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PUBLIC UTILITIES COMMISSION) DOCKET NO. 2019-0323

Instituting a Proceeding to)

Investigate Distributed Energy)

Resource Policies Pertaining to)

The Hawaiian Electric Companies.)

DECISION AND ORDER NO. 38680

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By this Decision and Order ("D&O"),¹ the Public Utilities Commission ("Commission") establishes an Advanced Rate Design ("ARD") Implementation framework ("ARD Framework") to inform

1The Parties to this proceeding are HAWAIIAN ELECTRIC COMPANY, INC. ("HECO"), HAWAII ELECTRIC LIGHT COMPANY, INC. ("HELCO"), MAUI ELECTRIC COMPANY, LIMITED ("MECO") (collectively, HECO, HELCO, and MECO are referred to as "Hawaiian Electric" or the "Companies") and the DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, DIVISION OF CONSUMER ADVOCACY (the "Consumer Advocate"), an ex officio party, pursuant to Hawaii Revised Statutes ("HRS") § 269-51 and Hawaii Administrative Rules ("HAR") § 16-601-62(a). In addition, the Commission has granted Intervenor status to the HAWAII PV COALITION, the DISTRIBUTED ENERGY RESOURCES COUNCIL OF HAWAII, and the HAWAII SOLAR ENERGY ASSOCIATION, collectively, "the DER Parties." Order No. 36777, "(1) Granting Motions to Intervene Filed By Hawaii PV Coalition, Distributed Energy Resources Council Of Hawaii, And Hawaii Solar Energy Association; (2) Dismissing Without Prejudice The Motion To Participate Filed By Itron, Inc.; (3) Enlarging Time For Itron, Inc. To File A Motion To Participate; And (4) Addressing Other Preliminary Matters," filed on November 15, 2019.

Hawaiian Electric's development and implementation of advanced rates. The ARD Framework: (1) identifies the overarching goals, guiding principles, and desired end-state of ARD for Hawaiian Electric; (2) establishes the foundational elements of new time-of-use rates for Schedules R, G, and J ("TOU Rates"); and (3) identifies the staged approach that ARD implementation will require.

The Commission is appreciative of the longstanding commitment of the Parties to meaningfully engage in the multi-year process that has yielded the ARD Framework. The Parties have been collaborative, collegial, innovative, and diligent in preparing for and participating in a variety of information sharing sessions to support the development of their proposals, each of which provided thought provoking content, supporting analysis, and diverse options for the Commission's consideration.

The Commission also extends its appreciation to its consultants from Gridworks, Haiku Design and Analysis, and Strategen, for designing and facilitating the ARD Working Group Process,² presenting complex content to inform all Parties,

²The ARD Working Group Process was comprised of a number of facilitated Working Group meetings wherein the Parties shared information, had an opportunity to ask and answer pertinent questions, sought alignment across the docket Tracks, and engaged in group learning activities through presentations by experts in various fields associated with the development of advanced rates.

as well as reviewing and analyzing the voluminous and detailed information filed in this proceeding.

The Commission notes that this milestone has been a long time in the making and acknowledges that this accomplishment is attributed to the dedication and commitment of all involved in the proceeding. Rate design has not significantly changed for Hawaiian Electric customers in many years. This Advanced Rate Design Framework represents a substantial step forward, establishing a new comprehensive time-of-use rate design that is aligned with a modern grid and provides customers with opportunities to save money and explore rate options. While the Commission expects the ARD Framework to evolve over time, it believes that this initial iteration of the Framework will provide a solid foundation upon which future developments can build.

I.

INTRODUCTION

The current iteration of this investigation into distributed energy resources ("DER") began on September 24, 2019, when "the Commission opened this proceeding to investigate the technical, economic, and policy issues associated with DER and

At the culmination of these meetings, a report was filed by the facilitating consultant, Gridworks.

rate design, as they pertain to [Hawaiian Electric].”³ The Commission’s establishment of the current proceeding was in acknowledgement of the developments made in Docket Nos. 2014-0192 and 2015-0412, which helped inform the Commission and interested stakeholders about customer-sited DER and customer grid service offerings.

In April 2020, by Order No. 37066, the Commission provided organizational refinement for how this proceeding would progress and introduced “three major categories of issues: (1) DER Programs; (2) [ARD]; and (3) Technical Issues[;]”⁴ (collectively the “Tracks”). While these categories were not intended to supersede the issues established in Order No. 36538,⁵ which opened the instant docket, the Commission clarified in Order No. 37066 that these Tracks were “offered to help frame the scope of this proceeding and to facilitate a timely and organized approach to assist the Parties with prioritizing the issues that need to be addressed.”⁶ The Commission observed that despite

³Order No. 37066, “Establishing Procedural Details and Modifying Hawaiian Electric’s Customer Grid Supply Plus Program for Hawaii Island,” filed on April 9, 2020 (“Order No. 37066”), at 5.

⁴Order No. 37066 at 5.

⁵Order No. 36538, “Opening the Docket,” filed on September 24, 2019 (“Order No. 36538”).

⁶Order No. 37066 at 5.

the new realities facing Hawaiian Electric and its customers, Hawaiian Electric's rate design has remained relatively unchanged for a number of years. To address the nuances of rate design, the Commission's guidance in Order No. 37066 identified the primary objectives of the ARD Track and acknowledged long-standing principles of rate design, James Bonbright's principles of rate design.⁷

Today, the Commission observes Hawaiian Electric's recognition of its need to increase the number of DERs on its systems and notes the assertion made in Hawaiian Electric's most recent Sustainability Report. In this Report, Hawaiian Electric highlights that its Climate Action Plan calls for 50,000 more rooftop solar systems and states that, at the time of the Report, 92,504 solar systems were on the grid providing 1 gigawatt of capacity and 121 megawatts of battery storage.⁸ Additionally, the potential capacity shortfalls following the retirement of the AES coal plant on Oahu, and the potential capacity shortfall challenges on Maui Island have heightened awareness of the critical role customer-sited resources play in ensuring a well-resourced

⁷Order No. 37066 at 13-14 (citation omitted).

⁸See <https://view.hawaiianelectric.com/2021-2022-sustainability-report/page/1>.

and reliable grid is maintained throughout the progression toward the State's clean energy and climate change action goals.⁹

The Commission also acknowledges how changes in geopolitics, global markets and other occurrences deeply impact the service provided by the utility. Additionally, there are changes which are more internal to the utility that influence the subject matter in this docket, as evidenced in the interrelation of subject matter across a variety of dockets. Such dockets include Docket No. 2018-0141 - Grid Modernization Project Phase 1, Docket No. 2018-0088 - Performance Based Regulation ("PBR"), Docket No. 2018-0165 - Integrated Grid Planning ("IGP"), Docket No. 2007-0341 - Grid Service Purchase Agreement, and more recently as observed following the introduction of the Scheduled Dispatch Program ("SDP") in the instant docket.

In light of competing interests, overlapping considerations across dockets, and the global, national, and local impacts utilities and customers face, the Commission believes that a holistic approach to advancing DER objectives is critical.

Specifically, the Commission sees ARD as a necessary component of the renewable energy powered grid of the future. With the current quantity of customer-sited resources on the grid and the identified need to increase distributed energy resources,

⁹See generally Docket No. 2021-0024.

the Commission believes that this is a pivotal time to establish a comprehensive advanced rate scheme that encourages customer behavioral changes in a manner that provides fairness and benefit for customers and the utility.

II.

BACKGROUND AND PROCEDURAL HISTORY

On September 25, 2019, Hawaiian Electric filed its ARD Strategy in Docket No. 2018-0141 in accordance with Decision and Order No. 36320.¹⁰ On April 9, 2020, the Commission issued Order No. 37066 in the present docket, which refined and expanded the issues that would be addressed herein. In Order No. 37066, the Commission also instructed that the ARD Track would begin with a Technical Conference in June 2020, which would be followed by the initiation of the ARD Working Group Process,¹¹ to support the submission of initial proposals. The Commission provided that the ARD Track would include opportunities for

¹⁰Docket No. 2018-0141, "Hawaiian Electric Companies Grid Modernization Strategy Phase 1; Advanced Rate Design Strategy & Data Access and Privacy Policy," filed on September 25, 2019.

¹¹See generally, "Gridworks Advanced Rate Design Working Group Report," filed on December 15, 2020 ("Gridworks ARD Working Group Report"). This report synthesizes the content shared in the Working Group Process (i.e., the report tracks the dialogue, clarifies data needs, and highlights considerations and recommendations for advanced rate design in the State).

comments as well as for the exchange of information requests ("IRs") interspersed between meeting and comment periods.

While the entirety of the docket record has informed the Commission's determinations in this proceeding, the following captures a refined list of the filings and occurrences to provide context and framing for the considerations addressed in this decision. The full list of filings and occurrences can be found on the Commission's Document Management System ("DMS").¹²

On June 4, 2020, the Commission held the first ARD Track Technical Conference where each of the Parties shared their perspectives on ARD in Hawaii.

On June 30, 2020, the Parties filed their respective comments on ARD concepts that had been provided to date.¹³

¹²Available at: <https://dms.puc.hawaii.gov/dms/dockets?action=search> and by entering "2019-0323" in the "Docket Quick Link" function. See e.g., Gridworks ARD Working Group Report.

¹³Letter From: K. Katsura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; "Hawaiian Electric's Comments on Advanced Rate Design Proposals," filed on June 30, 2020; "Hawaii Solar Energy Association's, Hawaii PV Coalition's, and Distributed Energy Resources Council's Comments on Advanced Rate Design Issues; Attachment: Smart Rate Design for a Smart Future; and Certificate of Service," filed on June 30, 2020; and "Division of Consumer Advocacy's Comments on Advanced Rate Designs," filed on June 30, 2020.

On July 22, 2020, the Commission filed the ARD Working Group Meeting Schedule, and meetings were held,¹⁴ in large part, in accordance with the established schedule.

On November 2, 2020, following the culmination of the ARD Working Group Process, the Commission filed its ARD Initial Guidance, wherein it provided the Parties with guiding principles to inform the development of the Parties' initial proposals for ARD.¹⁵

On December 17, 2020, the Parties submitted their Initial Proposals for ARD.¹⁶

On March 15, 2021, the Parties filed their Final Proposals for ARD.¹⁷

¹⁴Herein began the Working Group Process.

¹⁵"Advanced Rate Design: Guidance for Initial Party Proposals Docket No. 2019-0323," filed on November 2, 2020 ("ARD Initial Guidance").

¹⁶"Hawai'i Solar Energy Association's, Hawai'i PV Coalition's and Distributed Energy Resources Council's Initial Proposals on Advanced Rate Design; Exhibits "A" to "D"; Docket No. 2019-0323," filed on December 17, 2020 ("DER Parties' Initial Proposal"); "Division of Consumer Advocacy's Initial Proposal for the Advanced Rate Design Track," filed on December 17, 2020 ("CA's Initial Proposal"); Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; "Hawaiian Electric's Advanced Rate Design Initial Proposal," filed on December 17, 2020 ("Hawaiian Electric's Initial Proposal").

¹⁷"Hawai'i Solar Energy Association's, Hawai'i PV Coalition's, and Distributed Energy Resources Council's Final Proposals on Advanced Rate Design; Exhibits "E" to "I"," filed on

On May 3, 2021, the Parties filed their Final Proposals on the DER Program Track, which included proposals for the SDP.¹⁸

On June 30, 2021, the Commission issued Decision and Order No. 37853, approving the SDP for Oahu and continued reviewing the record on the remaining elements of the Parties' Program Track Proposals, among other filings.

On November 4, 2021, the Commission issued Decision and Order No. 38062 which established directives for the Technical Track.

On January 25, 2022, the Commission issued Decision and Order No. 38196, wherein it established the DER Program Structure, which included, among other provisions, Hawaiian Electric's

March 15, 2021 ("DER Parties' Final Proposal"); Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies, "Hawaiian Electric's Advanced Rate Design Final Proposal," filed on March 15, 2021 ("Hawaiian Electric's Final Proposal"); "Division of Consumer Advocacy's Advanced Rate Design Final Proposals," filed on March 15, 2021 ("Consumer Advocate's Final Proposal").

¹⁸"Final Program Track and Emergency DR Program Proposals of Hawai'i Solar Energy Association, Hawai'i PV Coalition and Distributed Energy Resources Council; Appendices "A" to "D"; Declaration of Brian Gold; Declaration of Robert R. Mould," filed on May 3, 2021; Letter From: K. Shinsato To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies, filed on May 3, 2021; Hawaiian Electric's DER Program Track Final Proposal; Division of Consumer Advocacy's Program Track Final Proposals, filed on May 3, 2021.

suggested program requirement that all customers enrolled in a new DER program be required to also enroll in TOU rates.¹⁹

Throughout the proceeding, the Parties engaged in multiple rounds of information requests and responses, as well as necessary meetings to address and discuss complexities in real time.

Pursuant to the procedural schedule for ARD, as set forth in Order No. 37066, and modified by Order No. 37421,²⁰ no further procedural steps are contemplated, and the ARD Track is ready for decision-making.

III.

PARTY POSITIONS GENERALLY

The Parties' final proposals offer an array of options for consideration and address many of the Commission's primary objectives identified in Order No. 37066. However, the Commission observes that no single proposal presents an approach to ARD that sufficiently captures the necessary tradeoffs between longstanding rate making principles and technical, economic, and policy

¹⁹Decision and Order No. 38196, filed on January 25, 2022, at 11-12.

²⁰Order. No. 37421, "Approving the Parties' Request to Amend the Procedural Schedule," filed on November 5, 2020 ("Order No. 37421"); Order No. 37439, "Erratum to Order No. 37421," filed on November 12, 2020, which corrected a typographical error in Order No. 37421.

considerations related to the rapidly evolving landscape in the Hawaiian Electric service territories.

Given the complexity of the issues, this Section provides a high-level overview of the Parties' proposals and positions on various topics, including the ARD Framework, TOU Rates, other ARD components, and ARD Rollout.²¹ More detailed descriptions of Party positions on specific issues, including references to the relevant portions of the record, are contained in the Discussion section of this Decision and Order.

A.

Overview of Parties' Final Proposals

1.

Hawaiian Electric

ARD Framework: Hawaiian Electric's Final Proposal incorporates many of the key principles and design elements included in its Initial Proposal and provides additional considerations for low to moderate income ("LMI") customers and a more detailed plan for implementation and evaluation. Hawaiian Electric refers to three key principles to frame their

²¹In the interest of efficiency, the Commission herein provides a focused presentation of the Parties' proposals and thereby only includes references to limited parts of the record. Electronic access to the entire record, where each of the Parties' filings may be viewed, can be found through the Commission's DMS.

proposal: (1) all customers who are connected to the utility grid should fairly share the total costs to provide service; (2) customers should have the opportunity to save, influence, and control their bill; and (3) in transition to wider participation in TOU rates, significant bill impacts to the customer should be minimized.²²

TOU Rates: Hawaiian Electric's ARD proposal includes TOU rates that incorporate non-fuel energy charges in three time periods and maintains a customer charge and the existing surcharges apart from the TOU rate. The TOU component of Hawaiian Electric's ARD proposal includes the portion of several cost categories, including primary distribution, transmission, and some generation costs that are currently recovered through non-fuel energy charges. The proposed rates would maintain non-TOU demand charges and a fixed (non-TOU) customer charge to recover costs related to customer accounts, customer services, service drops, transformers, and secondary distribution.

Hawaiian Electric's proposed TOU rates include a relatively modest price ratio (i.e., a proportional difference

²²Hawaiian Electric's Final Proposal at 2-4.

between higher and lower time period prices), which reflects its attention to potential bill impact concerns.²³

Other ARD Components: Hawaiian Electric's ARD proposal also includes two-part rates (without demand charges) and three-part rates (with demand charges), the assignment of which is dependent on a customer's preference, Schedule, and enrollment in a DER program. Hawaiian Electric proposes introducing a demand charge and higher minimum charges for customers that participate in a DER tariff developed in the Program Track of this docket. Hawaiian Electric is not proposing changes to the demand charge for existing Schedule J and maintains that this schedule should retain the billing demand ratchet.²⁴

Although Hawaiian Electric's proposal does not link rate design to future costs, Hawaiian Electric does state its willingness "to work with the Parties to define concepts for long-run marginal cost and to examine data that would be appropriate for this effort."²⁵ Hawaiian Electric also recommends changing the collection of the Revenue Balancing Account ("RBA") Rate Adjustment to a percentage of base bill basis.²⁶

²³Hawaiian Electric's Initial Proposal, Attachment 1 at 8 and 13.

²⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 18.

²⁵Hawaiian Electric's Final Proposal at 6.

²⁶Hawaiian Electric's Final Proposal at 3.

ARD Rollout: Hawaiian Electric proposes to phase in TOU rates with the rollout of advanced meters on an opt-out basis and plans to initially place at least 25% of customers who receive advanced meters on TOU rates on an opt-out basis. Hawaiian Electric offers its perspective that TOU rate enrollees should be randomly selected, and that all customers receiving advanced meters should be placed on TOU rates within one year of completion of advanced meter placement. Hawaiian Electric provides that customers would be assigned to TOU rates continuously throughout the Grid Modernization Phase 1 advanced meter replacement process.²⁷

2.

DER Parties

ARD Framework: The DER Parties submitted their Initial Proposal, which was subsequently modified only slightly by their Final Proposal. The DER Parties state that their proposals align with both the guiding principles for ARD outlined by the Commission and the Bonbright principles of rate design referenced

²⁷Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Hawaiian Electric's Responses to PUC-HECO-IRs 132 to 138, filed on June 16, 2021 ("Hawaiian Electric's Response to PUC-HECO-IR-___"), at Hawaiian Electric's Response to PUC-HECO-IR-133(a) and (f).

in Order No. 37066.²⁸ Additionally, the DER Parties offer three guiding principles for rate design: (1) a customer should be allowed to connect to the grid for no more than the cost of connecting to the grid; (2) customers should pay for power supply and grid services in proportion to how much they use, and when they use it; and (3) customers delivering power and services to the grid should receive full and fair value (for the power and services delivered).²⁹

TOU Rates: The DER Parties propose to discontinue the practice of classifying costs as "demand-related," "energy-related," and "customer-related," instead opting to assign costs by time period.³⁰ In line with these principles, the DER Parties propose a framework for TOU rates for residential and commercial customers that includes a customer charge (flat amount per bill to recover customer-specific costs associated with billing and metering), a grid access charge ("GAC") (\$/kilowatt ("kW") charge for site-specific infrastructure of the customer's service connection), and a usage charge

²⁸DER Parties' Initial proposal at 4-5.

²⁹DER Parties' Initial proposal at 5.

³⁰DER Parties' Initial proposal at 11-12.

(\$/kilowatt hour ("kWh") charge for all power supply and grid costs other than those covered by the customer charges and GACs).³¹

The DER Parties propose three-period time blocks and an applied pricing ratio of 3:2:1 for on-peak, off-peak, and mid-day rates.³²

Other ARD Components: The DER Parties propose expansion of programs for LMI customers and for peak demand reduction.

ARD Rollout: The DER Parties emphasize the need to make immediate progress towards the implementation of TOU rates with the best available information, while designating deliverables, action steps, and timelines for continued work on ARD such as for modernizing the cost-of-service study methodology.³³

3.

