying the estimates provided in this section of the Plan.

4.3.2 Equity

The second criterion by which to evaluate dynamic rates is equity. Without pilot study data to support quantifying load shift and bill impacts for different customer groups, Ava will discuss qualitative equity considerations stemming from dynamic rates.

The ability to directly benefit from a dynamic rate depends on several factors, such as access to enabling technology, ability to shift load away from high-cost periods, and ability to benefit from the rate and absorb potential bill shocks.

- The ability to participate in a dynamic rate depends upon customers' access to technology with specific characteristics that enable response to hourly or sub-hourly price signals. Currently, the high upfront cost of this technology may pose a limitation for low-income customers. Ava is exploring different incentive programs and developing strategies to help further broaden access.
- The ability to quickly shift load away from high-priced peak periods will affect whether participating customers can achieve cost savings under a dynamic rate. As market signals would be dynamic with potentially very large changes in prices between hours, customers that cannot or do not adopt and/or utilize and embrace enabling technology could see very large bill impacts.
- Participating customers on a dynamic rate run the risk of bill shocks if they are unable to shift load away from high-priced peak hours. Customers who face greater barriers in implementing enabling technology are likely to be most exposed and least able to absorb potential bill shocks.

Discussion

Based on the evaluation of available information, Ava cannot conclude that implementing dynamic rates would result in any equity benefits. The availability of such rates is likely to disproportionately benefit

[8] *A survey of Utility Experience with Real Time Pricing,* Lawrence Berkeley National Laboratory and Neenan Associates, December 2004, ES-4 and ES-6.

higher-income customers, who tend to be early adopters of technology, and who can most readily absorb the risk of bill shocks. For example, A study on the distributional implications dynamic rate implementation in Spain, where dynamic rates have been broadly rolled out as the default option for households, found that dynamic rates are slightly regressive due to differences in household consumption profiles. [9]

As with any new rate or program, the implementation of dynamic rates creates an opportunity for cost shifting. To develop and implement dynamic rates, Ava would incur costs, including those discussed in section 4.3.1.1. These costs would be recovered from all customers. As discussed in section 4.3.1.2.1, potential savings in energy and capacity costs would be directly passed through to participating customers. As such, Ava anticipates that the implementation of dynamic pricing would result in a cost shift from participants to non-participants. This cost shift would likely be regressive, as Ava anticipates that higher-income customers would be more likely to benefit from and thus more likely to adopt dynamic rates.

It is critical to analyze pilot study results to accurately quantify the magnitude and uncertainty of these equity impacts, including the level of acceptance and adoption of dynamic, hourly or sub-hourly rates from customers of different income levels.

4.3.3 Technological Feasibility

Technological feasibility is the third evaluation factor for dynamic rates. Ava's evaluation assesses the technological feasibility of implementing dynamic rates for all customers on the schedule specified in the LMS requirements and considers the feasibility of both the technology systems needed to support implementation of dynamic rates and to the external customer technology that is needed to enable response to hourly or sub-hourly signals. As the Meter Data Management Agent ("MDMA") for Ava's customers, PG&E is in control of and responsible for a significant portion of the technology systems' updates and rollout required to implement dynamic rates that overlap both organization's service areas.

IOU and CCA Technology Systems

The primary technology systems needed to support dynamic rates include advanced metering infrastructure ("AMI"), Ava's Customer Relationship Management Salesforce implementation, Ava, SMUD, and PG&E's billing infrastructure, online customer rate databases such as MIDAS, and automation technologies that can allow for responsive equipment. The following provides a feasibility assessment of each technology component:

- PG&E's meters can provide hourly interval usage data for residential customers and sub-hourly interval data for non-residential customers; however, the data currently shared via ShareMyData with CCAs is not of "billing quality" meaning that some data may be missing or incorrect. As such, PG&E CCAs cannot currently for hourly rates. PG&E has committed to upgrading its billing infrastructure by 2027 which will enable the provision of billing quality interval data to CCAs. Regardless, an assessment of the AMI network communication infrastructure is likely to be required to identify if additional equipment needs to be installed to support the increased volume. Ava will coordinate with PG&E to avoid any disruptions to customers.
- Ava will coordinate with PG&E regarding any necessary billing system and billing presentation configuration changes. Ava anticipates it will be necessary to develop enhancements to PG&E's

[9] *The Distributional Impacts of Real Time Pricing,* Michael Cahana et.al, October 2022, page 4.

online tools and services to help customers understand any new rates and rate changes holistically.

- Ava maintains a Customer Relationship Management Salesforce implementation that represents all customer characteristics including customer identifiers (e.g., account id, service agreement ids, daxref values), rates, customer sectors, addresses, program participation, and solar ownership, and many other customer characteristics.

- Updating existing customer tools and developing new tools would be key to supporting a positive customer experience when implementing dynamic rates. Ava will engage not only with external vendors on relevant existing tools but also PG&E to assess the technological feasibility of and timeframes necessary to develop and/or modify existing tools to support dynamic rates.

In sum, Ava anticipates that collaboration and coordination with PG&E, SMUD, and external vendors will be critical to successfully implementing dynamic rates. Ava will work with parties to assess enhancements, upgrades, and additional functionality that will be needed to ensure the optimal benefits realization of dynamic controls and a positive customer experience.

Enabling Customer Technology

The potential incremental benefits of dynamic rates depend on customer participation and the widespread availability of devices and technology that can support real time response to hourly or sub-hourly price signals. Ava is assessing technologies with this kind of capability to include in future customer programs. The following is a list of common load flexibility technologies in Ava's service area. Ava anticipates these same technologies would be needed to respond to new dynamic rates.

- Wi-fi enabled smart thermostats are the most widely adopted load flexibility technology. These devices can receive and respond to dispatch signals within 15-30 minutes.

- Battery energy storage systems are being adopted with increasing frequency by both residential and non-residential customers, particularly as an add-on to solar photo-voltaic ("PV") installations. Batteries can be dispatched on a shorter notice, and Ava has existing and planned programs designed to accelerate this adoption and optimize dispatch for the greatest peak load reductions.