Consumer Advocate

ARD Framework: The Consumer Advocate submitted its Initial and Final Proposals, the latter of which included new analysis of potential rate designs, and was based on the following foundational principles:

- 1) Both compensation for grid services and charges for consumption from the grid should be based on long-run marginal costs; 2) Electricity charges for

³¹DER Parties' Initial Proposal at 12-13.

³²DER Parties' Initial proposal at 13.

³³DER Parties' Final Proposal at 3-4.

consumption from the grid must also recover embedded costs; and 3) Compensation to customers for the provision of grid services should be separated from prices paid for consumption from the grid to the extent possible.³⁴

The Consumer Advocate retained consultant Synapse Energy Economics ("Synapse") to conduct a study of Hawaiian Electric's long-run marginal cost data, which it states provides a good starting place for setting more efficient rates that can be refined over time when compared to policy-based rates.³⁵ The Consumer Advocate bases its analysis on the period of 2021-2025 in order to capture future costs that are reasonably well known, will not be stale by the time the rates are in effect, and during which Hawaiian Electric's resource mix changes.³⁶

TOU Rates: The Consumer Advocate provides analysis and identifies several candidate rate options, including options with two peak periods (5-9 a.m. and 5-10 p.m.) and one peak period (5-10 p.m.), both with and without demand charges/GACs.³⁷ The Consumer Advocate emphasizes the need to better understand the possible bill impacts of rate changes.³⁸

³⁴Consumer Advocate's Final Proposal at 5.

³⁵Consumer Advocate's Final Proposal at 5-6.

³⁶Consumer Advocate's Final Proposal at 7-8.

³⁷See Consumer Advocate's Final Proposal, Tables 3-7, for additional details.

³⁸Consumer Advocate's Final Proposal at 56-57.

Other ARD Components: The Consumer Advocate emphasizes the need to assess the impact of TOU rates on LMI customers, including on average, the possible range of impacts, and the ability of LMI customers to shift behavior. The Consumer Advocate emphasizes that the primary goal to support LMI customers should be to reduce costs overall, and the Consumer Advocate supports possibly exempting LMI customers from TOU rates depending on the findings of the analysis of rate impacts.³⁹

ARD Rollout: The Consumer Advocate notes that ARD should align with the objectives of the PBR docket by including revenue-neutral rate design proceedings that gradually modify rates, align with the rollout of advanced metering infrastructure, and should be accompanied by robust customer outreach and education.⁴⁰

B.

Summary of Final Proposals

Using Hawaiian Electric's existing rate structures and supporting expense categorization and estimates as a reference point, the following tables summarize the Parties' ARD proposals for Schedules R, G, and J. The tables do not depict any exact

³⁹Consumer Advocate's Final Proposal at 11-12.

⁴⁰Consumer Advocate's Final Proposal at 20-21.

future rate proposals, but rather provide an analysis of what would result from the Parties' proposals using the most recent test year estimates for Oahu only. They are therefore intended to be a comparative and descriptive tool, and do not depict exact rate proposals.

The tables identify each Parties' proposed category of charge and amount, but do not incorporate surcharges. For the purpose of comparison, a row depicting the existing rates for each of Hawaiian Electric's existing Schedules is provided in each of the tables.

<u>Schedule R</u>	Customer Charge	GAC* or Demand Charge**	TOU Energy Charge \$/kWh		
	\$/Month	\$/kW	Mid-Day	Off-Peak	On-Peak
Existing Rates	11.50		0.247		
Hawaiian Electric's Proposal	14.00	3.00** (for Specified Customers)	0.171	0.222	0.241
Consumer Advocate's Two On-Peak Windows With a Demand Charge Proposal	15.89	2.83 ⁺	0.143		0.287
DER Parties Proposal	10.18	2.05*	0.132	0.265	0.397

<u>Schedule G</u>	Customer Charge	GAC* or Demand Charge**	TOU Energy Charge \$/kWh		
	\$/Month	\$/kW	Mid-Day	Off-Peak	On-Peak
Existing Rates	35.00		0.244		

Hawaiian Electric's Proposal	32.00	5.00** (for Specified Customers)	0.186	0.250	0.258
Consumer Advocate's Two On-Peak Windows With a Demand Charge Single-phase Customer Proposal	18.42	3.32+	0.207		0.310
DER Parties Proposal	13.34	6.70*	0.130	0.260	0.391

<u>Schedule J</u>	Customer Charge	GAC* or Demand Charge**	TOU Energy Charge \$/kWh		
	\$/Month	\$/kW	Mid-Day	Off-Peak	On-Peak
Existing Rates	98.20	13.00**	0.182		
Hawaiian Electric's Proposal	103.00	16.00**	0.143	0.188	0.215
Consumer Advocate's Two On-Peak Windows With a Demand Charge Three-phase Customer Proposal	116.69	2.04+	0.179		0.284
DER Parties Proposal	27.55	1.85*	0.125	0.250	0.374

* The DER Parties propose a "GAC," which is conceptually distinguishable from a "Demand Charge," as described in the section below. Both are charged on a \$/kW basis and are, therefore, depicted in the same column in these tables.

** Hawaiian Electric proposes a "Demand Charge," which is conceptually distinguishable from a "GAC," as described in the section below. Both are charged on a \$/kW basis and are, therefore, depicted in the same column in these tables.

+ The CA includes rate proposals with a \$/kW charge but does not distinguish between a "Grid Access" and "Demand" charge.

IV.

RELEVANT AUTHORITY

A.

HRS § 269-16(b)

HRS § 269-16(b) provides in relevant part:

(b) No rate, fare, charge, classification, schedule, rule, or practice, other than one established pursuant to an automatic rate adjustment clause previously approved by the [C]ommission, shall be established, abandoned, modified, or departed from by any public utility, except after thirty days' notice to the [C]ommission as prescribed in section 269-12(b), and prior approval by the [C]ommission for any increases in rates, fares, or charges. The [C]ommission, in its discretion and for good cause shown, may allow any rate, fare, charge, classification, schedule, rule, or practice to be established, abandoned, modified, or departed from upon notice less than that provided for in section 269-12(b).

B.

HAR § 16-601-112

HAR § 16-601-112 provides:

Short notice filings. The [C]ommission may, in its discretion and for good cause shown, allow any rate, fare, change, classification, schedule, rule, or practice to be established, abandoned, modified, or departed from upon notice less than that provided for in section 16-601-111.

V.

DISCUSSION

The ARD Framework established by this Decision and Order includes the following components: (1) Guiding Principles (2) Structural Design of TOU Rates; and (3) ARD Implementation Plan, which will include the ARD Implementation Roadmap ("Roadmap"), a tool meant to guide the Parties through the continued refinement of ARD, and the reinstatement of the ARD Working Group Process. Collectively, these components of the ARD Framework provide guidance on the specific rates, time periods, charges, surcharges, and implementation expectations necessary to implement TOU Rates and advance Hawaiian Electric's rate design to one that better captures the capabilities and efficiencies of an increasingly renewable energy-powered electric grid.

A.

Guiding Principles

The Commission is cognizant of the complexity of rate design and the difficulty in balancing policy, market forces, and the need to rapidly evolve the State's electric grid. With this understanding, in its ARD Initial Guidance, the Commission identified the following Guiding Principles for ARD

and charged the Parties to propose advanced rates that would ideally:

- Encourage grid optimization consistent with policy goals;
- Incent conservation and energy efficiency;
- Reflect a holistic approach to system cost and value;
- Facilitate customer equity through:
 - o Fair allocation of costs;
 - o Providing options for participation in the energy system; and
 - o Meeting the needs of low-income customers; and
- Promote customer engagement through simplicity, options, and minimization of rate shocks.⁴¹

Additionally, the Commission's Guiding Principles are intended to guide the implementation of ARD in a manner that supports Hawaiian Electric's increased alignment with the overall goals and outcomes identified in the PBR framework (i.e., enhanced alignment among Hawaiian Electric's financial incentives, customer needs, and the State's policy goals). The components of the ARD Framework provide an incremental and iterative approach, such that Hawaiian Electric can transition its organization, customers, partners, and other stakeholders to a new rate design in a manner that commits to the implementation of core components, while affording timely reevaluation and adjustment as needed.

⁴¹ARD Initial Guidance at 3.

B.

Structural Design of TOU Rates

1.

TOU Rates - Core Rate Elements

The following is a high-level summary of the Commission's decisions regarding core elements of TOU Rates to be implemented by Hawaiian Electric for Schedules R, G, and J. Further detail is provided in the sections that follow.

Summary of TOU Rate elements:

- (1) A customer charge: applied as a fixed monthly charge, to recover customer-specific metering and billing costs only.
- (2) A GAC: applied initially as a monthly \$/kW charge based on class average non-coincident peak ("NCP") demand for Schedules R and G, and as a \$/kW charge based on metered customer NCP demand for Schedule J, to recover customer-related service connection costs.
- (3) TOU energy charges: applied on a \$/kWh basis, to recover all costs "upstream" of the customer charges and GACs.
 - The TOU energy charges will be applied in three daily periods:
 - Daily Schedule:
 - Daytime period: 9 a.m. - 5 p.m.
 - Evening Peak period: 5 p.m. - 9 p.m.
 - Overnight period: 9 p.m. - 9 a.m.
 - The TOU energy charge will have price ratios of 1:2:3 for the daytime, overnight, and evening peak periods, respectively.

- (4) Minimum charges will remain as currently designed but should be phased out in favor of the customer charges and GACs.
- (5) Surcharges will be applied as follows:
- The base RBA, ECRC, and PPAC, and all other surcharges⁴² with the exception of the Green Infrastructure Fee and Public Benefits Fee will be recovered through TOU block energy charges, allocated to TOU block prices on the 1:2:3 ratio.
 - The RBA reconciliation, changes to Target Revenue accruals, and the resulting RBA Rate Adjustment will be applied on a "percentage of bill" basis rather than the existing "per kWh" basis.
 - The Green Infrastructure Fee and the Public Benefits Fee will continue to be applied as a customer charge and per-kWh charge, respectively, as currently implemented.

The Commission notes that the rate design elements presented above do not necessarily reflect how rates will be presented on customer bills; guidance for bill presentation is identified in the relevant section below. The Commission also notes that the rate structures established in this Decision and

⁴²Surcharges include: Revenue Balancing Account Provision ("RBA"); Annual Revenue Adjustment Provision ("ARA Provision"); Performance Incentive Mechanism Provision ("PIM Provision"); Exceptional Project Revenue Mechanism ("EPRM") and its predecessor Major Project Interim Recovery mechanism ("MPIR"); Energy Cost Recovery Clause ("ECRC"); Purchased Power Adjustment Clause ("PPAC"); Integrated Resource Planning Cost Recovery Provision ("IRP/DSM Surcharge"); Renewable Energy Infrastructure Cost Recovery Provision ("REIP"); Green Infrastructure Fee Surcharge ("GIF"); and the Public Benefits Fee Surcharge ("PBF").

Order are intentionally designed to be "revenue neutral" (i.e., the rates will not change the total amount of revenue accrued or collected by the Companies).

Due to the complexity of the content in the remaining Discussion sub-sections, the Commission's discussions that follow are divided into discrete TOU Rate components. For each TOU Rate component, the Commission provides a brief Context sub-section (as needed), a high-level summary of the Parties' Positions, and a final sub-section that captures the Commission's Discussion and Decision. Where relevant, a Next Steps section is included.

Specifically, the Context sub-section provides general context related to the identified subject (which in some instances will include a definition of commonly used terms; these terms will be defined for the purpose of clarifying the use of the term understood by the Commission for the purposes of implementing ARD, and provides a brief introduction to the subject matter).

The Party Positions sub-section contains a summary of the Parties' positions focused on the detailed elements of the relevant subject matter.

The final sub-section is the Discussion and Decision sub-section, which includes the Commission's decision and supportive discussion.

In some instances, the subject matter may warrant directions for next steps. In such instances, the Next Steps

sub-section captures this information and may refer to the Roadmap, which provides a timeline and additional information for next steps.

2.

Charges

a.

Customer Charge

Context

The customer charge is intended to recover costs, commonly known as customer-related costs, that the utility must expend due to having any customer in the system regardless of energy usage. Customer-related costs can be thought of as costs that vary with the number and type of customers, and can include items such as metering and billing. This type of charge is typically applied as a fixed amount per bill, which varies based on the type of customer (e.g., residential, commercial, etc.), rate schedule, and type of service (e.g., single-phase, three-phase).⁴³

⁴³The Commission observes that monthly customer charges are derived by taking the class customer-related costs and dividing by the class customer months. A class's customer months is calculated by multiplying the average number of customers in the class by 12. Class customer months is calculated by multiplying the total number of customers in the class by 12.

Hawaiian Electric provides that it recovers customer-related costs as follows:

The customer-related cost component is determined by the number and/or type of customers, and is therefore allocated to the different rate classes based on the number of customers in each rate class, weighted to reflect the differences in various customer-related services and/or activities. The weighting factors reflect differences in service phase, service voltage, metering requirements, and complexity of meter reading, billing, and accounting services.⁴⁴

Hawaiian Electric provides that its Customer Accounts category of costs includes Federal Energy Regulatory Commission ("FERC") Accounts 901-905, and describes each as follows:

- Account 901: General direction and supervision of customer accounting, billing, and collection activities.
- Account 902: Reading customer meters and determining consumption when performed by employees engaged in meter reading.
- Account 903: Work on customer applications, contracts, orders, credit investigations, billing and accounting, collections, and complaints.
- Account 904: Losses from uncollectible utility revenues.
- Account 905: Miscellaneous customer account expenses not provided for in other accounts.⁴⁵

⁴⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 15.

⁴⁵Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Hawaiian Electric's

Hawaiian Electric explains that its Customer Service category of costs includes FERC accounts 907-910, and describes each, including the National Association of Regulatory Commissioners ("NARUC") account designation, as follows:

- Account 907 (NARUC 908): General direction and supervision of customer service activities, the object of which is to promote safe, efficient, and economical use of the utility's service.
- Account 908 (NARUC 909): Providing instructions or assistance to present customers, the objective of which is to promote safe, efficient, and economical use of the utility's service.
- Account 909 (NARUC 910): Advertising activities which primarily convey concrete information to customers to: protect health and safety, promote environmental protection, utilize electric equipment safely and economically, and conserve electric energy. Included also in this account are advertising and other communications relating to providing service to the customer and supporting achievement of Hawaii's clean energy goals.
- Account 910 (NARUC 911): Miscellaneous customer service activities which are not includable in other customer services expense accounts.⁴⁶

Responses to PUC-HECO-IRs 153 to 156, filed on August 10, 2021 ("Hawaiian Electric's Response to PUC-HECO-IR-___"), at Hawaiian Electric's Response to PUC-HECO-IR-153.

⁴⁶Hawaiian Electric's Response to PUC-HECO-IR-153.

Hawaiian Electric's monthly customer charges⁴⁷ are as follows:

Rate Class	Oahu	Hawaii	Maui	Lanai	Molokai
Schedule R - 1 Phase	\$11.50	\$11.50	\$11.50	\$11.50	\$11.50
Schedule R - 3 Phase	\$20.50	\$16	\$16	\$16	\$16
Schedule G - 1 Phase	\$35	\$35	\$31	\$35	\$32
Schedule G - 3 Phase	\$63	\$63	\$49	\$50	\$43
Schedule J - 1 Phase	\$66	\$43	\$66	\$58	\$44
Schedule J - 3 Phase	\$98.20	\$69	\$82	\$82	\$55

Party Positions

Each of the Parties' proposals included a customer charge informed by customer-related costs for Schedules R, G, and J. However, the Parties' customer charge proposals vary slightly regarding which specific costs are considered customer-related.

Hawaiian Electric: Hawaiian Electric proposes the following customer charges for each customer class, which it states were derived using information from the most recently completed final rate cases⁴⁸ for each operating company:

⁴⁷Hawaiian Electric's Initial Proposal, Exhibit 2.

⁴⁸Hawaiian Electric's Initial Proposal, Attachment 1 at 21-22; see also id. at Exhibit 2 (comprised of the following: HECO 2017 Test Year Cost of Service Study; HELCO 2019 Test Year Cost of Service Study; and MECO 2018 Test Year Cost of Service Study). Also, Hawaiian Electric advised that it used the cost-of-service studies from the identified rate cases, which use a 12-CP demand allocator and without the minimum system methodology. Id., Attachment 1 at 20-21.

	Single-phase	Three-phase
Schedule R	\$14	\$14.50
Schedule G - Oahu	\$32	\$60
Schedule G - Hawaii		\$58
Schedule G - Maui		\$46
Schedule G - Lanai		\$47
Schedule G - Molokai		\$40
Schedule J - Oahu	\$70	\$103
Schedule J - Hawaii	\$48	\$74
Schedule J - Maui	\$71	\$87
Schedule J - Lanai	\$63	\$87
Schedule J - Molokai	\$40	\$59

Hawaiian Electric proposes these same customer charges for its two- and three-part rate designs.⁴⁹ Hawaiian Electric notes that its customer and demand charge proposals, “provide incremental changes toward cost of service while also keeping the proposed customer and demand charges somewhat aligned across islands.”⁵⁰ Hawaiian Electric’s proposals derive proposed Customer Charges from the same constituent accounts as those included in the current Customer Charges. These include the Customer Accounts category of accounts (FERC 901-905) and the Customer Services category of accounts (FERC 907-910). With regard to inclusion of the Customer Service FERC accounts, Hawaiian Electric notes that:

These customer services expenses may not appear to relate to meter, meter reading and billing meters on the surface; however, the labor and non-labor costs categorized as customer service expense are

⁴⁹Hawaiian Electric’s Initial Proposal, Attachment 1 at 23.

⁵⁰Hawaiian Electric’s Initial Proposal, Attachment 1 at 22.

foundational and critical in serving all customers, both residential and commercial customers.⁵¹

DER Parties: The DER Parties propose to include a customer charge for each relevant rate class that recovers costs for only metering and billing. The DER Parties further specify that customer-related costs, "should be limited to customer-specific costs of metering and billing"⁵² and applied as a flat amount per bill. The DER Parties also propose that the Commission direct the Companies to provide final calculations for the customer charge using the DER Parties' proposed approach.⁵³

Consumer Advocate: The Consumer Advocate's Final Proposal presents multiple options for calculating the customer charge that, in combination with demand charges, include costs related to line transformers, services, meters, customer accounts, and customer service. Under the Consumer Advocate's proposal, the resulting customer charges are higher than existing customer charges, but Synapse, the Consumer Advocate's consultant that developed the charge proposals, notes that they do not necessarily support collecting all such costs through a fixed charge, and instead support the principle of gradualism and

⁵¹Hawaiian Electric's Response to PUC-HECO-IR-153.

⁵²DER Parties' Initial Proposal at 12.

⁵³DER Parties' Final Proposal at 20.

keeping customer charges closer to current levels.⁵⁴ While the Consumer Advocate's Final ARD Proposal does not take a firm position on how best to calculate the customer charge, Synapse notes that, "the DER Parties have questioned the magnitude of the customer service account costs and we support careful review of these costs."⁵⁵ Additionally, the Consumer Advocate states that should a GAC or demand charge be implemented, "[o]ther customer-related costs (including meters, customer accounts, and customer service) would still be recovered as a fixed monthly fee."⁵⁶

Discussion and Decision

The Commission adopts a customer charge that only recovers costs related to metering and billing. All costs that are currently assigned to the customer charge that are not related to metering and billing shall be reassigned to TOU energy charges and a new GAC as described herein.

The Commission notes that because Hawaiian Electric proposes to continue recovering the same cost categories through

⁵⁴Consumer Advocate's Final Proposal, Attachment 1 at 19.

⁵⁵Consumer Advocate's Final Proposal, Attachment 1 at 19, n.20.

⁵⁶"Division of Consumer Advocacy's Response to the Public Utilities Commission's Submission of Information Request, Filed on July 27, 2021," filed on August 10, 2021 ("Consumer Advocate's Response to PUC-CA-IR-121").

the customer charge, Hawaiian Electric's proposed customer charge is broader in scope but not as precise, compared to the more targeted scope proposed by the Consumer Advocate and DER Parties. Additionally, the Consumer Advocate's and DER Parties' positions indicate that certain costs that HECO proposed for the customer charge should be included in the Grid Access Charge, demand charge, or TOU energy charge block pricing, rather than a monthly customer charge, because doing so would most align with the cost causation principle.⁵⁷

In determining the composition of the customer charge for Schedules R, G, and J, the Commission agrees with the DER Parties that the customer charge should recover costs related to billing and metering only and should not include costs that vary based on energy usage. The Commission finds the costs that Hawaiian Electric has identified in its Customer Accounts in the Customer Service Process Area (i.e., FERC accounts 901, 902 and 903), fall into the category of billing and metering costs, and thus Hawaiian Electric should include these costs in the calculation of its customer charge. FERC accounts 904 and 905 are not directly related to customer billing and metering and

⁵⁷The Commission utilizes the cost causation principle to mean a principle that "requires costs to be allocated to those who cause the costs to be incurred and reap the resulting benefits." Illinois Commerce Comm'n v. FERC, 576 F.3d 470, 476 (7th Cir. 2009).

should no longer be included in the customer charge. Instead, FERC accounts 904 and 905 should be included in TOU energy charges.

The Commission observes that some of the "Customer Services" costs (i.e., FERC accounts 909 and 910),⁵⁸ as Hawaiian Electric currently classifies them, include costs of renewable energy, demand response and other DER programs, customer energy management, education, advertising, and addressing customer energy and operational needs. The Commission observes that these accounts may include some costs related to customer metering and billing, but that they may also include some costs related to how customers use energy.⁵⁹ In its calculation of the customer charge, Hawaiian Electric shall only include the costs of meters, metering and billing, and directly associated supporting expenses. More specifically, the Commission directs Hawaiian Electric to include in the customer charge costs directly associated with metering and billing within the identified Customer Accounts and Customer Services FERC accounts (901, 902,

⁵⁸The Commission notes that Attachment 2 in Hawaiian Electric's Response to PUC-HECO-IR-153 shows Account 911 as including customer assistance expenses, corporate expenses, and corporate relations expenses. The Commission is unclear as to the categorization of Account 911 as being under either NARUC or FERC accounting, but to the extent that metering and billing expenses are included in Account 911, the Companies may include those in the customer charge, aligned with the direction herein.

⁵⁹Hawaiian Electric's Response to PUC-HECO-IR-153, Attachment 2 at 2.

903, 907, and 910).⁶⁰ Any costs associated with connecting to the grid should be recovered through a new GAC as discussed below.

Next Steps

The Companies shall provide calculations with supporting exhibits for customer charges (that are designed in conformity with the parameters provided herein) for review by the Commission. These calculations shall be submitted to the Commission in alignment with the timeline designated in the Roadmap.

b.

Grid Access Charge

Context

As addressed above, customer charges will include only the costs of metering and billing. Other costs not included in customer charges will be included in TOU energy charges and a new Grid Access Charge.

Additionally, throughout this proceeding, the Parties have expressed concern that larger customers may not have the incentive to modify patterns of energy consumption due to the price signals that may be created by the current implementation of demand

⁶⁰See supra n.58.

charges, including the ratchet mechanism currently incorporated in the demand charges.⁶¹

The Commission agrees that the demand charge ratchet provides incentives adverse to the Commission's rate design objectives and notes that the demand ratchet will be phased out as more customers transition to TOU. As the Companies modernize the grid, AMI provides transparency and potential opportunities for improved price signals with the availability of temporal and locational data. The Companies can use information made available by AMI to conduct analysis with interval data which can be used for ratemaking, load studies, collaboration, and forecasting, for example.

In response to these observations and concerns, the DER Parties introduced the GAC. The DER Parties propose the GAC for all relevant rate classes and assert that it is aligned with the principle that customers should be able to connect to

⁶¹A ratcheted demand charge means that a "demand ratchet" is applied to determine how much customers are billed for demand. To calculate the demand ratchet, Hawaiian Electric assesses billing demand for each month at the maximum measured kW demand for such month or the mean of the current month's maximum measured kW demand and the highest maximum measured kW demand for the preceding eleven months, whichever is higher, but not less than the minimum billing demand of 25 kW. Available at: https://www.hawaiianelectric.com/documents/billing_and_payment/rates/hawaiian_electric_rates/Hawaiian_Electric_rates_sch_j.pdf.

the grid for no more than the cost of connecting to the grid.⁶² The DER Parties offer that the GAC is designed to recover site-specific infrastructure costs of the customer's service connection (e.g., service drop and a portion of the transformer for residential customers).

At present, Hawaiian Electric's Schedules R and G do not include a demand charge, while Schedule J includes a ratcheted demand charge. Hawaiian Electric does not currently assess its customers a GAC.

Party Positions

Hawaiian Electric: Hawaiian Electric's Final Proposal does not include a GAC. Hawaiian Electric's Final Proposal does, however, include demand charges for different rate classes that include "generation, transmission, and distribution asset and operations and maintenance costs that do not vary based on kWh consumption."⁶³ Further, Hawaiian Electric proposes to maintain the Schedule J ratcheted demand charge for the existing rate.⁶⁴

For Schedules R and G, Hawaiian Electric proposes to include a mandatory demand charge for any customers participating in new DER tariffs developed in the instant proceeding.

⁶²DER Parties' Initial Proposal at 5.

⁶³Hawaiian Electric's Final Proposal at 2.

⁶⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 21.

Schedules R and G demand charges would be deployed on an opt-out basis for customers receiving Advanced Metering Infrastructure ("AMI") and would be deployed on an opt-in basis for other residential and small commercial customers joining the new TOU Rates.

For Hawaiian Electric's proposed three-part TOU Rates, demand charges are based on measured demand and do not include a billing demand ratchet. For the three-part TOU rates, Hawaiian Electric proposes a demand charge of \$3 per measured kW for Schedule R, a demand charge of \$5 per measured kW for Schedule G, and for Schedule J, a three-part rate with a demand charge of \$16/measured kW.⁶⁵ Hawaiian Electric states that, to minimize customer bill impacts, their proposed demand charges do not fully recover demand-related costs but move closer to cost of service.⁶⁶

DER Parties: The DER Parties introduced the GAC as a part of their proposed TOU rate framework for Schedules R, G, and J. As proposed, the GAC includes costs that are associated with a customer connecting to the grid, in support of the DER Parties' assertion that a customer should be allowed to connect

⁶⁵Hawaiian Electric's Initial Proposal, Attachment 1 at 22.

⁶⁶Hawaiian Electric's Initial Proposal, Attachment 1 at 21.

to the grid for no more than the cost of connecting to the grid.⁶⁷ The DER Parties propose that for the time being, given the lack of advanced metering and demand metering capabilities, the GAC should be deployed for Schedules R and G based on the class average non-coincident peak demand.⁶⁸ As such, in the near term, the GAC would show up on Schedules R and G customer bills as a fixed charge, and would transition to a \$/kW charge based on individual customer metered demand in the future after sufficient AMI metering is installed and supporting data are collected and evaluated.

Additionally, the DER Parties propose to differentiate the GAC for single-family and multi-family residential customers as the site infrastructure costs to connect to the grid differ for these types of customers. The DER Parties note that this approach has been used by various other utilities and can facilitate customer equity given that several multi-family customers may be served by the same shared grid connection equipment.⁶⁹ In the absence of data to assess the differences in these costs more accurately, the DER Parties propose to determine

⁶⁷DER Parties' Final Proposal at 5.

⁶⁸"Hawai'i Solar Energy Association's, Hawai'i PV Coalition's, and Distributed Energy Resources Council's Responses to Commission Information Requests; PUC-DER Parties-IR-124; and Certificate of Service," filed on August 10, 2021 ("DER Parties' Response to PUC-DER Parties-IR-124").

⁶⁹DER Parties' Initial Proposal at 16.

the GAC for multi-family customers as half of that for single-family customers.⁷⁰

For Schedule J, the DER Parties propose to apply the GAC based on measured monthly NCP demand (whether delivered or received, also called "bi-directional") given that these customers already have demand meters.⁷¹

The DER Parties suggest that conceptually, the GAC is "bi-directional," meaning that it would be sized to the customer's maximum demand, whether delivered or received, because infrastructure must be sized to accommodate the maximum power flow in either direction.⁷² This approach would be currently implementable for Schedule J, the DER Parties assert, as the GAC would be applied based on individual demand readings.⁷³ For Schedules R and G, the DER Parties note that the impacts of individualized demand readings should be carefully considered before implementing to appropriately consider any possible, "harsh or counterproductive results against customers adopting electric vehicles or participating in grid services programs."⁷⁴

⁷⁰DER Parties' Response to PUC-DER Parties-IR-124.

⁷¹DER Parties' Response to PUC-DER Parties-IR-124.

⁷²DER Parties' Response to PUC-DER Parties-IR-124.

⁷³DER Parties' Response to PUC-DER Parties-IR-124.

⁷⁴DER Parties' Response to PUC-DER Parties-IR-124.

Consumer Advocate: The Consumer Advocate's final proposal includes analysis of rate designs with and without demand charges. The Consumer Advocate states:

Although the Consumer Advocate believes that the use of a Grid Access Charge or Demand Charge may help to further provide efficient price signals, the Consumer Advocate is not proposing to implement a new Grid Access Charge or Demand Charge at this time, due to the lack of information on representative customer load profiles. Prior to implementing such a change to customer rate structures, the Consumer Advocate believes that the distribution of bill impacts from a representative sample of customers should be reviewed to ensure that the changes would not result in significant bill increases. Therefore, the Consumer Advocate recommends that Schedule R and Schedule G continue without a Grid Access Charge or Demand Charge, and that Schedule J continue with a Demand Charge until information regarding the distribution of bill impacts becomes available.⁷⁵

The Consumer Advocate further describes that if anticipated bill impacts are not unreasonable, once the data are available, the GAC could be assessed based on a customer's actual monthly metered demand and could recover line transformer and services costs.⁷⁶

⁷⁵Consumer Advocate's Response to PUC-CA-IR-121 (citation omitted).

⁷⁶Consumer Advocate's Response to PUC-CA-IR-121.

Discussion and Decision

The Commission adopts a GAC for Schedules R, G, and J that recovers the costs of customer connection infrastructure, as described herein.

The Commission believes that, conceptually, the GAC should reflect the cost to connect to the grid, which includes customer-specific connection requirements caused by a customer's measured NCP demand. The costs caused by a customer's NCP demand can differ based on the customer's electrical usage ("size") and thus can differ by customer class. Determination of the extent to which a customer's NCP demand causes costs is affected by the degree to which equipment is shared between customers.

As proposed by the DER Parties, although the GAC is applied on a per-kW basis, the GAC differs from a traditional demand charge because it only includes costs for a customer to connect to the grid. As proposed by the DER Parties, the GAC for Schedules R and G should recover costs associated with the customer service drop and transformer costs. As originally considered by the DER parties (but not supported in their final proposal), the GAC for Schedule J should also include certain additional shared distribution costs. This is because such costs are more likely incurred to serve either a single or a small number of the larger Schedule J customers when compared to Schedule G, for which this equipment is shared by a greater number of customers.

Accordingly, such distribution costs are associated more directly with individual Schedule J customer grid connection costs.⁷⁷ Specifically, the GAC for Schedules R and G shall include the cost of Services and Line Transformers but shall not include any other distribution costs.⁷⁸ The GAC for Schedule J shall include the cost of the Services, Line Transformers, and other secondary distribution costs (i.e., including costs of Secondary Lines).⁷⁹ Other costs traditionally recovered through a demand charge such as other transmission and distribution, substation, generation, and administrative and general costs are not associated with connection to the grid and are therefore not included in the GAC.

The Commission anticipates that as AMI is deployed and customer-specific metered data become available, the GAC can become more granular and specific to each customer. In the near-term, however, the GAC for Schedules R and G will be calculated and applied as proposed by the DER Parties on an averaged basis (\$/kW based on average class non-coincident demand). Accordingly, for Schedules R and G, the GAC will appear

⁷⁷DER Parties' Final Proposal at 4-6 and Exhibit F at 6.

⁷⁸See Hawaiian Electric's Initial Proposal, Exhibit 2A at 70-71, regarding the categorization of "Services," and "Line Transformers" costs referred to here; see also Hawaiian Electric's Response to PUC-HECO-IR-153.

⁷⁹See Hawaiian Electric's Initial Proposal, Exhibit 2A at 70-71, regarding the categorization of "Services," "Line Transformers," and "Secondary Lines" costs referred to here.

on customer bills as a fixed charge. In the near-term, the GAC for Schedule J will be based on measured monthly received NCP demand.

At this time, the Commission does not accept Hawaiian Electric's proposal to apply demand charges to residential or small commercial customers that participate in a DER tariff. The Commission clarifies, however, that this does not preclude future consideration of a differently configured demand charge, given that demand charges can potentially be structured in more beneficial ways, such as time-varying demand charges or demand charges based on system peak instead of customer NCP.

The Commission finds that establishing a GAC creates an opportunity to further differentiate between grid access costs caused by different types of customers (e.g., single- and multi-family residences and commercial establishments served at Primary and Secondary voltages). Thus, the Commission is supportive of the DER Parties' proposal to differentiate between customers whose service is provided to a single- or a multi-family structure to the extent that customers in these different property types drive different systems costs. Similarly, the Commission observes that there may also be an opportunity to identify two subclasses for commercial customers, distinguished by those served at primary and secondary voltages, to the extent that these customers cause different system costs. However, the Commission

observes that sufficient information to inform such designations is currently lacking and finds that additional data should be collected to enable a more informed assessment of the costs to provide electricity service to these different types of properties and customers.

Next Steps

In the near term, Hawaiian Electric shall provide calculations with supporting exhibits to establish GACs conforming with the details provided herein and shall submit the resulting GACs to the Commission for review as identified in the Roadmap. For Schedules R and G, the GAC should include costs associated with the service drop and customer line transformers, as this equipment is not broadly shared and is largely determined by the NCP demand of individual Schedules R and G customers. For Schedule J, the GAC should include costs associated with the service drop, transformer costs, and other secondary distribution costs. Unlike Schedule G, for Schedule J, the GAC should include the costs for secondary distribution lines because, "it is more prevalent to have multiple Schedule G customers on the distribution secondary line than it is to have multiple Schedule J customers on the distribution secondary line."⁸⁰

⁸⁰Hawaiian Electric's Response to PUC-HECO-IR-153.

In the longer term, Hawaiian Electric should transition the GAC to a customer-specific \$/kW (NCP) charge for all relevant customer classes based on individually metered customer demand. Given that this change is dependent on the timeline for rolling out AMI, Hawaiian Electric should collaborate with the Working Group to identify an appropriate deadline for this transition and should include this in the Compliance Filing, as further discussed in Section V.D., below. To sufficiently inform this transition, Hawaiian Electric shall collect and evaluate AMI data prior to making this transition. The Commission further directs Hawaiian Electric to collect additional information on the cost to serve customers in single- and multi-family structures and to provide this information for review and discussion in the ARD Working Group Process. Hawaiian Electric shall work with the DER Parties to determine which information is necessary for this purpose.

The Parties will address these and other GAC-related longer-term decisions in the ARD Working Group, where GAC-specific topics addressed will include, but not be limited to:

- Identifying when it would be technically feasible to move to a GAC based on individual customer metered demand;

- Addressing issues related to bill impacts and possible impacts related to bi-directional application of the GAC; and
- Reviewing Hawaiian Electric updates on technical feasibility and timeline for implementing a GAC based on measured demand as reported in Hawaiian Electric's compliance filings (which are identified in more detail in the Roadmap).

c.

Energy Charge

Context

Energy charges are charges applied on a \$/kWh metered energy consumption basis. Traditionally, and as currently implemented by the HECO Companies, energy charges are determined by a customer's total monthly metered customer energy delivery.⁸¹ As implemented herein, TOU energy charges are differentiated by the time of day of energy use, applied using separate \$/kWh prices for metered energy delivery during several designated blocks of time each day.

⁸¹For some customers with generation "on the customer side of the meter," energy charges may be calculated based on both energy delivered to the customer and energy received from the customer.

Existing energy charges include an ECRC energy charge, which recovers the costs of fuel used in HECO generators and energy purchased from independent power producers; and a non-fuel energy charge, which recovers several types of costs not recovered through the ECRC, customer or demand charges or separate surcharges. As implemented herein, the TOU energy charges broadly include recovery of all costs not recovered through the GAC and customer charges or through certain separate surcharge adjustments as provided below. The non-fuel energy charge for Schedule R is currently implemented as an inclining block rate that increases in price as energy consumption increases. Schedule G and J non-fuel energy charges are currently non-tiered.⁸²

Party Positions

Hawaiian Electric: Hawaiian Electric proposes that the TOU-differentiated component of rates should include the scope of costs included in its existing non-fuel energy charge. The TOU energy charge would recover costs not recovered by the customer charges, demand charge, ECRC, and other revenue adjustments.⁸³ Hawaiian Electric argues that limiting the costs thus recovered through TOU energy charges would result in less rate impact than

⁸²Hawaiian Electric's Initial Proposal, Attachment 1 at 13.

⁸³Hawaiian Electric's Initial Proposal, Attachment 1 at 19.

proposals by other Parties that include a broader spectrum of costs in the TOU energy charges.

DER Parties: The DER Parties propose to collect all power supply and grid costs, other than the costs included in the GAC and customer charge, through TOU energy charges. The DER Parties include generation (including the ECRC and PPAC components), and shared upstream transmission and distribution costs in these categories.⁸⁴ In order to calculate the \$/kWh charge, the DER Parties calculated the prices for each TOU block necessary to collect the class revenues from the most current class load studies to maintain the 1:2:3 TOU price ratio, considering the kWh energy consumption for each time period.⁸⁵ The DER Parties' proposal differs from current rates and from Hawaiian Electric's proposal in that it recognizes the time-differentiated costs of generating resources, rather than classifying costs as "energy-related," "demand-related," and "customer-related." The DER Parties state:

The rate approach proposed by the DER Parties recognizes that during the solar day, it is increasingly the investment in solar capacity that is providing "energy," not the combustion of fuel, while in other hours it may be the combination of investment in conventional generating capacity and storage capacity (investment-related costs) and the

⁸⁴DER Parties' Final Proposal, Exhibit F at 6.

⁸⁵DER Parties' Initial Proposal at 13.

consumption of fuel (variable energy costs) that provides "energy."⁸⁶

Consumer Advocate: The Consumer Advocate generally proposes basing TOU rates on long run marginal costs, using forecasted costs rather than historical costs.⁸⁷ The Consumer Advocate proposes basing energy charges on marginal energy and capacity costs, including the costs of generation, transmission, and distribution. The Consumer Advocate provided analysis, first presented in its Final Proposal, using a production cost and capacity expansion model to determine annual generation carrying costs for the period 2021-2025 and hourly marginal production costs for the year 2025.⁸⁸ Based on its analysis of hourly marginal energy costs, the Consumer Advocate considered several hourly block rate designs, including both three-period and two-period designs.⁸⁹ Generation capacity costs were allocated to the TOU periods based on the planned generation capacity.⁹⁰ Embedded transmission and distribution costs were allocated to

⁸⁶DER Parties' Initial Proposal at 14.