- Air conditioning ("AC") switches are one of the oldest distributed resource technologies and have been deployed since the 1970s. These switches are included in various demand flexibility programs across the utilities and CCAs.

- Electric vehicles ("EVs") are an emerging source of load flexibility. There is significant potential for further growth given statewide goals for zero emissions vehicles by 2030.

- Heat pump hot water heaters (HPHWs) are increasingly being adopted in California and in Ava's service area. HPHWs can be managed to both avoid heating or preheating water during specific time intervals.

Ava's existing and planned demand flexibility programs and participation in the dynamic pilots will improve understanding of how to most effectively engage with customers with behind-the-meter devices, considering different technologies, customer needs and preferences, and other factors. Ava also anticipates that these programs will help increase the acceptance and adoption levels of enabling

technologies as well as testing their response to price signals. The results of these programs will inform future consideration of dynamic rates.

4.3.3.1 Discussion

Based on the evaluation of available information, Ava believes the technology exists to implement some level of dynamic rates. However, the extent of capabilities of enabling behind-the-meter device technology, along with the impacts on customer experience, are still being tested and developed. Reassessing the technological feasibility of dynamic rates after evaluating pilot study results and future programs would better inform the likelihood of positive customer acceptance and material load shift benefits.

Ava anticipates coordination with PG&E, SMUD, and external vendors on implementing any necessary changes to internal systems, with the necessary infrastructure deployments and system configuration implementations. Additional time to enhance the billing experience, develop customer tools, and enhance DER functionality and control would create a better experience, improve the likelihood of

4.3.4 Benefits to the Grid and Customers

The final two evaluation criteria specified by the LMS Amendments are benefits to the grid and benefits to customers. Ava evaluates the two factors simultaneously because many benefits to the grid also have pass-through benefits to customers. Ava's evaluation of each benefit considers the expected effectiveness of the rate design, the expected adoption rate, and the incremental benefits relative to Ava's existing time-dependent rates and load flexibility programs. The following is a summary of anticipated grid and customer benefits associated with implementation of new dynamic rates on the timeframe specified in the LMS requirements.

- *Avoided capacity needs.* Realizing the incremental benefits of avoided capacity costs, in the form of reduced need to construct new generation capacity or procure resource adequacy (RA), depends significantly on an effective rate design that delivers meaningful, dependable load shift in response to hourly or sub-hourly signals. Shifting demand away from peak periods also has the potential to relieve grid strain and contribute to reliability. As further discussed throughout this Plan, Ava is unable to conclude at this time that implementing dynamic rates would result in incremental capacity cost savings, given the uncertainty around design effectiveness, adoption levels, and the magnitude of load shift potential beyond the benefits already provided by Ava's time-dependent rates and load flexibility programs.
- *Avoided energy procurement costs.* Similarly, realizing the incremental benefits of avoided energy costs relies on a rate design that effectively encourages customers to shift from high-cost (high GHG) periods to lower cost (low GHG) periods. This allows for more efficient use of cheaper solar energy when it is generated and reduces the higher costs of energy associated with serving peak load. However, as previously discussed, Ava cannot conclude that implementing dynamic rates would result in incremental avoided energy costs.

- *Avoided transmission and distribution needs.* As many load flexibility rates and programs are still in pilot, the extent to which they can alleviate stress on the transmission and distribution systems and potentially defer or reduce the need for capacity upgrades is still uncertain. Because Ava cannot at this time conclude that dynamic rates would result in incremental avoided capacity

costs on the implementation schedule specified in the LMS regulation, it cannot conclude that any transmission or distribution cost savings would be likely to materialize.

- *Avoided GHG costs.* To the extent that dynamic rates can shift energy use from time periods in which fossil fueled resources serve load to time periods with greater renewable energy generation, there is the potential for reduced costs to Ava (and thereby its customers) associated with the cost of GHG emissions. Ava incurs GHG compliance costs associated with procurement of thermal power and some out-of-state energy imports. In addition, the cost of carbon is incorporated into the price of any energy that purchased through CAISO markets. Reducing Ava's thermal procurement and/or limiting market purchases when the grid has a greater carbon intensity can save costs for Ava and its customers. However, any incremental GHG cost savings depend on the realization of incremental reductions in capacity needs and/or in energy purchases during high-cost/high-emitting periods. Because Ava is unable to conclude at this time that implementing dynamic rates would result in material incremental load shift, any GHG cost savings benefits are also uncertain. In addition, as Ava pursues implementation of its plan to reach 100% renewable procurement by 2030, Ava anticipates increasingly less difference between the GHG emissions profiles of resources serving its customers during the peak and in periods of lower demand.

- *Improved air quality, public health, and environmental outcome.* As with avoided GHG cost savings, the potential air quality, public health, and environmental benefits associated with dynamic rates depend on such rates reducing the capacity needs or energy purchases during time periods when the grid has a higher carbon intensity. However, as discussed above, Ava cannot conclude at this time that a material incremental increase in these benefits will accrue on the timeline specified in the LMS regulation. In addition, as noted above, the difference in the emissions profile of resources serving load at times of peak or load demand should decrease as Ava implements its plan to reach 100% renewable procurement by 2030.

- *Customer bill impacts.* With dynamic rates, customers have the potential to save money by shifting their usage out of the most expensive hours. However, there are risks to dynamic rates, even if customers can largely rely on device automation to manage their demand. Ava locks in prices for most of the power it anticipates needing, effectively providing a hedge for customer energy costs. With dynamic rates, customers take on a greater risk of market price fluctuations, which could have severe impacts on customer bills especially during times of extreme market volatility. There will be times when prices are high for an extended period of time. During such times, customers may not be able to rely on their enabling technology or adjust their usage enough to prevent excessively large bills. Residential customers cannot simply stop using electricity, nor can commercial customers stop operating for an extended period of time to avoid a large electric bill driven by spikes in energy prices. Bill protection can reduce customer-facing risk but can also reduce a dynamic rate's ability to incentivize load shifting.