⁸⁷Consumer Advocate's Final Proposal at 7.

⁸⁸Consumer Advocate's Final Proposal at 8-9.

⁸⁹Consumer Advocate's Final Proposal at 8-9.

⁹⁰Consumer Advocate's Final Proposal at 11.

the TOU periods based on a method intended to reflect long run marginal cost.⁹¹

Discussion and Decision

The Commission adopts a TOU Energy Charge that includes recovery of all costs not included in the GAC and customer charge or certain separate surcharge adjustments, as detailed herein.

The Commission finds that allocating costs on a time-differentiated basis recognizes changes in how the grid will operate in the future. This approach provides efficient price signals to customers reflective of changes that occur temporally. The Commission finds that including transmission, generation and other costs in the TOU energy charge facilitates recovery of the majority of revenue via time-varying blocks. This helps to provide comprehensive price signals and encourages customer behavior change aligned with system needs. The Commission agrees with the DER Parties that these are all costs that ultimately vary with time, and should therefore be reflected in time-varying charges.⁹²

For Schedules R, G, and J, the TOU energy charge will include all costs not otherwise recovered through the GAC, customer charge, and certain separate surcharge adjustments

⁹¹Consumer Advocate's Final Proposal at 11.

⁹²DER Parties' Initial Proposal at 12.

as provided below. Specifically, the Commission notes that the TOU energy charge shall thus include customer-service related costs previously included in the customer charge (i.e., costs that are not directly related to metering and billing). Further, the energy charge shall be applied differently for Schedule J compared to Schedules R and G, given that the GAC will recover costs for secondary distribution lines for Schedule J. For Schedules R and G, such costs will be recovered in the TOU energy charge. The Commission agrees with the DER Parties that the TOU energy charge should include all costs "upstream" from the GAC and customer charge, including, generally,⁹³ the ECRC, PPAC, RBA, ARA Provision, MPIR/EPRM, and PIM surcharges. Treatment of these surcharges within ARD are discussed in more detail in the respective section below.

In determining this approach to energy costs, the Commission recognizes that updates to the cost-of-service study methodology (i.e., moving to a time-based cost-of-service study) can help to improve the accuracy of allocation of time-based costs. The Commission also finds, however, that the identified approach establishes a good starting place and notes that the

⁹³The reconciliation and adjustments for some components of the listed revenue mechanisms shall be applied as specifically provided below regarding Surcharges.

ARD Framework provides opportunity for refinement of the rates over time as additional data become available.

Next Steps

To implement this approved energy charge approach, Hawaiian Electric shall provide calculations with supporting exhibits for the TOU energy charges specified herein and shall file these calculations with the Commission for review in accordance with the timeline identified in the Roadmap. Additionally, as noted above, the Commission recognizes that updates to the cost-of-service study methodology can help to improve the accuracy of allocation of time-based costs. Therefore, the Commission directs Hawaiian Electric to begin the necessary work to update Hawaiian Electric's cost-of-service study methodology as quickly as possible.

3.

Time Period Definition and Price Ratios

Context

The number and length of time periods used in the specification of TOU block energy charges should appropriately represent and balance system needs with customer understanding and ability to respond. TOU time periods are intended to establish efficient price signals based on system costs and needs.

For example, the midday period energy charge price is intended to incentivize electricity usage that aligns with lower system costs driven by the prevalence of solar and other renewable generation, while the peak period price is intended to incent reduced consumption aligned with higher costs associated with increasing customer demand and dispatch of expensive peaking generating units as renewable generation production decreases. The length of the peak period should also be timed such that customers have the ability to shift behavior and electricity usage (i.e., customers on the rate should not experience overly long periods of high prices).

Similarly, the Commission believes that the ratios between the prices in the energy charge time blocks should ideally reflect long run "forward-looking" marginal costs and should effectively encourage customers to modify energy use patterns to the efficient economic advantage of the utility system, and by extension, all customers. However, approaches to balancing customer acceptance, behavior shifting, and marginal cost are varied and challenging and require considerable judgment in setting appropriate price ratios. For example, one approach, included in analysis presented by the Consumer Advocate, is to calculate the marginal production costs incurred in each period. While this approach may most directly reflect short-run marginal system costs, it requires agreement on study methods and inputs

and does not directly consider long-run costs or effective customer response that can minimize long run costs. Alternatively, price ratios can be adopted based on consideration of long-term system needs and desired customer response outcomes based on research results or past experience, without necessarily directly reflecting system production costs.

Hawaiian Electric currently offers optional TOU rates, including an interim residential TOU rate ("TOU-RI"), small commercial TOU rate (Schedule TOU-G), and large commercial TOU rate (Schedule TOU-J), each of which uses the following periods:⁹⁴

- On-peak: 5 p.m. - 10 p.m., Daily
- Mid-Day: 9 a.m. - 5 p.m., Daily
- Off-Peak: 10 p.m. - 9 a.m., Daily

Current TOU RI rates include:

- (1) A mid-day period rate set at the expected yearly average hourly marginal cost for those hours (reset each year);
- (2) All fixed generation, transmission, and distribution costs allocated to the peak period; and
- (3) An off-peak rate based on marginal generation costs but adjusted such that the overall revenue requirement impact is neutral (for an average residential customer that does not

⁹⁴See generally <https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations> for rates by schedule and division.

change consumption behavior in response to the TOU rate structure).⁹⁵

Party Positions

Hawaiian Electric: In its ARD proposal, Hawaiian Electric proposes TOU time periods based on its 2019 system load profiles, by island. Hawaiian Electric proposes to continue to use the periods in its existing optional TOU rates, which Hawaiian Electric asserts align with the periods in the 2019 system profiles.⁹⁶ Hawaiian Electric also notes that the five-hour peak period used in the existing optional TOU rates is generally consistent with the system peak hours on each island and generally aligns with forecasted peak hours for 2021-2025.⁹⁷ Hawaiian Electric asserts that maintaining this peak period will reduce customer confusion.⁹⁸

In calculating the prices for the Companies' proposed TOU blocks as described above, Hawaiian Electric imposed initial constraints on the price ratios between TOU periods and then modified the on- and off-peak rates to ensure the total revenue

⁹⁵See Docket No. 2014-0192, Order No. 33923, "Instructing the Hawaiian Electric Companies to Submit Tariffs for an Interim Time-Of-Use Program," filed on September 16, 2016, at 4.

⁹⁶Hawaiian Electric's Initial Proposal, Attachment 1 at 20.

⁹⁷Hawaiian Electric's Response to PUC-HECO-IR-135.

⁹⁸Hawaiian Electric's Response to PUC-HECO-IR-135.

requirement would be recovered. The resulting Schedule R rate for Oahu includes a price ratio of approximately 1:1.2:2 for the two-part rate (which does not include a demand charge) and 1:1.7:2 for the three-part rate (which includes a demand charge).⁹⁹ For Schedule G on Oahu, the resulting rate includes a price ratio of approximately 1:1.3:2 for the two-part rate and 1:2:2 for the three-part rate.¹⁰⁰ For Schedule J on Oahu, the resulting rate includes a price ratio of approximately 1:2.1:3 for the three-part rate.¹⁰¹

DER Parties: The DER Parties' Final Proposal accepts Hawaiian Electric's existing TOU periods. The DER Parties state that they "are fine with continuing the existing time periods in the interim TOU rate."¹⁰² The DER Parties state that, although the current TOU time periods may not be the ideal structure for Hawaii's rates, this is a reasonable starting place.¹⁰³ The DER Parties further offer that critical peak pricing or other

⁹⁹Hawaiian Electric's Initial Proposal at Exhibit 1.

¹⁰⁰Hawaiian Electric's Initial Proposal at Exhibit 1.

¹⁰¹Hawaiian Electric's Initial Proposal at Exhibit 1.

¹⁰²DER Parties' Final Proposal at 6 n.6.

¹⁰³"Hawai'i Solar Energy Association's, Hawai'i PV Coalition's, and Distributed Energy Resources Council's Response to Commission Information Request: PUC-DER Parties-IR-113; and Certificate of Service," filed on June 16, 2021 ("DER Parties' Response to PUC-DER Parties-IR-113").

rate designs are options that can be considered in the future, and note that "identifying the appropriate hours for each time period requires a tradeoff between economic precision, administrative feasibility, and customer understanding."¹⁰⁴ The DER Parties also state that a three-hour peak period would be preferable to customers and would be preferred for facilitating customer behavior changes, but the DER Parties also note that a five-hour peak period reasonably represents the system's costs and has resulted in demonstrated customer acceptance and response.¹⁰⁵

The DER Parties propose a 1:2:3 price ratio for midday, off-peak, and on-peak periods based on research that shows a reduction in customer response to ratios of less than 1:3 between the lowest and highest prices (i.e., TOU prices are more effective in eliciting customer response at a ratio of 1:3 or greater).¹⁰⁶ The DER Parties also note that this price ratio is close to the ratios used in the current TOU-RI rate, but that, unlike the current TOU-RI price ratios, which vary with energy prices, the 1:2:3 ratio would be stable and would promote customer understanding, engagement, and response.¹⁰⁷

¹⁰⁴DER Parties' Response to PUC-DER Parties-IR-113.

¹⁰⁵DER Parties' Response to PUC-DER Parties-IR-113.

¹⁰⁶DER Parties' Final Proposal at 6-7.

¹⁰⁷DER Parties' Initial Proposal at 14.

Consumer Advocate: The Consumer Advocate's proposal analyzed whether the current TOU time periods were most appropriate based on system costs. The Consumer Advocate's analysis identified consistently high production costs in the morning (5 a.m. - 10 a.m.) and evening (4 p.m. - 11 p.m.) time periods in all months of the year.¹⁰⁸ The Consumer Advocate's analysis determined that these time periods correspond with periods of high net system load.¹⁰⁹ Seeking to balance simplicity and price ratios between periods, the Consumer Advocate further investigated additional TOU block configurations with two time periods (an evening peak period and all remaining hours as off-peak) and a TOU rate with three periods (a morning peak period, an evening peak period, and all remaining hours as off-peak).¹¹⁰

The Consumer Advocate acknowledges the tradeoffs between simplicity and system needs that must be considered in the development of TOU time periods and notes in particular its consideration of a TOU rate with two or three pricing blocks.¹¹¹ The Consumer Advocate offers that, based on its analysis, there may be benefit to pricing the 10 p.m. - 9 a.m. period higher than the

¹⁰⁸Consumer Advocate's Final Proposal, Attachment 1 at 13.

¹⁰⁹Consumer Advocate's Final Proposal, Attachment 1 at 13.

¹¹⁰Consumer Advocate's Final Proposal, Attachment 1 at 13.

¹¹¹See Consumer Advocate's Response to PUC-CA-IR-114.

midday period, as the 10 p.m. - midnight hours are more costly and have higher net loads than the midday hours.¹¹² Conversely, the Consumer Advocate offers, that its investigation identified that costs and net loads for the midnight to 5 a.m. hours are similar to the midday hours, and that "there is a relatively large increase in net load from 5 am to 6 am."¹¹³

The Consumer Advocate discusses the tradeoffs between customer understanding, customer ability to respond to price signals, and alignment of pricing with projected net load.¹¹⁴ Additionally, the Consumer Advocate offers that, while customers typically prefer shorter peak periods, they tend to stay on the rate that they are opted-into, which indicates for example, that a five-hour peak period would be best for TOU rates on Oahu (based on the hours of highest net load and marginal costs), despite customer preferences for shorter peak periods.¹¹⁵

Based on its analysis, the Consumer Advocate developed two primary TOU rate options: one with two on-peak windows, and one with a single (evening) on-peak window.¹¹⁶ The Consumer Advocate

¹¹²Consumer Advocate's Response to PUC-CA-IR-114.

¹¹³Consumer Advocate's Response to PUC-CA-IR-114.

¹¹⁴Consumer Advocate's Response to PUC-CA-IR-114.

¹¹⁵Consumer Advocate's Response to PUC-CA-IR-114.

¹¹⁶Consumer Advocate's Final Proposal at 11.

notes that, "the rate with a single on-peak window results in an on-peak to off-peak price ratio of 2.5 to 1 for the residential class, while the rate with two on-peak windows results in an on-peak to off-peak price ratio of 2.0 to 1 for the residential class."¹¹⁷ The Consumer Advocate also proposes an on-peak to off-peak price ratio of 1.5 to 1 and 1.6 to 1 for Schedules G and J, respectively.¹¹⁸ The Consumer Advocate notes that its proposal would result in a "fairly mild" price signal, but notes that this approach addresses, at least in part, its concerns about potential bill impacts.¹¹⁹

Discussion and Decision

Based on the proposals, analyses, and arguments presented by all of the Parties, the Commission finds that TOU block energy charges with three daily time periods with a 1:2:3 TOU price ratio as recommended by the DER Parties is most reasonable. The Commission notes that the Companies have experienced a lack of change in on-peak energy consumption under the five-hour peak period used in existing TOU rates¹²⁰ and finds that a shorter peak will allow customers to better respond to the

¹¹⁷Consumer Advocate's Final Proposal at 11.

¹¹⁸Consumer Advocate's Final Proposal at 11-12.

¹¹⁹Consumer Advocate's Final Proposal, Exhibit 1 at 17.

¹²⁰See Hawaiian Electric's Response to PUC-HECO-IR-135.

peak period price signal, as supported by the Parties' analysis and arguments that indicate customers prefer shorter peak periods and are better able to modify behavior during a shorter period.¹²¹ Thus, the Commission concludes that the ARD Framework shall include TOU Rates in three daily time periods, as follows:

- Daytime period: 9 a.m. - 5 p.m.
- Evening Peak period: 5 p.m. - 9 p.m.
- Overnight period: 9 p.m. - 9 a.m.

The Commission notes that the TOU block price ratios presented in the Parties' proposals cannot be compared on an "apples to apples" basis, as the proposals do not express the overall ratios of the TOU blocks as any uniform proportion of customer bills or revenue. For instance, Hawaiian Electric's ratios express the ratio of pricing for only one component (non-fuel Energy Charges) of the revenue included in other Parties' proposals (which include ECRC and PPAC revenue). The Commission also notes that the Consumer Advocate's marginal cost analysis is supportive of a higher TOU ratio because it applies only marginal energy cost differentials between time blocks and does not allocate costs associated with peak demand exclusively to an evening peak time block.

¹²¹See Hawaiian Electric's Response to PUC-HECO-IR-135; Hawaiian Electric's Initial Proposal, Attachment 1 at 11.

Given these and other considerations, the Commission determines that a 1:2:3 TOU price ratio for the midday, overnight, and evening peak periods, respectively, as proposed by the DER Parties, is the appropriate ratio to implement at this time. The Commission finds the empirical evidence regarding customer response to various price ratios provided by the DER Parties convincing. As noted above, this TOU price ratio will apply to "upstream" costs not recovered in the Customer Charge and GAC, and includes the relevant surcharges as described below. The Commission concludes that this 1:2:3 ratio will better encourage customer behavior change and will increase the incentive for customers to adopt load-shifting enabling technologies. The Commission also finds that the 1:2:3 ratio largely aligns with the current TOU-RI rate and is directionally aligned with the Consumer Advocate's analysis.

Next Steps

The Commission finds that the construction of time periods established herein generally aligns with system costs as well as the workday, evening, and overnight time periods, and thus should facilitate customer acceptance, ability to respond, and ease of understanding. However, the Commission recognizes the concerns of the Parties that a four-hour peak may cause customers to shift energy usage into the 9 p.m. - 10 p.m. hour,

increasing system needs during that hour. In consideration of this concern, the Commission directs Hawaiian Electric to continuously monitor the impacts of TOU Rates on energy consumption patterns and to report these findings as discussed in the Roadmap, below. The Commission also encourages Hawaiian Electric to use clear and concise terminology for the TOU period definition names (for example, Daytime, Evening Peak, and Overnight as used herein) to help differentiate the new ARD Framework TOU Rates from current optional TOU rates. Hawaiian Electric shall research and develop TOU marketing materials to be used with AMI deployment. Effective TOU marketing and innovative outreach can facilitate ease of understanding for customers. The Commission provides additional details for future marketing, education, and outreach in a later section of this Decision and Order.

4.

Minimum Charge

Context

In Order No. 37066, the Commission identified minimum bills as a topic for consideration and encouraged the Parties to evaluate the benefits and drawbacks of minimum bills in relation to the identified objectives of advanced rates.¹²²

¹²²Order No. 37066 at 16.

Currently, Hawaiian Electric's rate design includes Minimum Charges. Hawaiian Electric notes that its current Minimum Charges are not minimum bills because Minimum Charges do not necessarily represent the absolute minimum amount that a customer would be billed.¹²³ Accordingly, Minimum Charges currently represent the minimum billing amount prior to application of certain surcharges, i.e., the Green Infrastructure Fee. Schedules R, G, and J each currently have Minimum Charges as follows:¹²⁴

Existing Minimum Charge Levels (\$/month)	Schedule R- 1 Phase	Schedule R - 3 Phase	Schedule G - 1 Phase	Schedule G - 3 Phase	Schedule J - 1 Phase	Schedule J - 3 Phase
Oahu	\$25	\$29	\$50	\$78	Customer Charge + Demand Charge	Customer Charge + Demand Charge
Maui	\$25	\$29	\$50	\$68	Customer Charge + Demand Charge	Customer Charge + Demand Charge

¹²³See Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Hawaiian Electric's Responses to PUC-HECO-IR-124, filed on May 5, 2021, ("Hawaiian Electric's Response to PUC-HECO-IR-124").

¹²⁴See generally <https://www.hawaiianelectric.com/billing-and-payment/rates-and-regulations> for rates by schedule and division.

Existing Minimum Charge Levels (\$/month)	Schedule R- 1 Phase	Schedule R - 3 Phase	Schedule G - 1 Phase	Schedule G - 3 Phase	Schedule J - 1 Phase	Schedule J - 3 Phase
Lanai	\$25	\$29.50	\$50	\$65	Customer Charge + Demand Charge	Customer Charge + Demand Charge
Molokai	\$25	\$29.50	\$50	\$61	Customer Charge + Demand Charge	Customer Charge + Demand Charge
Hawaii	\$25	\$29.50	\$50	\$73	Customer Charge + Demand Charge	Customer Charge + Demand Charge

Party Positions

The Parties are not aligned on an approach to Minimum Charges.

Hawaiian Electric: Hawaiian Electric supports maintaining existing billing practices for the Minimum Charge for its proposed advanced TOU rates.¹²⁵ Hawaiian Electric's proposal to maintain existing Minimum Charges includes an exception related to DER customers – Hawaiian Electric proposes to increase the Minimum Charge for residential single-phase customers on

¹²⁵See Hawaiian Electric's Response to PUC-HECO-IR-124.

a DER Program Track tariff to \$40/month.¹²⁶ Hawaiian Electric notes that:

Customers who are able to avoid kWh charges avoid paying for the fixed costs that are included in the schedule's non-fuel energy charge, in addition to avoiding costs for fuel and other surcharges and adjustments charged on a cents/kWh basis. While minimum charges and minimum billing demand quantities can partially offset this, these minimum charges, as currently designed, do not encompass the entire expected cost to serve a customer.¹²⁷

According to Hawaiian Electric, this proposal is based on the need to stand ready to serve DER customers and designed its minimum charge based on customer-related backup demand costs derived from its cost-of-service study.¹²⁸

DER Parties: The DER Parties' proposal states that, "[n]o 'minimum bill' would be required with these [proposed] rates, because all 'costs to connect to the grid' are included in the [GACs]."¹²⁹

Consumer Advocate: The Consumer Advocate does not take a firm position on Minimum Charges or bills in its advanced TOU rate design proposal. However, the Consumer Advocate supports maintaining the Minimum Charge as one component of a customer bill

¹²⁶See Hawaiian Electric's Response to PUC-HECO-IR-133.

¹²⁷Hawaiian Electric's Initial Proposal, Attachment 1 at 21.

¹²⁸Hawaiian Electric's Initial Proposal, Attachment 1 at 21.

¹²⁹DER Parties' Final Proposal, Exhibit E at 33.

to which additional surcharges would be applied.¹³⁰ Additionally, the Consumer Advocate supports consideration of “whether fixed charges, as opposed to a minimum charge, might more transparently convey pricing signals within an advanced rate design framework.”¹³¹

Discussion and Decision

At this time, the Commission does not adopt any changes to Hawaiian Electric’s Minimum Charge.

The Commission agrees with both the DER Parties and the Consumer Advocate that a Minimum Charge is not necessary when charges are in place to sufficiently recover customer-related costs and the cost to interconnect to the grid. However, the Commission notes that the charges intended to recover customer-related costs herein will be refined over time as additional data is provided by deployed advanced meters.

In particular, as established, the GAC will be initially implemented based on derived class average grid access costs for Schedules R and G. In order to fully recover customer-related costs and to serve in conjunction with the customer charge as a

¹³⁰“Division of Consumer Advocacy’s Response to Public Utilities Commission’s Submission of Information Request, Filed on April 21, 2021,” filed on May 5, 2021 (“Consumer Advocate’s Response to PUC-CA-IR-113”).

¹³¹See Consumer Advocate’s Response to PUC-CA-IR-113.

Minimum Charge, the GAC should be applied based on individually metered demand in order to capture both a customer's delivered and received power. However, in the near-term, the GAC for Schedules R and G will be calculated and applied as proposed by the DER Parties on an averaged basis (\$/kW based on average class non-coincident demand). Accordingly, for Schedules R and G, the GAC will appear on customer bills as a fixed charge. In the near-term, the Schedule J GAC will be based on measured monthly received NCP demand. As AMI is deployed and customer-specific metered data become available, the GAC can become more granular and accurate.

Minimum Charges allow the utility to recover customer-related costs when customers consume little or no energy and, therefore, the Commission has determined that maintaining Minimum Charges as established for the time being is appropriate. Thus, the Commission finds that the advanced TOU Rates approved herein shall maintain the existing Minimum Charges for Schedules R, G, and J. The Commission clarifies, however, that the Minimum Charge should not be added to the Customer Charge and GAC. Rather, the Customer Charge and GAC should count towards the existing Minimum Charge. Additionally, Minimum Charges will continue to represent the minimum billing amount prior to application of certain surcharges, i.e., the Green Infrastructure Fee.

The Commission agrees with Hawaiian Electric that customers with generation on existing DER rate schedules may be able to avoid system costs billed on a kWh energy consumption basis; however, the Commission does not approve Hawaiian Electric's proposal to increase the Minimum Charge to Schedule R DER customers. Accordingly, Hawaiian Electric shall, for the time being, maintain existing billing practices for the Minimum Charge.

Next Steps

In the future, the Commission intends to direct Hawaiian Electric to eliminate the Minimum Charge in favor of the combination of the Customer Charge and GAC, and at such time the GAC shall be determined for each customer based on metered demand rather than being determined on a class-average cost basis. Accordingly, Hawaiian Electric should phase out its Minimum Charge and shall address the process and timeline for this phase-out in the ARD Working Group. The ARD Working Group should discuss a timeline and approach for phasing out the Minimum Charge and should identify data and methods necessary to facilitate such a transition. Hawaiian Electric shall continue collecting bi-directional customer metered demand data to facilitate this transition as soon as possible.

Rate Adjustments and Surcharges ("Surcharges")

Context

An important aspect of both the existing rate design and the ARD Framework established herein, is a set of provisions and mechanisms that adjust the amount of collected revenue to match approved accrued amounts and/or collect revenue for specific purposes not otherwise provided for. These mechanisms include the RBA; ARA Provision;¹³² ECRC; PPAC; Integrated Resource Planning Cost Recovery Provision ("IRP/DSM Surcharge");¹³³ Renewable Energy Infrastructure Cost Recovery Provision ("REIP"); Green Infrastructure Fee Surcharge ("GIF"); and the Public Benefits Fee Surcharge ("PBF").

The Commission clarifies that the ARD Framework does not establish any new surcharges to collect revenue for specific

¹³²The "ARA Mechanism" as referred to herein, includes provisions and adjustments in accordance with the predecessor Revenue Adjustment Mechanism Provision ("RAM") and provisions of the ARA Provision tariff for an Earnings Sharing Mechanism and credits for certain capital projects.

¹³³The "IRP/DSM Surcharge" provides for recovery of several surcharge provisions, including (variously for the individual Companies) the Integrated Resource Planning Cost Recovery Adjustment, Residential Demand-Side Management Adjustment, Commercial and Industrial Demand-Side Management Adjustment, SolarSaver Adjustment, Residential Demand Response Adjustment Clause, and Commercial and Industrial Demand Response Adjustment Clause.

purposes, nor does it change the amounts of revenue to ultimately be collected through any existing adjustment mechanism or surcharge. The methods used to determine the amount of revenue to ultimately be recovered, the separate accounting, and the provisions for reconciliation for these mechanisms will remain unchanged. However, as noted more specifically below, under the ARD Framework, several aspects of the *implementation of the recovery of the rate adjustments and surcharges* will change for some of these mechanisms. These changes principally include:

- (1) How the amounts of revenue collected from each individual customer are determined based on customer classification characteristics and individual customer metered usage; and
- (2) How these amounts appear on each customer's bill, including how the various rate adjustments and surcharges are consolidated on customer bill line items.

In other words, the total amounts of revenue collected for each of the rate adjustment and surcharge mechanisms will continue to be reconciled and will ultimately remain unchanged, but the determination of the rates charged to individual customers to accomplish the collection and reconciliation of revenue will change in certain respects.

The Parties' proposals address several aspects of the implementation of rate adjustments and surcharges with varying degrees of specificity, including for each adjustment and surcharge: (1) whether the revenue addressed is primarily

collected in customer, demand, and/or TOU energy block charges, or is primarily collected in a separate line item amount; (2) whether, how, and how often the revenue collection is reconciled to approved amounts; (3) how adjustments and reconciliations are collected on customer bills; and (4) how and how often changes in the adjustments to revenue collection are reflected on customer bills. The Parties' proposals also addressed details regarding implementation for customers on existing rates, as well as the proposed TOU rates.

a.

Treatment of Surcharges

Hawaiian Electric: Hawaiian Electric does not propose including recovery of any surcharges in the TOU block energy charges.¹³⁴ With the exception of the proposed changes to the RBA Provision discussed below, Hawaiian Electric proposes to retain all "existing surcharges and adjustments that impact [its] revenues in their current forms," including the ECRC, PPAC,

¹³⁴The Companies propose including only their Non-Fuel Energy charge in the TOU differentiated block charges. See, e.g., Letter From: D. Matsuura To: Commission Re: Docket No. 2019-0323 - Instituting a Proceeding to Investigate Distributed Energy Resource Policies; Hawaiian Electric's Responses to PUC-HECO-IRs 122 and 123, filed on April 28, 2021 ("Hawaiian Electric's Response to PUC-HECO-___"), at Hawaiian Electric's Response to PUC-HECO-IR-122(d).

IRP/DSM Surcharge, REIP, PBF, and GIF.¹³⁵ Hawaiian Electric notes that the PBF and GIF do not impact its revenue requirements.¹³⁶

Consumer Advocate: The Consumer Advocate notes that the existing cost recovery of most surcharges is based on energy usage, implemented to "provide signals to encourage conservation," but that "changes to surcharge design may be appropriate given the future availability of advanced metering capabilities and the ongoing evolution of the industry."¹³⁷ The Consumer Advocate "proposes that some surcharges can continue to be recovered based on kWh usage and that it may be appropriate for some surcharges [to] be recovered through TOU rates, to the extent that they are driven by energy usage."¹³⁸

The Consumer Advocate "continues to believe that surcharges that support state policy objectives or proposals, such as the PBF and IRP surcharges, should be assessed through a non-bypassable design such as a fixed fee, as is currently done with the [GIF]."¹³⁹ The Consumer Advocate "believes it is

¹³⁵Hawaiian Electric's Initial Proposal, Attachment 1 at 22-23.

¹³⁶See Hawaiian Electric's Initial Proposal, Attachment 1 at 23.

¹³⁷Consumer Advocate's Final Proposal at 17; see Consumer Advocate's Initial Proposal at 24.

¹³⁸Consumer Advocate's Initial Proposal at 10.

¹³⁹Consumer Advocate's Final Proposal at 17.

imperative that surcharges that are not driven by energy usage be converted into non-bypassable charges[]” to ensure that “customers who reduce their consumption still contribute to their share of surcharge costs associated with state policy objectives and goals.”¹⁴⁰

The Consumer Advocate proposes that surcharges should be implemented as percentage changes to other billing components rather than as separate charges as currently implemented.

Instead of the surcharges being collected separately from the rest of the charges on a customer’s bill, the applicable non-fixed components of the customer’s base bill (i.e., the energy charge and demand charge (where applicable)) would be increased on an equal percentage basis to recover the surcharge costs. To the extent that customers enroll in TOU rates or other rate designs, those improved price signals would be reflected in the recovery of the surcharge as well as in the recovery of the base rates. The impact is similar to implementing the percent of bill method in that it maintains the relative differentials between rate components, rather than only increasing the energy charge. However, it differs from the percent of bill method in that it rolls the surcharges in the various rate components, thereby simplifying the customer bill and strengthening the price signals that are communicated to the customer through the various rate components.¹⁴¹

DER Parties: The DER Parties propose applying the surcharge adjustments “uniformly across the customer classes

¹⁴⁰Consumer Advocate’s Final Proposal at 18.

¹⁴¹Consumer Advocate’s Initial Proposal at 25.

and the relevant charges on customers' bills."¹⁴² The DER Parties also propose applying the various individual surcharges to "different relevant cost categories" depending on the nature of each surcharge.¹⁴³ The DER Parties provide the table below, which identifies each surcharge and the corresponding apportionment between customer classes and within customer classes.¹⁴⁴

Adjustment	Acronym	What it Covers	Apportionment Between Classes	Reflection in Rates Within Classes
Revenue Balancing Account	RBA	Revenue deviations from expected (decoupling)	Uniform percentage of all allocated costs	Uniform percentage of all rate elements
Energy Cost Recovery Clause	ECRC	Fuel and variable power costs	Uniform percentage of all allocated power supply costs	Uniform percentage of energy charges in each time period
Purchased Power Adjustment Clause	PPAC	Purchased Power costs, including both capacity and energy payments	Uniform percentage of all allocated power costs	Uniform percentage of energy charges in each time period
Major Project Interim Recovery	MPIR	Recovery of major project costs under PBR	Uniform percentage of related cost categories	Uniform percentage of energy charges in each time period

¹⁴²DER Parties' Initial Proposal at 28.

¹⁴³DER Parties' Initial Proposal at 28.

¹⁴⁴DER Parties' Initial Proposal at 28-29.

Adjustment	Acronym	What it Covers	Apportionment Between Classes	Reflection in Rates Within Classes
Public Benefits Fund	PBF	Cost of energy efficiency and other public benefit programs	Uniform percentage of all allocated costs	Uniform percentage of all rate elements
Integrated Resource Plan	IRP	Cost of compliance with IRP Rule	Uniform percentage of all allocated power supply, transmission, and shared distribution costs	Uniform percentage of energy charges in each time period
Revenue Adjustment Mechanism	RAM	Changes in allowed costs since past rate proceeding	Uniform percentage of all allocated costs	Uniform percentage of all rate elements
Distributed Resource Adjustment Clause	DRAC	Costs for distributed resources approved by PUC	Uniform percentage of all allocated power supply, transmission, and shared distribution costs	Uniform percentage of energy charges in each time period
Renewable Energy Infrastructure	REIP	Renewable infrastructure approved by PUC	Uniform percentage of all allocated power supply costs	Uniform percentage of energy charges in each time period

The DER Parties further propose a two-step application of the surcharges to first apportion revenue amongst customer

classes and then apply the surcharges as percentage adjustments to the applicable cost components within each class.¹⁴⁵

b.

Application of the RBA Rate Adjustment

Context

The principal functions of the RBA are: (1) reconciliation of collection of revenue from customers to match the amounts of approved Target Revenue accrued by the Companies, and (2) implementation of changes to the amounts of Target Revenue accrued by Hawaiian Electric, including implementation of the ARA Provision, PIM Provision and the MPR and EPRM mechanisms, and specific refunds or adjustments explicitly ordered by the Commission. The amount of approved Target Revenue and adjustments to Target Revenue are implemented according to each Company's RBA Provision tariff. The reconciliation and the collection of revenue in accordance with the RBA Provision tariff are implemented through an "RBA Rate Adjustment" for each Company.

In accordance with the RBA Provision tariff for each Company, the RBA Rate Adjustment is implemented as an energy charge as a cents per kWh ("cents/kWh") adjustment applied to

¹⁴⁵DER Parties' Initial Proposal at 26.

all rate schedules. The RBA Rate Adjustment is reset periodically in accordance with the following terms of each Company's RBA Provision tariff:

A Fall Revenue Report will be filed on or before October 31st of each year, and will establish the RBA Rate Adjustment effective January 1st of the following year, and a Spring Revenue Report will be filed on or before March 31st of each year, and will update the RBA Rate Adjustment effective on June 1st of that year to account for changes in Target Revenue approved by the Commission in the Spring Revenue Report.¹⁴⁶

Party Positions

Each of the Parties propose changes to the RBA and the method of applying the RBA Rate Adjustment to customer bills.

Hawaiian Electric: Hawaiian Electric proposes to implement the RBA on a "percentage of base bill basis to all customers" rather than on the cents/kWh energy charge basis as currently implemented.¹⁴⁷ Hawaiian Electric notes that this change was previously proposed in the HECO 2020 test year general rate case and the HELCO 2019 test year general rate case.¹⁴⁸ Hawaiian Electric argues that their proposal would better maintain the intended proportions of existing rate allocation and rate

¹⁴⁶Hawaiian Electric RBA Provision Tariff Revised Sheet No. 92A, effective June 1, 2021.

¹⁴⁷Hawaiian Electric's Initial Proposal, Attachment 1 at 6.

¹⁴⁸Hawaiian Electric's Initial Proposal, Attachment 1 at 21.

design.¹⁴⁹ Hawaiian Electric also argues that the proposed changes would make the RBA non-bypassable, stating that:

When the RBA is applied to a percentage of the base bill, a customer who is assessed a minimum charge contributes some percentage of the minimum charge to the RBA surcharge. As the RBA is intended, in part, to ensure [Hawaiian Electric] recovers its overall revenue requirement to support its fixed investments that all customers have the opportunity to use, all customers should contribute something towards these grid costs and the RBA mechanism should be assessed on a non-bypassable basis.¹⁵⁰

To determine the RBA Rate Adjustment, the Hawaiian Electric proposal uses a "base bill" that includes: the Customer Charge; any Demand Charge; non-fuel Energy Charge; any Service Voltage Adjustment, and Power Factor Adjustment; or, alternately, the Minimum Charge, if applicable.¹⁵¹ In Hawaiian Electric's proposal, the base bill amount would exclude charges for fuel and purchased power expenses collected through the ECRC and PPAC.¹⁵² Hawaiian Electric provides a comparison of the bill impacts of the current and proposed

¹⁴⁹See Hawaiian Electric's Initial Proposal, Attachment 1 at 25.

¹⁵⁰Hawaiian Electric's Initial Proposal, Attachment 1 at 25.

¹⁵¹Hawaiian Electric's Initial Proposal, Attachment 1 at 25.

¹⁵²Hawaiian Electric's Initial Proposal, Attachment 1 at 22; Hawaiian Electric's Response to PUC-HECO-IR-122(f).

implementation of the RBA assuming implementation of other aspects of its proposals.¹⁵³

Hawaiian Electric proposes application of the proposed modifications to the RBA to all customers, including those who are not placed on TOU rates, "at the time of the next tri-Company change to the RBA rate adjustment."¹⁵⁴

DER Parties: The DER Parties propose replacing the existing implementation of the RBA adjustments on a cents/kWh basis by "revising the method of applying RBA adjustments so that the adjustments are allocated in uniform percentages across customer classes, then reflected in uniform percentages across the various rate components in customers' bills."¹⁵⁵ The DER Parties propose that the RBA rate adjustments would not appear as an item on the customer bill.¹⁵⁶ The DER Parties clarify:

As a first step, the RBA Revenues are apportioned between classes on the basis of class non-fuel/purchased power revenues. This ensures

¹⁵³See Hawaiian Electric's Initial Proposal, Attachment 1 at 22 and Exhibit 8. The comparisons assume implementation of the customer charges, demand charges, and TOU block charges proposed by the Companies.

¹⁵⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 22.

¹⁵⁵DER Parties' Initial Proposal at 25-26.

¹⁵⁶"Hawai'i Solar Energy Association's, Hawai'i PV Coalition's, and Distributed Energy Resources Council's Responses to Commission Information Requests: PUC-DER-Parties-IR-106 to -109," filed on May 29, 2021 ("PUC-DER Parties'-IR-____"), at DER Parties' Response to PUC-DER Parties-IR-106(f).

each class is assigned an appropriate share of the RBA adjustment.

Once these RBA revenues are apportioned between the classes, as the second step, a uniform percentage adjustment would be calculated for each class and applied to each rate element.¹⁵⁷

The DER Parties argue that this approach will preserve equity between customer classes, noting that "the current method of applying the adjustments only to energy costs leads to certain customer classes bearing a larger share of the adjustment than others."¹⁵⁸ In support of their approach, the DER Parties provide their analysis comparing differences in inter-class revenue impacts resulting from the existing and proposed methods, and contend that their proposal "maintains the overall structure of rates within the customer classes, including the structure of TOU rates."¹⁵⁹

The DER Parties further argue that RBA charges should not be made non-bypassable, meaning that the charges should not be

¹⁵⁷DER Parties' Response to PUC-DER Parties-IR-107(b) (i). The DER Parties subsequently sought to clarify that their reference to apportioning RBA Revenues between classes on the basis of class non-fuel/purchased power revenues was provided as an example of an alternate cost allocation approach and not as their proposal. "Hawai'i Solar Energy Association's, Hawai'i PV Coalition's, and Distributed Energy Resources Council's Supplemental Responses to Commission Information Requests: PUC-DER Parties-IR-107 and -108; and Certificate of Service," filed on May 20, 2021.

¹⁵⁸DER Parties' Initial Proposal at 26.