4.3.4.1 Discussion

Based on the evaluation of available information, Ava is unable to conclude that implementing dynamic rates on the timeframe specified in the adopted LMS amendments would yield material incremental benefits to the grid or to customers. Ava's current time-dependent rates and load flexibility programs are

designed to capture a significant portion of potential peak load shift benefits. Any incremental benefits associated with dynamic rates that enable response on sub-hourly signals are uncertain.

The aforementioned Lawrence Berkeley National Laboratory white paper emphasized that sufficient resources must be devoted to developing and implementing a customer education program and customers need help understanding and managing price risk.[10]

Another team of Lawrence Berkeley National Laboratory researchers interviewed 29 customers in the Niagara Mohawk Power Corporation service territory with day-ahead dynamic prices in 2004. The study specified that reasons customers gave for why they were not price-responsive included implicit value placed on reliability, pricing structures, lack of flexibility in adjusting production inputs, just-in-time practices, perceived barriers to onsite generation, and insufficient time.[11]

Therefore, a premature introduction of dynamic rates may cause confusion and shift additional market price risk onto customers, creating a negative customer experience that may hinder adoption of both the new rate and longer-term load flexibility initiatives. A hurried implementation of a complex and untested dynamic rate structure is likely to result in costs, rather than benefits, to the grid and to customers.

4.3.5 Compliance Approach

Based on the results of this evaluation, Ava will defer developing and proposing adoption of new dynamic rates beyond July 1, 2025, and offering voluntary participation in any such rates beyond July 1, 2027. Based on available information, Ava cannot conclude that proposing and implementing dynamic rates, as proposed in the LMS requirements' timeline, would be cost-effective, provide equity benefits, be technologically feasible, and/or or yield any cost savings or emissions-related benefits to the grid and to customers. The risks of premature implementation can adversely impact participating customers' bills, the overall customer experience, and even Ava's image and reputation.

Ava plans to continue offering its existing portfolio of time-dependent rates. Ava also plans to participate in dynamic rate pilots that will help the organization better understand how best to engage with behind-the-meter customer devices. With pilot results, Ava will be better equipped to consider the development dynamic rates for one or more customer classes in the future.

Ava plans to reassess the timeline for proposing and implementing dynamic rates no later than the triennial review of the Plan. The Plan review will also include potential updates to qualitative and quantitative evaluations for cost-effectiveness, equity, technological feasibility, and benefits to the grid and to customers.

5 Load Flexibility Programs

5.1 Overview of Current Load Flexibility Programs

Load flexibility is a key strategy in helping Ava achieve its 100 percent renewable energy goal, by enabling customers to be part of the strategy in reducing procurement needs. Ava is focused on establishing and

[10] *A Survey of Utility Experience with Real Time Pricing*, Lawrence Berkeley National Laboratory and Neenan Associates, December 2004, ES-9.

[11] *Real Time Pricing and the Real Live Firm*, Lawrence Berkeley National Laboratory, August 2004, page 1.

offering new load management programs because they are simple, effective, flexible, and potentially allow Ava to make rapid progress in unlocking peak load reduction potential. Ava is working to innovate with technology, software, and hardware providers to advance functionalities that will enable broad participation and optimize potential resources to deliver the maximum benefit for customers and the grid. When designing programs, Ava strives to tailor its offers to specific customer segments and/or needs to maximize responsiveness beyond just price alone. Ava analyzes data to identify the intersection of the greatest potential for mutual benefits to customers and to Ava to inform program development. A segment of Ava's portfolio of existing and planned programs will, in time, center around an overarching Distributed Energy Resource Management ("DERMS") that will enable dispatch for a range of load flexibility program offerings, which may include residential, C&I, and agricultural customer classes. In the near term, Ava is developing specific offerings related to residential load flexibility and electric vehicle managed charging. The following section of the Plan provides a list of planned programs offerings that will test for reliability, load reduction, and customer adoption.

5.1.1 Resilient Home

Ava launched the Resilient Home program in 2020 with the primary goal of providing backup power to single and multifamily residential homeowners facing rolling blackouts or Public Safety Power Shutoff (PSPS) events. Under the program, Ava partners with solar company Sunrun, which assists customers with installing behind-the-meter solar and battery systems and provides an option for financing the systems. Ava selected Sunrun through a competitive solicitation and the Program provides incentives to customers that allow Ava to dispatch the batteries every weekday during the evening peak hours.

Through Resilient Home, Ava has been developing a portfolio of load modifying resources over the last two years. With over 1,200 residential solar and storage systems under management, Ava delivers real, ongoing peak load management every day, including on CAISO peak days. Each residential battery delivers approximately 2 kilowatts (kW) over a 4-hour period (8 kWh) every weekday. Batteries are coordinated to charge at controlled rates during times of high solar generation and discharge at a consistent rate across times of peak grid load. As shown in **Figure 1** and **Figure 2** in Appendix A, which depict data collected from the Resilient Home program, actively managing the batteries is crucial to optimizing their load modification capabilities. Unmanaged batteries operating "in the wild" may not be effectively reducing customer load during peak periods.[12]

5.1.2 Critical Municipal Facilities

The Critical Municipal Facilities program will bring reliable power to 30 critical facilities via the installation of solar and storage. These facilities provide fire, safety, and emergency operations to communities. Ava worked with a consultant engineering firm and its member agencies to assemble a list of hundreds of critical facilities across its service territory, ranging from fire stations and emergency operation centers to libraries and community centers. Sites were screened based on natural hazard exposure, service to the community, and solar and battery potential. Initial engineering was done for each site, identifying an initial potential of 10 megawatts (MW) of solar and 25 megawatt-hours (MWh) of storage in a subset of member agency jurisdictions. A portfolio of 61 facilities in Emeryville, Pleasanton, Oakland, Livermore, San Leandro, Berkeley, Hayward, and Fremont are currently being bid for development, with total solar and

[12] 2020 SGIP Energy Storage Impact Evaluation, Verdant Associates, Page 58. (cpuc.ca.gov)

storage sizing to be refined during the offer process. Similar to Resilient Home, Ava plans on offering customers the option to optimize battery dispatch for peak consumption reduction.

Ava received commitments from the city councils of Albany and Piedmont to participate in the next round of the program and discussed it with Stockton, a future member agency.