¹⁵⁹DER Parties' Initial Proposal at 27.

applied so that "customers would be compelled to pay on their utility bill even if they reduced their usage (whether measured by energy use or 'demand')." ¹⁶⁰

Consumer Advocate: The Consumer Advocate "continues to propose that, instead of being assessed on a \$/kWh basis, RBA revenues be collected by increasing all non-fixed bill components (i.e., \$/kW and \$/kWh charges) by an equal percentage." ¹⁶¹ The Consumer Advocate argues that its proposal would strengthen the price signals associated with the non-fixed rate components consistent with the goals of ARD. ¹⁶² The Consumer Advocate provides an illustrative example of its proposal compared to Hawaiian Electric's proposal, ¹⁶³ and asserts that Hawaiian Electric's "base bill" proposal "appears to place a larger burden on customers with smaller loads" whereas the Consumer Advocate's proposal would allocate a greater share of RBA revenue recovery to customers with larger loads. ¹⁶⁴

The Consumer Advocate "believes it is imperative that surcharges that are not driven by energy usage be converted into

¹⁶⁰DER Parties' Response to PUC-DER Parties-IR-108(a).

¹⁶¹Consumer Advocate's Final Proposal at 18.

¹⁶²Consumer Advocate's Final Proposal at 18.

¹⁶³Consumer Advocate's Final Proposal at 18 (citing its response to HECO-CA-IR-3(b)).

¹⁶⁴Consumer Advocate's Final Proposal at 19.

non-bypassable charges” in order to “ensure that customers who reduce their consumption still contribute to their share of surcharge costs associated with state policy objectives and goals.”¹⁶⁵

Discussion and Decision

All Parties agree that the current method of implementing the RBA Rate Adjustments on a cents/kWh basis should be changed to a method that applies the adjustments based on a percentage of customer bill charges. The Parties’ positions differ, however, regarding which billing components should be included in the base amount to which the percentage adjustment should apply.

The Commission agrees with the Parties that applying the RBA Rate Adjustments on the basis of a percentage of billing components rather than only as a cents/kWh energy charge will better maintain both inter-class revenue allocation and the structure of the rate design in each customer class.¹⁶⁶ Although the Parties propose different methods, all agree and have

¹⁶⁵Consumer Advocate’s Final Proposal at 18. The Commission notes that the Consumer Advocate includes the RBA in its categorization and discussion of surcharges.

¹⁶⁶The terms “class,” “customer class” and “inter-class” refer herein to the categorization of the various tariff rate schedules (e.g., Schedules R, G, J, P, etc.).

demonstrated advantages of applying the RBA adjustments as a percentage of billing determinants that include a scope of charges greater than the current application as energy charges only.

The Commission reviewed the differences and supporting arguments for the various proposals for applying the RBA Rate Adjustment in the Parties' filings.¹⁶⁷ The Commission notes that each of the Parties' proposals regarding application of the RBA Rate Adjustment is premised on the unique characteristics of related aspects of each Party's own proposal. For example, the Parties' proposals and supporting exhibits differ regarding the determination of customer and demand charges, and whether the Target Revenue (to which the RBA applies most directly), ECRC and PPAC revenue, and whether the various surcharges will be included or excluded from the TOU energy charge blocks.¹⁶⁸ The Commission finds it most reasonable to incorporate selected features from each of the Parties' proposals regarding application of the RBA Rate Adjustments in order to be consistent with the overall

¹⁶⁷See Hawaiian Electric's Responses to PUC-HECO-IR-122 and 123; Consumer Advocate's Responses to PUC-CA-IR-106, 107, 109, and 110; DER Parties' Responses to PUC-DER Parties-IR-106, 107, 108, and 109.

¹⁶⁸See Hawaiian Electric's Initial Proposal, Exhibit 8 and subparts, quantifying the impacts of the proposed changes to the implementation of the RBA Rate Adjustment. The exhibit presumes the implementation of the Companies' proposals for customer charge, demand charge and TOU rate structure components.

rate design determinations in this Decision and Order. Several aspects of the Commission's determination regarding the application of the RBA Rate Adjustment on a percentage-of-bill basis are discussed below.

Target Revenue: One category of revenue components that should clearly be subject to adjustment by the RBA Rate Adjustment is Target Revenue. The adjustment of approved Target Revenue and the reconciliation of the collection of Target Revenue accrual are the primary functions of the RBA and are the primary determinants of the RBA Rate Adjustment. Accordingly, billing components that primarily recover Target Revenue (i.e., customer charges, demand charges, non-fuel energy charges, and GACs) should be appropriately included in the basis for percentage adjustment in applying the RBA Rate Adjustment.¹⁶⁹

ECRC: The Parties do not agree on whether ECRC cost should be included in the basis for applying RBA Rate Adjustments (e.g., the Companies' proposal suggests excluding ECRC cost from the "base bill" basis to which the RBA Rate Adjustment would be applied as a percentage adjustment, whereas the Consumer Advocate

¹⁶⁹This is consistent with the proposals by the Companies and the DER Parties. The Consumer Advocate's proposal would exclude customer charges and other charges, such as proposed grid access charges, not applied as kW-determined or kWh-determined charges.

and the DER Parties suggest including ECRC in the basis for the percentage adjustment).

The Commission notes that one of the principal reasons cited by the Parties for supporting changes to the RBA Rate Adjustment is to avoid misapplication of the RBA Rate Adjustment as a cents/kWh energy charge. All of the Parties note that the existing application of the RBA Rate Adjustment as an energy charge has a serious drawback, which results in skewed inter-class revenue allocation and rate design structure.¹⁷⁰ One objective included in each of the proposals is application of the RBA adjustments to better maintain class allocation and intended rate design structure by more appropriate application of the RBA Rate Adjustments. The Commission shares this perspective, and, consistent with the Parties' arguments, the Commission agrees that application of the RBA Rate Adjustment in a manner that is deliberately consistent with the nature of its constituent elements in relation to overall rate design should better maintain the integrity of overall rate design. For example, the Target Revenue adjusted by the RBA Rate Adjustment explicitly excludes ECRC revenue. In this respect, the Commission

¹⁷⁰Since the Target Revenues adjusted and reconciled by the RBA Rate Adjustment are not strongly correlated with or directly dependent upon the amount of energy consumed in the short run, large RBA adjustments in the form of energy charges perturb intended revenue allocation and rate design.

finds that exclusion of ECRC cost from the basis of applying the RBA Rate Adjustment would be consistent with the objective of maintaining intended inter-class revenue allocation and rate design structure.

The Commission also notes that ECRC cost and price adjustments are particularly volatile as these adjustments are directly subject to short term variations in fuel prices, energy generation requirements, and certain purchased power prices. The Commission maintains that stability and consistency in the prices on customer bills is an important consideration and priority. The ECRC requires monthly price adjustments and quarterly reconciliations to which Hawaii customers are generally accustomed. To the extent possible, however, other price determinants appearing on customer bills should be maintained to be stable and adjusted infrequently to the extent possible. Including ECRC costs in the basis for applying RBA Rate Adjustments could result in substantial volatility and excursions in RBA balances unless adjustments were made frequently. Given the considerations presented and reviewed, the Commission finds that it is appropriate to exclude ECRC cost from the basis of applying the RBA Rate Adjustment on a percentage-of-bill basis.

PPAC: The Parties' proposals also differ regarding inclusion of PPAC charges in the basis for applying RBA percentage adjustments (e.g., the Companies' proposal would exclude PPAC

charges, whereas the Consumer Advocate and DER Parties would include PPAC charges). The Commission also notes that, unlike the ECRC costs discussed above, the PPAC expense incurred by Hawaiian Electric is not directly determined by or correlated with the amount of energy purchased or generated in the short term. Additionally, the Commission notes that the PPAC expense is inherently less volatile than the ECRC expense and is accordingly adjusted quarterly rather than monthly.

In the Companies' existing rate design, the PPAC expense is classified as both "energy-related" and (predominantly) "demand-related."¹⁷¹ The Commission notes that from a rate design perspective, PPAC expense more closely resembles the Target Revenue adjusted by the RBA Rate Adjustment than the purely energy-related ECRC expenses. Thus, including PPAC in the basis for application of the RBA percentage adjustment would reasonably maintain intended inter-class and rate design structure.

DER Parties' Proposed Two-Step Process: The DER Parties propose using a two-step process for applying the RBA Rate Adjustment, including an additional initial step to ensure that RBA Rate Adjustments are applied appropriately

¹⁷¹See, e.g., Docket No. 2019-0085, "Hawaiian Electric Company, Inc. 2020 Test Year; Direct Testimonies and Exhibits; Book 10," filed on August 21, 2019; "Hawaiian Electric Company, Inc. 2020 Test Year; Workpapers in Support of Direct Testimonies; Book 8," filed on August 21, 2019.

to each of the rate classes. The Commission notes that several aspects of the proposed changes to the implementation of the RBA Rate Adjustment (e.g., application of the Adjustment on a percentage-of-bill basis) should serve to better maintain intended inter-class revenue allocation. Although the additional step recommended by the DER Parties might, to some extent, better maintain intended interclass revenue allocation, integrating this step would add complication to already substantial changes to the implementation of the RBA Rate Adjustment. Additionally, the Commission notes that some details regarding application of the DER Parties' proposal would have to be resolved to address the specific overall changes to other aspects of the rate designs implemented in this Decision and Order, including the need to apply changes to some, but not all customers in the interim period as the TOU rates are rolled out. For these reasons, the Commission finds that the additional class-allocation adjustment step proposed by the DER Parties should not be adopted at this time.

Bypass: The Parties disagree regarding whether the RBA Rate Adjustment should be amended to be made "non-bypassable." The Commission notes that the ARD Framework will in several respects affect the nature and degree to which RBA Rate Adjustments are bypassable. The existing implementation of the RBA Rate Adjustment, which is based solely on the basis of metered

kWh energy consumption, allows for "bypass" to the extent metered energy consumption is reduced. To address this and other concerns identified throughout this proceeding, the Commission has determined that the RBA Rate Adjustments should be applied on a percentage-of-bill basis (excluding ECRC expense). With this approach, to the extent that certain components of the customer bill are not bypassable (e.g., customer charges, GACs, and some surcharges), the resulting application of the RBA Rate Adjustment will not be bypassable. At this time, the Commission makes no other changes regarding implementation of the RBA Rate Adjustment that are deliberately or explicitly intended to affect the extent to which the implementation of the RBA will be made non-bypassable.

Implementation of Changes to the RBA Rate Adjustment:

The Commission agrees with Hawaiian Electric that the changes to implementation of the RBA Provision tariff to apply the RBA Rate Adjustment on a percentage-of-bill basis approved in this Decision and Order should apply to all customers in all rate classes and should not be limited to implementation for customers placed on TOU Rates.¹⁷² The Commission finds that the changes to the implementation of the RBA Rate Adjustment approved herein do not require new or special metering or metering infrastructure and

¹⁷²Hawaiian Electric's Initial Proposal, Attachment 1 at 22.

thus should be feasible to implement in a timeframe similar to that proposed by Hawaiian Electric.

Billing Presentation: The Commission observes that the Parties' proposals differ in the method of applying the RBA Rate Adjustment to the components on customer bills. Hawaiian Electric proposes to maintain the RBA Rate Adjustment in its existing form as a separate bill line-item adjustment; the RBA Rate Adjustment would appear as one adjustment, calculated as a percentage of the other pertinent billing component amounts. The Consumer Advocate and the DER Parties propose to adjust each of the various billing components by the RBA adjustment percentage.

The Commission finds that the RBA Rate Adjustment should continue to be a single billing adjustment rather than an adjustment to several individual billing components. In this way, for customers on the existing rate design, the changes to the RBA Rate Adjustment can be implemented simply as a new method of determining the amount of the adjustment.

Next Steps

The Commission notes Hawaiian Electric's proposal to implement the change to the application of the RBA Rate Adjustment "at the time of the next tri-Company change to the RBA rate

adjustment”¹⁷³ which, at the time of filing of Hawaiian Electric’s Initial Proposal, would have been June 1, 2021.¹⁷⁴ Accordingly, the changes to the RBA Rate Adjustment shall be made effective for all customers at the time of the next scheduled change to the RBA Rate Adjustment for which the required changes are feasible.

c.

ARA Provision, PIM Provision, and EPRM Revenue Adjustments

The ARA Provision,¹⁷⁵ the PIM Provision, the EPRM (including its predecessor MPIR) Provision, as well as specifically ordered refunds or adjustments to Target Revenue, (collectively in this section “Provisions”), are all implemented through the RBA tariff. The amounts of the adjustments to allowed accrual of revenue resulting from each of these Provisions are determined in accordance with the specification of each of the Provisions’ tariffs, but all are implemented as adjustments to allowed Target Revenue in accordance with and through the operative function of the RBA tariff. Similarly, the reconciliation and collection of revenue adjustments for each of these Provisions is

¹⁷³Hawaiian Electric’s Initial Proposal, Attachment 1 at 22.

¹⁷⁴Hawaiian Electric’s Initial Proposal, Attachment 1 at 22.

¹⁷⁵The Commission notes the ARA Provision inclusively addresses the predecessor Rate Adjustment Mechanism and includes several provisions such as an Earnings Sharing Mechanism and provisions for credits for certain capital projects.

governed by the RBA tariff and collected and/or adjusted through the RBA Rate Adjustment.

The Parties' proposals differ in certain respects regarding whether the principal collection of Target Revenue governed by these Provisions should be included in TOU-differentiated energy block charges versus customer, demand charges or GACs, or as separate line-item charges, but none of the Parties propose explicit changes to the operation of these Provisions except as reflected in the proposed changes to the RBA discussed above.

In the ARD Framework, the primary collection of Target Revenues shall be through the TOU energy block charges, as adjusted periodically by these Provisions. These adjustments to approved accrual of Target Revenue and the reconciliation and collection of revenue adjustments in accordance with these Provisions shall remain governed by and implemented through the RBA tariff.¹⁷⁶

The ARA Provision, PIM Provision and EPRM Provision shall remain unchanged by the ARD Framework in all respects except as reflected in the changes to the operation of the RBA tariff ordered herein.

¹⁷⁶Please refer to the ECRC and Bill Presentation sections for additional information on annual rate component adjustments and more frequent reconciliations.

d.

ECRC Collection, Adjustment, and Reconciliation

Context

The Commission notes that the costs of fuel used in utility generation and energy purchased from independent power producers ("IPPs") on a per-kWh energy charge basis are currently recovered through the ECRC. The ECRC is implemented as a line-item charge on customer bills. Adjustments to the ECRC charges on customer bills for changes in fuel price are made monthly. Adjustments for reconciliation of collected revenues to match accrued revenues and adjustments for heat rate and risk sharing provisions are made quarterly and are reconciled annually.

Party Positions

Hawaiian Electric: Hawaiian Electric does not propose any changes to the ECRC.¹⁷⁷ Unlike the other Parties, Hawaiian Electric does not propose including recovery of ECRC Revenue in the TOU block energy charges. More generally, with the exception of the proposed changes to the RBA Provision discussed above, Hawaiian Electric proposes to retain all

¹⁷⁷See Hawaiian Electric's Initial Proposal, Attachment 1 at 22.

“existing surcharges and adjustments that impact [its] revenues in their current forms” including the ECRC.¹⁷⁸

DER Parties: The DER Parties propose collection of ECRC revenue through the TOU block energy prices, allocated to three time block charges using a 1:2:3 price ratio. Adjustments and reconciliation of ECRC revenue amounts would be implemented as adjustments to the TOU energy block prices.¹⁷⁹

Consumer Advocate: The Consumer Advocate proposes collection of ECRC revenue through the TOU block energy charges, allocated to each of two time block charges according to an analysis of marginal energy generation cost.¹⁸⁰ Adjustments and reconciliation of ECRC revenue amounts would be implemented as adjustments to the TOU energy block prices, rather than as a line item adjustment.¹⁸¹

Discussion and Decision

As determined above, the Commission affirms that the ARD Framework will institute primary recovery of ECRC revenue through the TOU block energy charges. Regarding the implementation of the RBA, the Commission notes that ECRC revenue is volatile,

¹⁷⁸Hawaiian Electric’s Initial Proposal, Attachment 1 at 22.

¹⁷⁹See DER Parties’ Initial Proposal at 28-29.

¹⁸⁰See Consumer Advocate’s Final Proposal at 8-13.

¹⁸¹See Consumer Advocate’s Initial Proposal at 25.

requiring substantial monthly price adjustments and quarterly reconciliations. Thus, the Commission does not agree with the Consumer Advocate or DER Parties that such frequent substantial rate adjustments and reconciliations should be implemented as percentage adjustments to the TOU block energy charges. The Commission believes that stability of the TOU block energy prices is an important concern and finds that the appropriate approach at this time is to require TOU block energy prices to be adjusted annually, with the more frequent necessary ECRC adjustments implemented through a separate line-item adjustment on customer bills.

The annual TOU block energy price adjustment should reflect a calendar year period and should occur at the beginning of the year. The Commission understands that some of the information necessary to adjust the TOU block energy prices will be available by January 1st annually, but that other information will not be available until the following month. Additionally, the Commission recognizes that some time is necessary to update the Companies' billing systems to reflect changes to the TOU block energy prices. For that reason, the Commission requests that the Companies propose a prompt and feasible timeline for annual adjustments to the TOU block energy prices to take effect in an ARD Compliance Filing which shall be filed 90 calendar days following the issuance of this Decision and Order.

The Commission finds that the ARD Framework will allow the ECRC mechanism to continue to function as currently configured with monthly fuel price adjustments, quarterly adjustments and reconciliations, heat rate (with deadband) calculations, and fuel price risk-sharing adjustments. For customers on the TOU tariff structure, ECRC revenues will be collected and presented on customer bills according to a new billing format, which will not change the amount being collected. The Commission reiterates that for TOU customers, the primary collection of ECRC revenue will be as one component of the TOU block energy charges, allocated to TOU blocks reflecting a 1:2:3 price ratio.

The Commission clarifies that for customers on the existing rate design structure, there will be no changes to the ECRC mechanism. The collection, monthly adjustment, and quarterly and annual reconciliation of ECRC revenues will remain unchanged.

Under the ARD Framework, the ECRC expense recovered through the TOU block energy charges will be determined by prices, for each TOU block, that will remain constant for a one-year period until changed by an annual readjustment, unless otherwise changed for exceptional circumstances by order of the Commission.

For customers on TOU Rates, Hawaiian Electric shall make the ECRC adjustments as incremental adjustments in a Fuel Price and Purchased Energy Adjustment. ECRC adjustments shall be applied as equal percentage adjustments to the TOU block energy charge

prices (i.e., in a 1:2:3 ratio for the three TOU energy blocks). Hawaiian Electric shall adjust the Fuel Price and Purchased Energy Adjustment charge prices monthly, with quarterly reconciliations (consistent with current practice and in conjunction with equivalent adjustment for customers on the existing rate structure), and these shall be reset annually during the TOU block price reset. As noted above, the Commission finds that the TOU block energy prices shall be adjusted annually. This adjustment will incorporate any cumulative adjustments and reconciliations of the ECRC and update the annual fuel prices used in the ECRC risk-sharing mechanism. The Commission notes that the amount of the adjustments in the Fuel Price and Purchased Power Adjustment will be expected to be reduced substantially by annual incorporation of accumulated adjustments into the TOU energy block charges.

e.

PPAC Collection, Adjustment and Reconciliation

Context

The Commission observes that the costs of power purchased from IPPs that are not purchased by Hawaiian Electric on a per-kWh energy charge basis, are currently recovered through the PPAC. The PPAC is implemented as a line-item charge on customer bills. Adjustments to the PPAC charges on customer bills for

changes in utility costs and reconciliation of collected revenues to match accrued revenues, are made quarterly.