5.1.3 DERMs and Residential Managed EV Charging

Ava is currently evaluating proposals for Distributed Energy Resource Management services provider to manage a suite of existing and future distributed energy resources. Through the same solicitation, Ava is seeking a scalable approach for a managed residential EV charging program. Ava envisions integrating a broad spectrum of devices under the umbrella of a single DERMS provider to streamline load management capabilities. Additionally, by centralizing control, Ava aims to optimize the coordination of these DERS in a way that reduces carbon emissions, maximizes energy savings for customers, and provides Ava with load management. Ultimately, Ava's goal for the management of DERs is to develop Virtual Power Plant(s) (VPPs) that will participate as "load modifying resources or demand modifiers" presented to the California Energy Commission (CEC), and/or in wholesale CAISO markets, or other applicable approaches that support the goal to provide carbon-free energy at competitive rates to Ava customers.

5.1.4 Capacity Based Battery Incentive Program

Ava is developing an additional paired solar and storage incentive program using savings from the transition from NEM 2.0 to the Net Billing Tariff. Through this program, Ava would provide upfront incentives for solar customers to adopt storage, and ongoing incentives for batteries that are dispatched for load management through the aforementioned DERMS platform. Higher incentives would be provided for CARE customers and resilience hubs. The program would be available to both residential and non-residential customers at inception, with additional study on approaches to commercial customers forthcoming.

5.2 Evaluation of New Programs

Ava is developing a robust portfolio of programs with a focus on load flexibility that strikes the right balance between customer needs and grid benefits. As summarized above, this portfolio is exploring various dispatch signals, including automated response. These signals are based on several factors, including day-ahead marginal prices. The program development process will include collaborating with external vendors to build a technology platform that can optimize and automate dispatch of DERs.

The next section of the Plan evaluates the cost-effectiveness, equity, technological feasibility, and benefits to the grid and to customers of implementing programs that enable automated response to dispatch signals, including MIDAS signals, year-round, that are available to every customer class by July 1, 2027. Without program results at this time, Ava cannot quantify the magnitude of peak load reduction and/or other benefits can be provided through programs that enable automated dispatch based on MIDAS signals.

5.2.1 Cost Effectiveness

The first evaluation factor is cost-effectiveness. Ava will assess the cost-effectiveness of new programs by comparing the estimated costs and incremental benefits associated with designing and implementing new load flexibility programs that allow for response to dynamic price signals, including MIDAS signals,

year-round. For a program to be cost-effective, the expected benefits must exceed the costs of design and implementation.

5.2.1.1 Estimated Costs

The costs associated with implementing a new load flexibility program include program development, implementation, and administration costs. Ava anticipates these cost categories would apply, regardless of customer class.

- Program development costs include the costs associated with program design and setup, including integrating new programs with the CEC's MIDAS database and any applicable technology platform to the extent feasible.
- Program administration costs include ongoing costs to administer the program such as marketing, customer recruitment, customer education, development, and maintenance of customer tools, and any upfront or ongoing incentive payments that are part of the design.
- Technology and implementation costs include any external software systems that must be procured to communicate with and dispatch devices, as well as internal systems which must be developed and configured to integrate the external software. New load flexibility programs may require significant investments in new technology platforms.

5.2.1.2 Potential Benefits to Ava

The following section describes the potential benefits associated with implementing programs that allow for automated response to dynamic price signals, including MIDAS signals, and the estimated realization of such benefits based on the additional load shift capacity available to be captured.

5.2.1.2.1 Potential Benefits

The potential benefits associated with implementing programs that achieve incremental load shift include avoided capacity and energy costs, improved reliability during peak periods, avoided GHG compliance costs, and avoided air quality, public health, and environmental costs associated with a reduction in fossil-fuel generation, consistent with the benefits discussed in Section 4.3.1.2.1. These potential benefits are not unique to programs implemented for any one customer class.

5.2.1.2.2 Realization of Benefits

There are several uncertainties and barriers associated with realizing the above-identified incremental load shift potential and its associated benefits. Ava expects these barriers and uncertainties to apply across residential, C&I, and agricultural customer classes. These uncertainties and barriers are summarized as follows:

- While there has been a rapid increase in the number of devices on the market that are able to automate load reductions, most devices are not capable of effectively responding to real-time signals without significantly compromising customers' daily activities. HPWHs, EVs and even thermostats all require advance notice to meet customer needs.
- Enabling daily automation may bring additional load flexibility to utilities and CCAs, but frequent device dispatch without first understanding the impacts on customer experience runs the risk of eroding participation and satisfaction in the program.
- Ava anticipates that directly exposing participants to market prices could result in deeper load reductions, to the extent that increasing prices drive customers to shift more load away from the

peak. However, the magnitude of additional load reduction as a function of price is not yet known. In addition, higher customer risk with dynamic prices is likely to reduce participation and benefits.

5.2.1.2.3 Expected Incremental Benefits

Based on the above factors, Ava expects the following incremental benefits associated with programs that allow for automated response to dynamic price signals:

- A key value stream for Ava's load flexibility programs is avoided RA procurement. To the extent a given program can reduce peak demand and thus RA procurement, these avoided costs can be credited against the costs associated with implementing the program. While programs that expose customers to dynamic price signals may drive incremental load reductions when prices are highest, it is unknown how much and how reliable that incremental reduction would be, and how it would be credited under the current RA framework. Moreover, the magnitude of the load shift depends on significant adoption and acceptance of enabling technology.
- To the extent that new program structures and technology allow for faster load shift in response to short price spikes or drive greater load shift away from peak periods, Ava could see reductions in energy purchase costs, but this is currently not yet known. Future program design will seek to maximize the energy savings associated with customer load flexibility, balanced against technological capability, customer acceptance, and impact on the overall energy system.
- Given uncertainties around customer response to dynamic price signals and current penetration of enabling technology, Ava is unable to determine whether there would be secondary benefits (reliability benefits, avoided transmission and distribution costs, avoided GHG compliance costs, avoided public health, air quality, and environmental costs) associated with further reducing demand during peak periods from programs with automated response to hourly price signals versus existing programs.