Party Positions

Hawaiian Electric: Hawaiian Electric does not propose any changes to the PPAC.¹⁸² Unlike the other Parties, Hawaiian Electric does not propose including recovery of PPAC Revenue in the TOU block energy charges.

DER Parties: The DER Parties propose recovery of PPAC costs through TOU energy block charges, allocated to the three proposed time blocks on a 1:2:3 price ratio. The DER Parties suggest that adjustments to and reconciliation of revenues be applied as adjustments to the TOU energy block charges as equal percentage price changes.¹⁸³

Consumer Advocate: The Consumer Advocate proposes recovery of PPAC costs through the TOU energy block charges. The Consumer Advocate suggests that quarterly adjustments to and reconciliation of PPAC revenue be applied as adjustments to the TOU energy block prices.¹⁸⁴

¹⁸²Hawaiian Electric's Initial Proposal, Attachment 1 at 25.

¹⁸³DER Parties' Initial Proposal at 28.

¹⁸⁴Consumer Advocate's Response to PUC-CA-IR-106.

Discussion and Decision

The Commission reiterates that under the ARD Framework, the primary recovery of PPAC revenue will be through the TOU energy block charges. As was determined for the ECRC, the Commission finds that adjustment and reconciliation of the PPAC should be implemented through a line-item adjustment rather than as percentage adjustments to other billing components, as proposed by the Consumer Advocate and the DER Parties. The Commission notes that the PPAC is substantially less volatile than the ECRC, which the Commission observes is reflected in the current implementation (i.e., with quarterly adjustments rather than monthly adjustments required for the ECRC). Upon review of the Parties' Proposals, the Commission finds that the recovery of adjustments and reconciliation of the PPAC is appropriately implemented as one component of the quarterly-adjusted Surcharge and Reconciliation Adjustment.

To conform with this determined approach, the Commission directs that the PPAC mechanism shall continue to function as currently configured, except that, for customers on the TOU tariff structure, PPAC revenues will be collected and presented on customer bills according to a new billing format, which will not change the amount being collected. For customers on the existing rate design structure, there will be no changes to the PPAC

mechanism, and the collection and quarterly adjustment and reconciliation of PPAC revenues will remain unchanged.

For customers on the TOU Rate structure, the primary collection of PPAC revenue will comprise one component of the TOU block energy charges, allocated to TOU blocks according to a 1:2:3 price ratio. The PPAC expense recovered through the TOU block energy charges will be included as a component of prices, for each TOU block, that will remain constant for a one-year period. The quarterly adjustments and reconciliation of PPAC revenue will function according to existing PPAC tariffs except that the adjustments will be reflected on TOU customer bills according to a new billing format, which will not change the amount being collected. The PPAC adjustments will be made as one component of a Surcharge and Reconciliation Adjustment which will be adjusted quarterly. The amount of the current period PPAC adjustment will be indicated on the customer bill in a detail of the Surcharge and Reconciliation Adjustment components.

f.

Other Surcharges

Context

The Commission notes that in addition to the rate adjustments and surcharges addressed specifically above, the Parties' proposals address several additional adjustments and

surcharges, including the IRP/DSM Surcharge, REIP, GIF and PBF, as well as bill adjustments applicable to certain customer rate schedules, such as the Service Voltage Adjustment and Power Factor Adjustment.

Party Positions

Hawaiian Electric: Hawaiian Electric does not propose including recovery of any surcharges in the TOU block energy charges and, with the exception of proposed changes to the RBA, proposes to retain existing surcharges in their current forms, including the IRP/DSM Surcharge, REIP, PBF, and GIF.¹⁸⁵ Hawaiian Electric notes that the PBF and GIF do not impact its revenue requirements.¹⁸⁶

DER Parties: The DER Parties propose recovering the revenues for all of the surcharges through the TOU block energy charges and applying the surcharge adjustments “uniformly across the customer classes and the relevant charges on customers’ bills.”¹⁸⁷ The DER Parties propose applying the various individual surcharges to “different relevant cost categories” depending on

¹⁸⁵Hawaiian Electric’s Initial Proposal, Attachment 1 at 25-26.

¹⁸⁶See Hawaiian Electric’s Initial Proposal, Attachment 1 at 26.

¹⁸⁷DER Parties’ Initial Proposal at 28.

the nature of each surcharge.¹⁸⁸ After uniform allocation to each rate class, the DER Parties propose implementing the adjustments to the PBF as a uniform percentage of all rate elements and implementing the adjustments to the IRP/DSM Surcharge and the REIP as a uniform percentage of the TOU energy charges in each block.¹⁸⁹

Consumer Advocate: The Consumer Advocate “proposes that some surcharges can continue to be recovered based on kWh usage and that it may be appropriate for some surcharges [to] be recovered through TOU rates, to the extent that they are driven by energy usage.”¹⁹⁰ The Consumer Advocate proposes that surcharges that support state policy objectives or proposals, such as the PBF and IRP surcharges, should be assessed through a non-bypassable design such as a fixed fee.¹⁹¹ The Consumer Advocate proposes that surcharges should be implemented as percentage changes to other billing components rather than as separate charges, as currently implemented.¹⁹²

¹⁸⁸DER Parties’ Initial Proposal at 28.

¹⁸⁹See DER Parties’ Initial Proposal at 28-29.

¹⁹⁰Consumer Advocate’s Initial Proposal at 10.

¹⁹¹See Consumer Advocate’s Final Proposal at 17.

¹⁹²See Consumer Advocate’s Initial Proposal at 25.

Discussion and Decision

As determined above, the primary recovery of utility revenue governed by the RBA, ECRC, and PPAC surcharges for customers on the TOU rate structure, will be through annually adjusted TOU block energy charges, with interim adjustments and reconciliation of surcharges implemented through consolidated line-item adjustments on customer bills.¹⁹³ The Commission believes that to the extent feasible, this approach is also appropriate for the IRP/DSM Surcharge and REIP. The PBF and GIF surcharges, which do not recover utility costs, shall continue with both collection of primary revenue, adjustments, and reconciliation through line-item charges on customer bills.

All of the surcharges addressed in this section shall remain unchanged in accounting and function, except that for customers on TOU Rates, the surcharges will be presented on customer bills according to a new billing format, which will not change the amount being collected.

IRP/DSM Surcharge and REIP: The IRP/DSM Surcharge and REIP shall continue to function as currently configured,

¹⁹³Annual adjustments are intended to incorporate changes that have occurred over the prior year into the relevant rate component's base amount on the main section of the customer bill, whereas quarterly or monthly reconciliations adjust rate component prices on a more frequent basis to allow for reconciliation of collected revenue and true-ups of forecasted prices for the rate components.

except that, for customers on the TOU tariff structure, the revenues recovered by these surcharges will be collected and presented differently on customer bills. For customers on the existing rate design structure, as implemented specifically for each Company, there will be no changes; the collection and periodic adjustment and reconciliation revenues will remain unchanged.

For customers on the TOU rate structure, the primary collection of revenue for these surcharges shall be as one component of the TOU block energy charges, allocated to TOU block energy charges according to a 1:2:3 price ratio. The component prices for the IRP/DSM Surcharge and REIP in the main TOU block energy charges will typically remain constant for a one-year period, and shall be adjusted annually at the beginning of each calendar year.¹⁹⁴ In addition, the adjustments and reconciliation of these surcharge revenues will function according to the existing tariffs for each surcharge, except that the adjustments will be reflected collectively as one component of a Surcharge and Reconciliation Adjustment, which will be adjusted

¹⁹⁴As noted above, the Commission understands that some of the information necessary to adjust the TOU block energy prices will be available by January 1st annually, but that other information will not be available until the following month. Additionally, the Commission understands that some time is necessary to update the Companies' billing systems to reflect such changes. For that reason, the Commission requests that the Companies propose a prompt and feasible timeline for annual adjustments to the TOU block energy prices to take effect in the ARD Compliance Filing.

quarterly. The amount of the monthly current period IRP/DSM Surcharge and REIP will be indicated on customer bills in a detail of the Surcharge and Reconciliation Adjustment components.

PBF and GIF: The PBF and GIF surcharges shall remain unchanged except that for customers on the TOU rate structure, the revenue for these surcharges shall be recovered and appear on the customer bill as individual components of a Surcharges and Reconciliation Adjustment. Adjustments and reconciliation shall be implemented as currently provided and shall appear on the customer bill as necessary as part of the quarterly adjustments to the Surcharge and Reconciliation Adjustment.

Rate Schedule Adjustments: The existing rate schedules provide for billing adjustments for several aspects of service provided, including single versus three-phase service, service voltage, and metered power factor. These adjustments shall continue to be calculated for each customer in accordance with current practice. For customers on the TOU rate structure, such adjustments shall appear on the customer bill as components of the Surcharge and Reconciliations Adjustment, with the current period amount for each adjustment identified in a separate detail.

The Structure and Design of the Customer Bill

The Commission finds that the design and appearance of the customer bill is an important aspect of an effective implementation of ARD. The Commission believes that Hawaiian Electric should invest appropriate attention and resources, including assistance from experts, as necessary, to design customer bills that effectively communicate the TOU rate design so that customers can understand how their bills are affected by consumption patterns and understand what changes in the amount and timing of consumption can be made to affect bills. As stated by the DER Parties, regardless of the complexities necessary in the calculation of billing amounts, the customer bill "should be designed to be simple, understandable, and actionable for consumers."¹⁹⁵

The Commission offers guidance for certain aspects of the design and appearance of the customer bill, including threshold requirements regarding how various components of customer charges and rate adjustments shall be determined, consolidated for presentation, and periodically adjusted.

The Commission finds that customer bills should be simple in order to facilitate customer understanding of how to

¹⁹⁵DER Parties' Response to PUC-DER Parties-IR-106(a).

manage their bills. In this regard, the Commission offers for consideration, a sample depiction of customer bill presentation using the ARD Framework established herein. The Commission encourages further refinement of this bill presentation with input from the Working Group. Hawaiian Electric may request exceptions to the bill design and appearance requirements specified herein. Any proposed exceptions shall include presentation of and support for specific and detailed bill design proposals.

Current Charges	Charge Amount	Charge Units	Amount Assessed in Current Billing Period	Amount Billed	
Base Bill					
Customer Charge	\$ 11.50	\$/Month		\$ 11.50	Constant until adjusted by order
Grid Access Charge	\$ 8.47	\$/Month		\$ 8.47	Constant until adjusted by order
On-Peak Energy Charge	33.60	cents/kWh	125	\$ 42.09	TOU block prices adjusted once annually.
Mid-Day Energy Charge	11.20	cents/kWh	94	\$ 10.52	
Off-Peak Energy Charge	22.40	cents/kWh	236	\$ 52.83	
Total Energy Used		kWh	455		
Adjustments and Surcharges					
Fuel Price and Purchased Energy Adjustment (ECRC)		See Detail		\$ 5.42	Calculated monthly per Detail
Surcharge and Reconciliation Adjustments		See Detail		\$ 5.02	Calculated monthly per Detail
Total Bill					
Total Bill				\$ 135.84	

The numbers included in this sample bill are for illustrative purposes only and are not intended to be indicative of any specific rate amounts.

The two major objectives of this sample bill presentation are simplicity and constancy. It includes five main line items that are individually presented: the customer charge, GAC, and three TOU energy charge blocks. This bill presentation aims to provide a clear indication of the TOU block structure

pricing and corresponding customer use and charges. Towards the objectives of constancy, the five main line-item prices would be changed infrequently. In order to allow these prices to remain relatively constant over time, at least two adjustment lines will be necessary, including the ECRC, and an adjustment line for other surcharges and adjustments.

In considering the various necessary rate adjustments and surcharges and the need for reconciliation of collected revenues to match approved accrued revenue amounts, the Commission is mindful of the need for customer bill charges and determinant prices to be as stable and consistent as possible. To the extent possible, changes in billing charges or energy prices should be minimized to prevent customer confusion and alarm. This is especially true when encouraging customers to reduce bills by taking actions based on rate design and Hawaiian Electric's educational and marketing campaigns that provide enhanced bill information. The intended result of bill design and educational and marketing campaigns is to provide customers with clear information, using plain language, to provide a comprehensible basis for informed customer decisions. Accordingly, the Commission is providing for consolidation of rate adjustments to provide for simple presentation and stable, infrequently adjusted base energy charges and energy block prices.

Consistent with the TOU rate designs approved in this ARD Framework, customer bills should have a "main" section of the customer bill that shows the total current month billing charges as a sum of a minimal number of line-item components, including the monthly customer charge, the monthly GAC and three lines showing the energy consumption, energy price, and billing amounts for each of the three TOU-determined energy block charges. Each line should identify the units used for the expression of the reported consumption and prices. This bill presentation is consistent with the example bill structure proposed by the DER Parties and the Consumer Advocate.¹⁹⁶

In addition to these five lines there should be two adjustment amounts expressed as single line items: one line for the ECRC, which will include adjustments to the main ECRC component collected through the TOU-determined energy charges; and one line for a Surcharge and Reconciliations Adjustment, which will include the necessary adjustments to the amounts of the surcharges collected primarily through the TOU energy block charges (e.g., PPAC, IRP, and REIP) and the collection of revenues not otherwise recovered (e.g., RBA Reconciliation, ARA, PIMs, EPRM, GIF, and PBF). In addition to providing these two adjustment amounts on the main bill section, there shall be a

¹⁹⁶Consumer Advocate's Response to PUC-CA-IR-106(d).

bill detail section which identifies the components and calculation of each adjustment. The Fuel Price and Purchased Energy Adjustment detail should show the amount of energy consumed in each TOU block, the price adjustment for each block, and the amount of the adjustment for each block. The Surcharge and Reconciliation Adjustment detail should list the various component adjustments and the amount of adjustment for each component.

The Commission offers for consideration, a sample depiction of the additional detail portion of the customer bill presentation using the ARD Framework established herein. The Commission encourages further refinement of this bill presentation with input from the Working Group, and, following such refinement, Hawaiian Electric may request such exceptions to the bill design and appearance requirements specified herein in conjunction with presentation and support for superior, specific, and detailed bill design and presentation proposals.

Adjustments and Surcharges Detail						
Fuel Price and Purchased Energy Adjustment (ECRC)			kWh	Amount Billed		
On-Peak	1.730	cents/kWh	125	\$	2.17	Prices changed monthly to reflect ECRC price difference from ECRC component of TOU block prices.
Mid-Day	0.580	cents/kWh	94	\$	0.54	
Off-Peak	1.150	cents/kWh	236	\$	2.71	
Total Fuel and Purchased Energy Adjustment				\$	5.42	
Surcharge and Reconciliation Adjustments						
Reconciliation Adjustments			kWh	Amount Billed		
RBA Rate Adjustment	Based on percentage of bill amount					
RBA Reconciliation				\$	(0.56)	Amounts calculated as percentage of each customer monthly bill based on current RBA Rate Adjustment.
ARA				\$	0.42	
PIMs				\$	0.30	
EPRM				\$	0.12	
Purchased Capacity (PPAC)	0.121	cents/kWh	455	\$	0.55	Rates changed with tariff adjustments (generally quarterly) to reflect difference from amounts included in TOU block prices.
IRP	0.016	cents/kWh	455	\$	0.07	
REIP	0.002	cents/kWh	455	\$	0.01	
DRAC	(0.005)	cents/kWh	455	\$	(0.02)	
Surcharges						
Green Infrastructure Fee	Monthly amount			\$	1.18	Reflects full current tariff rate.
Public Benefits Fee	0.649	cents/kWh	455	\$	2.95	Reflects full current tariff rate.
Total Surcharge and Reconciliation Adjustment				\$	5.02	

The numbers included in this sample bill are for illustrative purposes only and are not intended to be indicative of any specific rate amounts.

The customer charge and the GAC should remain constant until changed by order of the Commission. The prices for each of the TOU energy blocks on the main section of the bill should remain constant until changed by the annual readjustment (i.e., for one year), unless otherwise changed for exceptional circumstances by Commission order.

The annual TOU block energy price adjustment would reflect the annual ARA revenue increment and other adjustments to Target Revenue resulting from the PBR Fall Revenue Report that are

feasible to incorporate in TOU block charges.¹⁹⁷ The annual adjustment would also incorporate any cumulative adjustments and reconciliations of the ECRC, PPAC, and surcharges, and update the January fuel prices used in the ECRC risk-sharing mechanism. The amount of the adjustments in the Fuel Price and Purchased Power Adjustment and the Surcharge and Reconciliation Adjustments would be expected to be reduced by incorporation of accumulated adjustments into the TOU energy block charges.

The changes to the RBA Rate Adjustment resulting from the PBR Spring Revenue Report would be applied as a component of the Surcharges and Reconciliation Adjustment bill adjustment line-item effective June 1 until the next annual TOU block price reset.¹⁹⁸

The ECRC charge prices would be adjusted monthly, with quarterly reconciliations (consistent with current practice and in conjunction with equivalent adjustment for customers on the

¹⁹⁷Certain components of the Target Revenue may not be feasible to incorporate into the TOU energy block charges considering the need to implement both the existing rate structure and TOU rate structure during the rollout of TOU rates. For example, existing rates for Hawaiian Electric include substantial amounts of revenue from accumulated RAM Adjustments that were not incorporated into class rate schedules in the 2020 test year rate case.

¹⁹⁸In order to maintain TOU block energy prices unchanged for a one-year period, changes to the RBA Rate Adjustment will be incorporated in the TOU block energy prices only at the time of the annual adjustment.

existing rate structure) and would be reset annually in the TOU block price reset. The Surcharge and Reconciliation Adjustments would be adjusted and reconciled quarterly (consistent with current practice for each component surcharge and in conjunction with equivalent adjustment for customers on the existing rate structure). Further details regarding the rate adjustments, and the collection and reconciliation of surcharges, is provided in the surcharge discussion above.

C.

Customer Segment-Specific Rates

1.

LMI Considerations

Context

The Commission has emphasized the need to support LMI customers and established primary objectives for the Rate Design Track of this proceeding of addressing challenges faced by LMI customers and facilitating customer equity.¹⁹⁹ Additionally, the Commission asked Parties to comment on the merits and feasibility of pursuing a subsidized rate for LMI customers, including implementation details of such a rate option.²⁰⁰

¹⁹⁹Decision and Order No. 37066 at 16.

²⁰⁰ARD Initial Guidance at 5.

The Commission notes that the ongoing COVID-19 pandemic and rising energy prices globally have significantly exacerbated challenges for LMI customers and continues to support exploring and implementing timely solutions to reducing customer energy burdens and ensuring energy affordability for customers across Hawaii.

Party Positions

Consumer Advocate: The Consumer Advocate states that “[m]oving toward a cost-based TOU rate will provide more efficient price signals that benefit all customers in the long run, including LMI customers, by reducing the need for additional utility investments.”²⁰¹ The Consumer Advocate also notes bill protection, targeted marketing and education, and assistance programs funded from outside sources to ensure that LMI customers have opportunities to be successful on TOU rates and otherwise.²⁰² The Consumer Advocate also emphasizes the need to assess the impacts of TOU rates on LMI customers in order to understand whether exemptions from TOU enrollment or certain surcharges may be appropriate.²⁰³

DER Parties: The DER Parties offer eight proposals for supporting LMI customers, noting that “LMI customers

²⁰¹Consumer Advocate’s Initial Proposal at 17.