5.2.1.3 Discussion

Based on the foregoing evaluation, Ava cannot conclude that the development of new programs that allow for automated responses to dynamic price signals would be cost-effective at this time. Ava will incur new programs' costs associated with design, implementation, and new technology investments. While these costs could potentially be offset with capacity and/or energy cost savings, the magnitude of those benefits are uncertain.

In addition, Ava anticipates that any incremental benefits will be limited in the near-term, while new technology is continuing to grow. Ava will continue to assess the expected incremental costs and benefits associated with incorporating more dynamic price signals and/or allowing resources to be dispatched by MIDAS signals, as Ava develops and potentially implements new programs.

5.2.2 Equity

The second criterion for evaluating new programs is equity. Ava qualitatively evaluates whether programs that enable automated response to dynamic prices, including MIDAS signals, are likely to lead to equitable outcomes.

5.2.2.1 Equitable Access to Direct Benefits

When designing any program, Ava ensures that all aspects of program design take equity into account. Ava seeks to develop customer energy programs that respond to community needs, with a focus on underserved communities and equity.

Ava is committed to include equity as a core principle when designing programs that allow for response to dynamic signals, given the current access barriers and risk of price exposure that may disproportionately be experienced by lower income customers and customers from communities of concern.

5.2.2.2 Equitable Access to Indirect Benefits

Program design also plays a major role in determining whether a program delivers incremental load shift benefits and results in cost savings and improved air quality, public health, and environmental outcomes that accrue to all customers. The realization of any indirect benefits is uncertain because Ava cannot quantify load shift benefits that dynamic price signals would result.

5.2.2.3 Discussion

Ava is unable to conclude that implementing new programs that allow for automated response to dynamic price signals, including MIDAS signals, would materially address equity. Programs can be designed to ensure equitable access to participation and benefits regardless of if the programs incorporate sending dynamic signals directly to customers. Furthermore, the risk of price exposure from dynamic rates could potentially exacerbate inequities in outcomes.

5.2.3 Technological Feasibility

The third evaluation factor for programs is technological feasibility. Ava's evaluation assesses the technological feasibility of implementing programs that allow for automated response to dynamic price signals on the schedule specified in the LMS requirements. Ava's evaluation considers the feasibility of both the systems needed to dispatch dynamic price signals, including MIDAS signals, and to the external customer technology that is needed to enable response to hourly or sub-hourly signals.

Ava's Technology Systems

As described previously, Ava is currently proposals for Distributed Energy Resource Management services provider to manage a suite of existing and future distributed energy resources. Ava hopes that dispatch of resources within demand flexibility programs will be centralized within the DERMS platform. It is not yet clear whether the DERMs platform will have functionality to utilize hourly or sub-hourly signals. Ava will continue to coordinate and collaborate with external vendors to assess the technological feasibility of enabling response to dynamic price signals in both the DERMs platform and external customer technology.

5.2.3.1 Enabling Customer Technology

The incremental benefits derived from implementing new programs that allow for response to dynamic price signals depend on customer participation and the widespread availability and acceptance of devices that can respond to sub-hourly price signals without compromising customer experience. Refer to Section 4.3.3.2 for a detailed description of common load flexibility technologies that are deployed across the state, and their capabilities and challenges.

Ava is uncertain whether the technology and platforms needed to enable programs that allow for response to dynamic price signals exist or could be updated on the LMS requirements' timeframe, given close coordination and collaboration with external vendors and PG&E will be required. However, Ava has started discussions with those parties on technological feasibility in anticipation of developing and offering programs with enabling device automation technology.

5.2.4 Benefits to the Grid and Customers

The final two criteria for evaluating dynamic rates are benefits to the grid and to customers. Ava is evaluating these factors separately, in contrast to the previous dynamic rates evaluation.

5.2.4.1 Benefits to the Grid

To the extent that new programs enabling responses to dynamic price signals result in consistent, material incremental load reduction, the following are potential grid benefits:

- Deferred or reduced need for new generation capacity or RA procurement.
- Deferred or reduced need for wholesale energy purchases to meet peak demand.
- Deferred or reduced need to upgrade transmission and/or distribution capacity to deliver energy to meet peak demand.
- Increased reliability is associated with reducing grid strain during periods of peak demand.

These benefits all depend, in significant part, on the magnitude of load shift resulting from new programs. Mutual benefit is necessary for effective, consistent load shift. With limited available information, Ava is unable to quantify load shift benefits of new MIDAS-integrated programs.

5.2.4.2 Benefits to Customers

The following is a summary of potential customers benefits associated with implementing new programs that allow for automated response to dynamic price signals:

- Pass-through cost savings associated with the realization of a reduced need for generation capacity, transmission and/or distribution upgrades, and higher-price wholesale energy purchases to meet peak load.
- Pass-through cost savings associated with avoided GHG compliance costs, to the extent that the incremental load shift reduces the need to rely on fossil-fuel resources to meet peak demand. Ava anticipates these savings will become less significant as Ava's energy supply transitions towards 100 percent renewable.
- Pass-through increased reliability, to the extent this grid benefit is realized.
- Improved public health, air quality, and environmental outcomes, to the extent that the incremental load shift reduces the need to rely on fossil-fuel resources to meet peak demand.
- Cost savings associated with participation, to the extent that devices automatically shift load away from higher price periods.

Based on the uncertainty of the magnitude of load reduction benefits that the new programs can achieve, Ava is unable to conclude that there would be any incremental pass-through cost savings or reliability benefits to customers. Similarly, Ava anticipates that any incremental air quality, public health, and environmental benefits would also be uncertain.

5.2.5 Compliance Approach

The following section of the Plan describes how Ava plans to address the requirements to identify cost-effective programs that allow for automated response to dynamic price signals and offer customers voluntary participation in these programs, based on the evaluation of such programs.

5.2.5.1 Identification of Cost-Effective Load Flexibility Programs

Consistent with the LMS requirements, Ava will submit to the CEC, no later than October 1, 2024, a list of cost-effective load flexibility programs that enable automated response to MIDAS signals for each customer class, if any, where such a program is determined by Ava's Board to materially increase peak load reduction. Based on available information, Ava is unable to determine whether adding new programs that allow response to MIDAS signals would materially reduce peak load for any customer class or exceed the costs of implementation. Ava will continue to evaluate the cost-effectiveness and incremental peak load reduction potential associated with incorporating automated response to MIDAS signals.

5.2.5.2 Voluntary Participation in Cost-Effective Load Flexibility Programs

Ava is currently developing load flexibility programs that may offer customers voluntary participation. However, Ava is unable to demonstrate that offering such programs beginning on July 1, 2027 would be cost effective. Ava will continue to assess the cost-effectiveness and peak load reduction potential of programs that enable automated response to MIDAS signals as more information becomes available.

Based on the foregoing, Ava will continue to offer its customers voluntary participation in load flexibility programs and does not at this time anticipate offering programs that enable automated response to MIDAS signals. Ava plans to defer offering voluntary participation in load flexibility programs that enable automated response to MIDAS signals because Ava is currently unable to demonstrate that offering such programs beginning July 1, 2027, would be cost effective or result in material peak load reduction relative to Ava's existing and planned load flexibility programs. However, as noted above, Ava will continue to assess the cost-effectiveness and peak load reduction potential of programs that enable automated response to MIDAS signals as it develops and refines load flexibility programs, particularly based upon the pilots that will inform Ava's load flexibility approach.

6 Public Information Program

Adopted LMS amendments section 1623.1(a)(5) requires each large CCA to conduct a public information program to inform and educate impacted customers about dynamic rates and/or load flexibility programs. Specifically, the information program must explain why dynamic rates or load flexibility programs, and their automation, are needed, how they will be used, and how they lower energy costs. This section of the Plan addresses how Ava will comply with the public information program requirements.

6.1 Ava's Communication Approach

As a community-driven local electricity provider, Ava is committed to broad customer outreach, education, communication, and customer service. Ava provides its customers with the information to best manage their energy usage according to their needs. As a local community agency, Ava prides itself on its ability to meet customers where they are: in their language, at their events, in their neighborhood.

Ava communicates through a wide variety of channels to build brand awareness and ensure customers are familiar with its time of use rates, demand flexibility programs, and their benefits. These channels include Ava's website; an active presence on social media; sponsorship and tabling at in-person events; letters and post cards sent via direct mail; sending millions of emails to customers annually; geo-targeted and demographically segmented digital advertising; billboards; and advertisements in Bay Area Rapid Transit (BART) stations.

Ava recognizes the importance to the energy transition of public outreach. Ava has engaged in a variety of public relations, marketing, community outreach, and local government affairs activities to drive energy awareness and education, spark community engagement, and maintain high customer enrollment. As part of the commitment to customer communication and education, Ava's language program ensures that Chinese, Spanish, and other non-English speaking customers can access information and materials in their preferred language. Ava maintains regular communication with regional media, providing factual and timely information to the broader public. Ava developed a tool[13] to help customers find clean energy incentive programs they qualify for. Finally, Ava's customer service agents regularly interact with customers over the phone and email to address questions and resolve issues.

Ava's Technology & Analytics team assembled a database that contains a variety of customer demographic information. This database facilitates the segmentation of Ava's audience and targeted messaging. This approach would be essential for encouraging the adoption of dynamic rates.

To achieve decarbonization goals, Ava will continue to educate customers on the benefits of peak load reduction through time-dependent rates and load flexibility programs. Ava will continue to develop new strategies to improve community outreach, expand marketing and brand awareness efforts, and to drive customers towards making educated energy decisions.

6.2 Compliance Approach

Ava will continue to engage with customers on rates, programs, and pilots that support load flexibility. In parallel, Ava will also update education and marketing materials to incorporate discussion of new rates, programs, and pilots, along with the role of automation.

[13] https://incentives.avaenergy.org/

7 Delay and Modification of Compliance Requirements

Adopted LMS amendments section 1623.1(a)(2) of the LMS regulation specifies that a Large CCA may approve a compliance plan, or material revisions to an approved plan, that delays or modifies compliance with certain LMS requirements. To do so, the compliance plan must demonstrate one of the following factors:

- That despite good faith efforts to comply, requiring timely compliance would result in extreme hardship.
- Requiring timely compliance would result in reduced system reliability, equity, safety, or efficiency.
- Requiring timely compliance would not be technologically feasible or cost-effective to implement.
- Or despite good faith efforts to implement a compliance plan, it must be modified to provide a more technologically feasible, equitable, safe, or cost-effective way to achieve the LMS requirements or the plan's goals.

This section of the Plan addresses how Ava's Plan delays or modifies compliance with certain elements of the LMS requirements.

7.1 Providing RINs to Customers

Adopted LMS amendments section 1623(c)(4) requires each Large CCA to provide customers access to their RIN(s) on billing statements and in online accounts by April 1, 2024, using both text and QR code. As detailed in section 3.2 of this Plan, Ava worked with PG&E and SMUD to make the RINs available to customers in the required formats within the designated time. PG&E has ultimate control of both paper and electronic billing statement designs. To Ava's knowledge as of April 11, 2024, the date of this Plan submission, PG&E has completed the implementation of RINs on customer bills.

7.2 Statewide RIN Access Tool

7.2.1 Development of Statewide Tool

Adopted LMS amendments section 1623(c) requires the utilities and Large CCAs to develop a single statewide standard tool for authorized rate data access by third parties, along with a single set of terms and conditions for third parties using the tool, for submission to the CEC by October 1, 2024, for approval.

As discussed in section 3.3, Ava plans to collaborate with the parties and has committed staff to participate in the working group. While Ava anticipates that developing a single statewide tool that can perform the specified requirements and integrate with each LSE's system will be a challenging and complex task, at this time Ava intends to comply with the requirement. Because the tool development requirement is jointly held by the utilities and Large CCAs, Ava is optimistic that significant progress will be made and does not seek to delay or modify this requirement within this Plan. Should the need for an extension arise, Ava anticipates that the parties would approach the CEC Executive Director collectively in accordance with section 1623(c)(2)(B) of the LMS, which allows the CEC Executive Director to extend the submission deadline upon a showing of good cause.

7.2.2 Implementation of Statewide Tool

Adopted LMS amendments section 1623(c)(3) also requires the utilities and Large CCAs to implement and maintain the tool, upon its approval by the CEC. Ava does not anticipate needing to modify compliance with this requirement currently. However, Ava notes that integration of the approved tool with internal systems could be delayed if the development and/or CEC approval of the tool are delayed, because integrating the tool before it is finalized and approved would not be technologically feasible, or if the cost of integrating the tool would cause extreme hardship for Ava or Ava's customers.

7.3 Dynamic Rates

Adopted LMS amendments section 1623.1(b)(2) directs each Large CCA to apply for approval of at least one dynamic rate for the customer class(es) from its Board by July 1, 2025, for which the Board determines such rate will materially reduce peak load. Section 1623.1(b)(4) requires CCAs to offer customers voluntary participation in such a rate or a specified load flexibility program by July 1, 2027.

As discussed in Section 4.3, based on its evaluation of dynamic rates, Ava cannot currently conclude that developing and implementing such rates on the LMS timeframe for any customer class would result in material reductions in peak load or be cost effective.

While dynamic rates have the potential to provide incremental load shift and related benefits, there are significant uncertainties in the direction and magnitude of dynamic rate impacts, and the costs associated with their implementation. Without data from pilots, it is not possible to quantify incremental load shift benefits and cost-effectiveness of dynamic rate implementation. In addition, implementation of unfamiliar and complex rate structures without sufficient testing and refinement of new rate designs, as well as thorough education, is likely to cause customer confusion, risking low adoption and limiting any incremental load shift benefits. The realization of incremental load shift benefits is made more uncertain by additional risks customers may bear with dynamic rates, especially if new enabling technology is not widely adopted.

Ava has determined that, for the reasons set forth in this Plan, the LMS requirements must be modified to provide a more cost-effective and technologically feasible way for Ava to, in good faith, meet the LMS requirements and achieve the LMS goals. Thus, Ava proposes to modify the dynamic rate requirements of the LMS to defer the development or proposal of new hourly or sub-hourly rate options, and offering new rates to Ava's customers would be likewise deferred. Ava believes proposing dynamic rates to its Board by July 1, 2025, to implement them by July 1, 2027, is premature. Ava will continue offering its suite of time-dependent rates while gathering information for a more comprehensive evaluation by participating in the dynamic rate pilots in PG&E's service territory. The results of the pilots will help Ava better understand the effectiveness of the dynamic rates, how customers with different technologies respond to different dispatch signals, and to what extent incremental load shift opportunities exist beyond existing time-dependent rates and programs. As Ava receives and analyzes results from those pilots, Ava will be better positioned to evaluate the cost-effectiveness and flexibility of dynamic rates. As such, Ava will review dynamic rates in the next Plan update.

7.4 Dynamic Response Load Flexibility Programs

7.4.1 Identification of Cost-Effective Load Flexibility Programs

Adopted LMS amendments section 1623.1(b)(3) requires each Large CCA to submit a list of cost-effective MIDAS-integrated load flexibility programs to the CEC Executive Director by October 1, 2024. The portfolio of load flexibility programs must provide at least one option to automate response to MIDAS signals (that

indicate, for example, hourly marginal cost-based rates, marginal prices, or hourly or sub-hourly GHG emissions) for every customer class where such a program would materially reduce peak load.

As discussed in Section 5.2, adding or modifying programs to allow response to MIDAS signals has not yet been determined to result in material incremental reductions in peak load for any customer class or to be cost effective. This is in part due to the uncertainties in customer acceptance and response to hourly or sub-hourly price signals, exposure to market price spikes and volatility, and as a result, peak load reduction potential.

Ava is required to identify MIDAS-integrated dynamic load flexibility programs for customer classes where such programs are determined to be cost-effective and materially reduce peak load. Ava anticipates submitting a list that includes planned load flexibility programs and pilots that achieve LMS goals without automated response to MIDAS signals, by October 1, 2024, because Ava's evaluation has not concluded that developing and implementing programs or pilots with automated response to MIDAS would be cost-effective or materially reduce peak load. Additionally, it is too late to incorporate MIDAS price signals into existing and currently planned load flexibility programs. Ava has determined that modifying this requirement is necessary to provide a more cost-effective and feasible way to meet the LMS requirements and achieve the LMS goals. Ava will re-evaluate the cost-effectiveness and incremental peak load reduction potential associated with incorporating dynamic signals into demand flexibility programs as information from the pilots becomes available and may include MIDAS-integrated programs on a future list.

7.4.2 Voluntary Participation in Cost-Effective Load Flexibility Programs

Adopted LMS amendments section 1623.1(b)(4) requires each Large CCA to offer customers voluntary participation in either a dynamic rate, if approved by the Board, or cost-effective MIDAS-integrated load flexibility program by July 1, 2027.

Ava is required to offer voluntary participation in cost-effective load flexibility programs that materially reduce peak load. As discussed in Sections 5 and 7.4.1 above, Ava's evaluation has been unable to conclude that developing and implementing new load flexibility programs or pilots with automated response to MIDAS signals would be cost effective or materially reduce peak load. Ava has determined that, for the reasons set forth in this Plan, the LMS program participation requirements must be modified to provide a more cost-effective and technologically feasible way for Ava to, in good faith, meet the LMS requirements and achieve the LMS goals. Thus, Ava modifies this requirement to include voluntary participation in any load flexibility program or pilot, not just programs that allow for automated response to MIDAS signals. Ava will assess the cost-effectiveness and peak load potential of planned and new programs that enable automated response to MIDAS signals as Ava develops and refines load flexibility programs.

8 Appendices

8.1 Appendix A

Figure 1 Non-Managed Residential Battery Performance

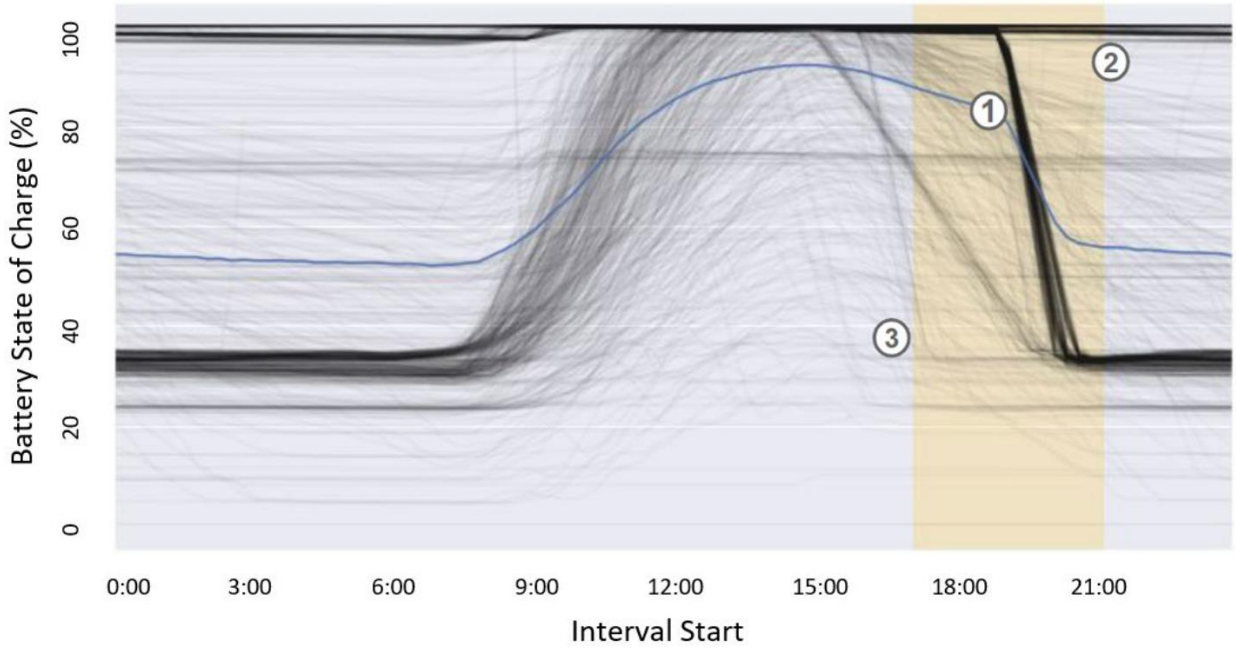

Figure 1 shows how residential battery systems charge and discharge when not actively managed. Each black line represents a single battery, and the blue line represents the average state of charge across all batteries. When operating without coordination, the portfolio fails to maximize load modification benefits, as evidenced by:

1. Batteries dispatch for TOU, and generally are set to discharge over 1-2 hours, which does not align with entirety of grid stress event
2. Batteries are in back-up only mode and do not dispatch in the evenings
3. Batteries are configured to maximize self-consumption and may not dispatch during evening hours

Figure 2 Managed Battery Performance

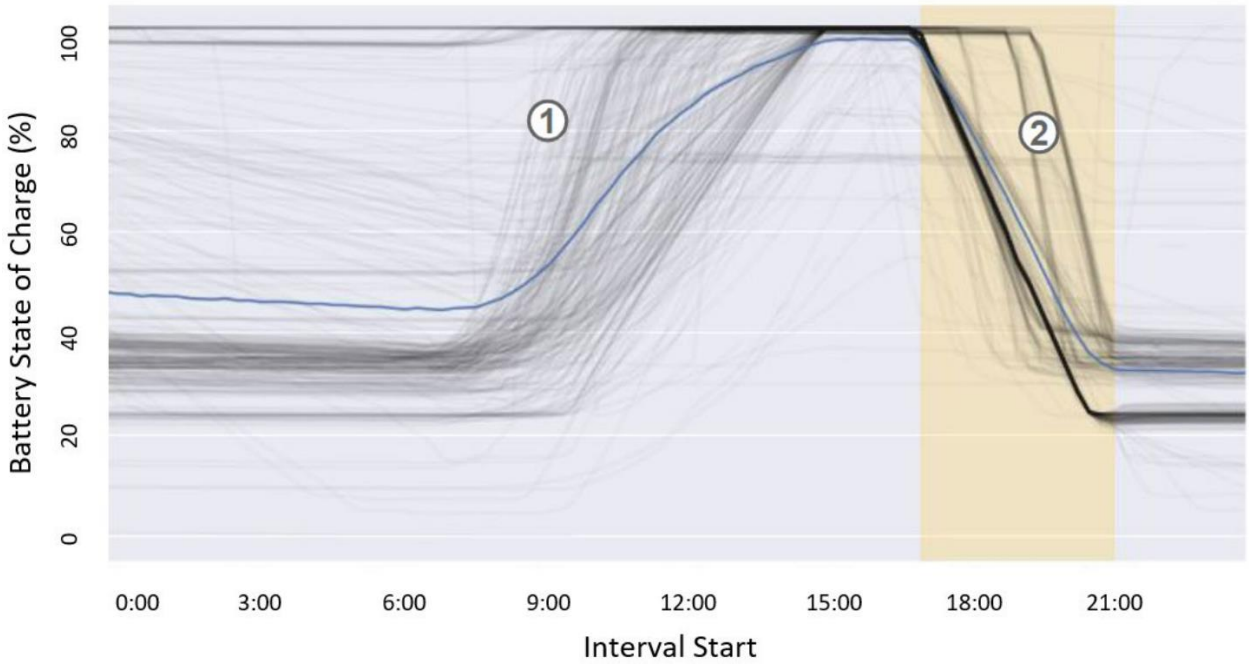

Figure 2 shows how customer battery systems charge and discharge when actively managed. Each black line represents a single battery, and the blue line represents the average state of charge across all batteries. When operating with coordination, the portfolio maximizes load modification, as evidenced by:

1. Batteries charge at controlled rates during times of high solar generation
2. Batteries discharge at an optimized rate to ensure constant output throughout the contracted four-hour window (shown in beige)