²⁰²Consumer Advocate’s Initial Proposal at 17-21.

²⁰³Consumer Advocate’s Final Proposal at 19.

should be empowered with a full range of options to manage their bills, including rate design, energy efficiency, demand response, and distributed or community solar.”²⁰⁴ In particular, the DER Parties note that TOU rates can be beneficial for LMI customers, that safeguards like shadow billing and partial bill protection are important, and that separating single- and multi-family residential customers into different classes may benefit LMI customers.²⁰⁵ The DER Parties offer a proposal to transition multi-family customers to a default, opt-out fixed per-kWh rate with an additional discount for controllable water heating.²⁰⁶

Hawaiian Electric: Hawaiian Electric states that it has and will remain committed to seeking viable options that take the unique concerns of LMI customers into consideration, noting that LMI customers first should not be subsidizing other customers and that some level of rate subsidy may be appropriate.²⁰⁷ Hawaiian Electric proposes improvements to current programs and

²⁰⁴DER Parties’ Initial Proposal at 20.

²⁰⁵DER Parties’ Initial Proposal at 20-21.

²⁰⁶DER Parties’ Initial Proposal at 20-24.

²⁰⁷Hawaiian Electric’s Initial Proposal at 5.

also provides an “illustrative assessment” of how a rate subsidy program for LMI customers may function.²⁰⁸

Discussion and Decision

The Commission appreciates the Parties’ efforts to collectively address rate design options for LMI customers. The Commission affirms that options to foster and maintain electricity affordability should include a range of solutions from which customers may choose. The filings and discussions in this proceeding reveal that determining whether a separate rate design option for LMI customers is appropriate will require additional information collection and review. In acknowledgement of this important topic and the depth of review necessary to inform decision-making on the matter, the Commission determines that ARD options for LMI customers should be addressed in future ARD Working Group discussions or other proceedings, where pricing and programmatic solutions for LMI customers can be investigated more comprehensively. Further, the Commission notes that Senate Concurrent Resolution No. 48, Senate Draft 1, was adopted by the Hawaii State Legislature on April 19, 2022, which requests that the Commission, in consultation with the Consumer Advocate, consider efforts to mitigate high energy

²⁰⁸Hawaiian Electric’s Final Proposal at 7-10.

burdens for low- and moderate-income customers and investigate how to integrate considerations of energy equity and justice across its work.²⁰⁹

The Commission finds that the shared goal of addressing concerns for LMI customers is crosscutting and welcomes reconfiguration of the ARD Working Group Process to ensure a comprehensive approach to addressing LMI customer considerations is undertaken. The ARD Framework, while prescriptive, is designed to readily accommodate new information in a manner that encourages iterative decision-making.

2.

Electric Vehicle ("EV") Rates

Context

As established in Order No. 37066, the Commission views updating rates for EVs as a primary objective of ARD.²¹⁰ EV adoption is expected to grow significantly across the Hawaiian Electric territories in the coming years. For example, Hawaiian Electric is planning for a possible policy scenario of a

²⁰⁹https://www.capitol.hawaii.gov/measure_indiv.aspx?billtype=SCR&billnumber=48&year=2022.

²¹⁰Order No. 37066 at 16.

100% zero-emissions-vehicles mandate by 2045.²¹¹ It is critical that EV customers are provided efficient price signals to align charging with off-peak periods, as evidenced by analysis showing that managed charging via rate design can flatten EV load significantly.²¹²

Currently, residential EV customers are on Hawaiian Electric's residential TOU-EV rate (which is closed to new customers), the residential interim TOU rate (TOU-RI), or Schedule R. Commercial customers have a variety of EV charging rate options depending on customer sub-types, including recently approved TOU EV rates for Schedules J and P.²¹³

Party Positions

Hawaiian Electric: Regarding EV TOU rates, Hawaiian Electric "believes that its residential TOU rate would support residential electric vehicle charging," and offers that "[a]dditional rate offerings to support EV charging may be taken

²¹¹See Docket No. 2018-0165, Letter From: M. Asano To: Commission Re: Docket No. 2018-0165, Instituting a Proceeding to Investigate Integrated Grid Planning Hawaiian Electric Revision to Updated and Revised Inputs and Assumptions, filed on August 19, 2021 ("IGP Inputs and Assumptions"), at 58.

²¹²See IGP Inputs and Assumptions at 58.

²¹³See Docket No. 2020-0152, Decision, and Order No. 38157, filed on December 30, 2021 ("D&O No. 38157").

up in separate dockets, such as the EV-J and EV-P proceeding to support rates for commercial EV charging.”²¹⁴

DER Parties: The DER Parties suggest that separate TOU and EV rates are unnecessary and propose that “TOU rates for residential and commercial customers can fully and fairly function as the EV charging rate.”²¹⁵

Consumer Advocate: The Consumer Advocate recommends that TOU rates established in this Decision and Order also apply to residential customers with EVs. Regarding commercial EV rates, the Consumer Advocate states, “[i]n order to determine whether separate EV rates for commercial locations are necessary in the future, the Companies should track the number of commercial customers hosting EV charging stations enrolled under the new TOU rates in comparison to participation under the dedicated EV commercial rates.”²¹⁶

Discussion and Decision

The Commission notes substantial Party alignment on EV rates. In particular, Parties agree that advanced EV rate design for commercial customers is being implemented or is under consideration in other proceedings and is not ripe for

²¹⁴Hawaiian Electric’s Initial Proposal, Attachment 1 at 24.

²¹⁵DER Parties’ Initial Proposal at 25.

²¹⁶Consumer Advocate’s Final Proposal at 22-23.

decision-making in the instant docket.²¹⁷ The Commission agrees with Parties that commercial rate design should be addressed in other proceedings at this time, but notes that Hawaiian Electric has been directed to analyze alignment of Schedules TOU-J and TOU-P commercial EV pilot rates with the findings of this proceeding in its annual pilot report.²¹⁸ The ARD Working Group should monitor results from this analysis to inform any future necessary next steps.

The Commission agrees with Parties that residential EV rates should be aligned with residential whole-home TOU rates established herein. The Commission finds that this approach facilitates simplicity and customer understanding, and generally aligns with system needs. The Commission notes, however, that it is critical that Hawaiian Electric consider residential EV sales in its calculations of the new residential TOU rate to appropriately ensure revenue-neutrality and efficient price signals.

Next Steps

Hawaiian Electric should propose a process and timeline for marketing and enrolling residential customers in the TOU rate

²¹⁷See, e.g., Docket Nos. 2018-0135, 2020-0098, 2020-0152, and 2021-0173.

²¹⁸See D&O No. 38157 at 40.

established herein for review by the Commission and stakeholders within the ARD Compliance Filing. Hawaiian Electric should also notify all customers on the Residential TOU EV Pilot, as soon as practicable that Hawaiian Electric is currently in the process of designing new TOU rates and that TOU EV will sunset 12 months after new TOU rates become effective.

D.

Implementation of ARD Framework

1.

ARD Rollout Strategy - Ramp Up and Roll Out Periods

Following the ARD Working Group process, the Commission provided ARD Initial Guidance, which indicated what the Parties should incorporate into their final proposals, including ARD rate implementation and gradual rollout strategies.²¹⁹ The Parties' proposals included a range of suggested approaches to ARD rollout with varying degrees of detail for how the ARD rate rollout should take place. Noting the broad range of proposals and the identified need to increase and amend data collection and evaluation processes to better inform TOU rates in the future, the Commission finds that a staged approach to roll out TOU rates is prudent, including an initial study period of one year.

²¹⁹Gridworks ARD Working Group Report at 9.

The ARD Framework, therefore, includes a TOU rate rollout strategy that will take place in progressive stages, throughout each of which the Commission will (through the Working Group Process and the necessary additional procedural steps) examine, evaluate, and make determinations to inform successive phases of TOU rate rollout.

To implement this phased approach, the Commission adopts a Roadmap for Advanced Rate Design in Hawaii ("Roadmap") which identifies the key objectives in each stage. The Roadmap indicates the process that the Commission intends to follow to implement and evolve TOU rates. The Roadmap also notes priority work areas and interim milestones across three phases: Ramp Up, Roll Out, and Evolve. While the periods are described with distinct time frames, the periods are expected to overlap as preparations and follow-up for each period are expected to occur throughout. The Commission reserves the right to modify the Roadmap during the course of ARD implementation as circumstances may warrant.

a.

Roadmap Summary

i.

Ramp Up Period

(Filing Date of the Instant Order - July 1, 2023)

The purpose of the Ramp Up Period is to prepare Hawaiian Electric, customers, and stakeholders for a broader rollout of TOU rate deployment and to begin next steps towards longer-term objectives for ARD. Such preparations include developing tariffs, creating new billing and accounting processes, establishing the TOU Study objectives and design, preparing effecting marketing, education, and outreach ("ME&O") materials, developing an evaluation and assessment ("E&A") plan, preparing to conduct a marginal cost study, and designing a cost-reflective and non-time varying rate option for customers who may choose to opt out of TOU rates.

Within 30 days of this Decision and Order, the Commission will reconvene the ARD Working Group. The ARD Working Group will serve as an ongoing working group to assist Hawaiian Electric and to advise the Commission during implementation of ARD in Hawaii. Priority activities for the ARD Working Group include defining key objectives and questions to be addressed by the TOU Study in the Roll Out Period; providing feedback to the Companies to finalize and publish TOU ME&O plans and materials; supporting the

finalization of the E&A Plan; and initiating design of a non-TOU rate for customers that may choose to opt out of TOU rates ("Non-TOU Rate"). ARD Working Group meetings will also serve as a forum to provide stakeholders general updates on TOU rate implementation.

Within 90 days of this decision, the Companies shall file a Compliance Filing in this docket ("ARD Compliance Filing"). As noted in the Next Steps portions of this Decision and Order, the ARD Compliance Filing shall include calculations of rates reflecting the rate designs established by the ARD Framework herein. The Commission directs Hawaiian Electric to calculate the rates in a revenue-neutral manner and to provide workbooks illustrating such calculations. To execute the revenue-neutral rate calculations, the Companies should base the proposed rate structure for review by the Commission on the same cost of service studies used in this docket thus far and maintain proportional class revenue allocations therein. To the extent possible, revenues and other relevant inputs should be adjusted to match current approved Target Revenue, customer counts, metered consumption and demand. The Companies shall identify and address solutions regarding any aspects of the Commission's determinations above regarding the inclusion of surcharges, adjustments, and reconciliations in the implementation of the TOU block energy charges that are infeasible or problematic.

The Companies shall host a technical conference to discuss their proposed rate structure with the ARD Working Group prior to approval by the Commission. The Companies should identify key issues and questions needed to calculate rates in accordance with this Decision and Order for review by the ARD Working Group in advance of the Technical Conference to ensure an efficient discussion. The Commission intends to rule on the Companies' submission subsequent to the technical conference.

ii.

Roll Out Period

(July 1, 2023 - July 1, 2024)

The purpose of the Roll Out Period is to implement the first phase of TOU deployment. The Roll Out Period will consist of a limited deployment and study of the TOU rates ("TOU Study") established herein to quantitatively and qualitatively understand the impacts and effectiveness of the rate design consistent with the stated objectives. The results of this study will inform the plan and timeline for potentially improving the rate design and ramping up enrollment in ARD towards the objective of TOU for all residential and Schedules G and J commercial customers.

The TOU Study will include enrolling a statistically significant sample of customers from Schedules R, J, and G into TOU rates adopted in this Decision and Order. As Hawaiian Electric

proposes, customers will be randomly selected for enrollment into TOU rates. Customers enrolled should have had AMI installed for at least six months by the beginning of the study period. Hawaiian Electric should include DER customers in the TOU Study, as its own study group. DER customers' consumption patterns are unique and substantially change net customer load. As a result, it is critical to understand the difference between the usage patterns of non-DER and DER customers on the TOU rate. The study period will require robust E&A to inform actions in the Evolve Period.

iii.

Evolve Period

(Onward from July 1, 2024)

Informed by the study conducted in the Roll Out Period, the Evolve Period will accelerate TOU enrollment. This Period will evaluate and implement updates to the TOU rates and other advanced rate design considerations. This may include incorporation of marginal costs into TOU rate design, refinement of a cost-reflective non-TOU rate for customers who opt out of TOU, development of TOU rates for Schedules DS and P, conducting additional studies to inform advanced rate design (e.g., cost of service methodology), a revenue-neutral customer

class revenue allocation recalibration, and integration of rate design into resource planning.

b.

Implementing New Billing and Accounting Processes

Context

The Commission understands that the implementation of new rate designs requires significant preparation by the utility across several functional areas. The Commission provides direction regarding updating new billing and accounting processes to facilitate the TOU transition.

Party Positions

Hawaiian Electric: Hawaiian Electric supports a phased approach to rolling out TOU rates, noting that some of the proposed rate changes require extensive updates to the billing engine logic, which it states could take up to six months following Commission approval of rate designs.²²⁰ Hawaiian Electric also notes that new rate schedules require alignment in the Companies' account systems.²²¹

²²⁰Hawaiian Electric's Initial Proposal, Attachment 1 at 37.

²²¹Hawaiian Electric's Initial Proposal, Attachment 1 at 37.

DER Parties: The DER Parties pose a question as to whether Hawaiian Electric should pursue third-party billing, noting high billing and collection costs.²²²

Consumer Advocate: The Consumer Advocate notes that Hawaiian Electric's ME&O efforts should be informed by the schedule and plans for making changes to the billing system.²²³

Discussion and Decision

The Commission acknowledges the need to update billing logic and accounting processes and agrees that sufficient time should be allotted to enable such updates. The Commission observes that the phased and gradual approach to TOU rollout outlined in the Roadmap largely aligns with Hawaiian Electric's stated need for up to six months to update its billing and accounting systems. Additionally, the TOU Study period will provide time for additional refinement and opportunity to improve process efficiency before conducting broader rate rollout.

Next Steps

Hawaiian Electric should immediately begin preparations to update its billing and accounting systems to include the TOU rate design adopted herein. Any other internal processes necessary

²²²DER Parties' Initial Proposal, Exhibit C at 2.

²²³Consumer Advocate's Final Proposal at 39.

to support TOU rate rollout should also begin immediately, such as preparing the meter shop, preparing training materials for call center employees, etc. Hawaiian Electric shall provide a timeline for updating these processes in the ARD Compliance Filing. Hawaiian Electric may consider employing outside parties to assist, as necessary.

c.

Establishing the TOU Study Objectives and Design

Context

The Commission observes that Parties are aligned on the need for a thoughtful and phased rollout of the ARD Framework. The Commission agrees, and finds that Hawaiian Electric's approach, beginning with an initial TOU study period is a concrete and defined effort that will provide valuable information to monitor TOU impacts on customers and the utility system in order to inform a successful broader rate rollout.

Party Positions

Hawaiian Electric: Hawaiian Electric proposes enrolling 25% of customers receiving advanced meters onto TOU rates,²²⁴

²²⁴See Docket No. 2018-0141, Letter From: K. Katsura To: Commission Re: Docket No. 2018-0141 - Hawaiian Electric Companies; For Approval to Commit Funds in Excess of \$2,500,000

and that residential customers should be randomly selected for enrollment, including a baseline period of at least 3 months.²²⁵ Hawaiian Electric suggests that enrollment occur at discrete intervals (e.g., only once in every quarter as opposed to continuous enrollment).²²⁶

DER Parties: The DER Parties emphasize the need to designate clear deadlines for deliverables and actions, while making forward progress based on the best available information. The DER Parties propose that TOU rate enrollment should be immediate for new customers and customer changeovers (i.e., when any premises changes from one customer to a different customer). The DER Parties also propose that Hawaiian Electric discontinue or update large customer rates and expand and accelerate demand response adoption (particularly for electric water heaters).²²⁷

Consumer Advocate: The Consumer Advocate proposes that TOU rates are rolled out to all customers on an opt-out basis,

for the Phase 1 Grid Modernization Project and Related Requests; Hawaiian Electric Responses to Commission's Information Requests, filed on September 7, 2021 ("Docket No. 2018-0141, Hawaiian Electric's Response to PUC-IR-___"), at Docket No. 2018-0141, Hawaiian Electric's Response to PUC-IR-133.

²²⁵Hawaiian Electric's Final Proposal at 11.

²²⁶Hawaiian Electric's Initial Proposal, Attachment 1 at 33.

²²⁷DER Parties' Initial Proposal at 31-33.

after customers have had sufficient opportunity to learn about TOU rates and how to respond. Under the Consumer Advocate's proposals, all customers with AMI would be defaulted onto the TOU rate after an initial period (e.g., three to six months) within which time, the customer would be provided with shadow billing and bill protection.²²⁸

Discussion and Decision

The Commission finds that AMI must be installed as an underlying necessity for TOU rollout.²²⁹ The Commission notes that the Grid Modernization Phase 1 docket (Docket No. 2018-0141) concerns AMI installation, and, in Decision and Order No. 38241,²³⁰ the Commission approved Hawaiian Electric's Scenario B AMI deployment plan, which projects that AMI will be fully deployed by

²²⁸Consumer Advocate's Initial Proposal at 27-28. The Consumer Advocate notes in its Initial Proposal that shadow billing "would enable the customer to make an informed decision regarding their rate options by displaying the customer's bill under both the TOU and base schedule," and that bill protection "would ensure that the customer is billed the lesser of the two bills for an initial introductory period, such as three to twelve months, thereby allowing the customer to learn about the TOU rate . . . and experiment with load shifting without risk." Id. at 19.

²²⁹The Commission clarifies that in addition to establishing TOU rates, this Decision and Order also requires a change in implementation of the RBA to a "percentage of bill basis" for all customer classes, which does not require AMI.

²³⁰Docket No. 2018-0141, Order No. 38241, "Approving AMI Deployment Scenario B and Amending the Procedural Schedule," filed on February 28, 2022, at 7.

Q3 2024. The Commission finds that, to be eligible for TOU enrollment and consistent with the Consumer Advocate's proposal, a customer must have AMI installed for at least six months. The Commission finds six months to be a reasonable threshold, because this can provide sufficient baseline data for the TOU Study, and during this time, a customer can become familiar with Hawaiian Electric's Energy Portal and other tools to help understand their energy usage patterns and options. This familiarity with energy usage assessment tools can help inform customers on how best to manage their energy with available options like TOU rates and DER programs. Additionally, the six-month period will provide separation between AMI installation and TOU enrollment, which is important to ensure that customers do not negatively conflate TOU bill impacts with AMI installation.

Noting that the AMI installation schedule has changed following submission of Parties' final ARD proposals, the Commission observes that Hawaiian Electric's proposal to enroll 25% of customers receiving advanced meters into TOU rates may be overly aggressive in the immediate term, but may be appropriate following evaluation of the rates established herein.

The Commission, instead, directs Hawaiian Electric to work with the ARD Working Group to identify a study approach and process to select a statistically significant number of customers

on each relevant rate schedule, and including DER customers,²³¹ that will be placed onto TOU rates in time for the TOU Study in July 2023.²³² This may include consideration of the processes described in Hawaiian Electric's Final Proposal.²³³

These customers will represent the first cohort of TOU participants and their experience on TOU rates will be the scope of study in the E&A Plan, details of which are identified in this Roadmap. As proposed by Hawaiian Electric, these customers should be randomly selected. The study design should be quasi-experimental (e.g., it may consist of a randomized control trial) in order to robustly assess TOU impacts. Additionally, the study should pay particular attention to collecting data from specific customer segments including LMI customers and customers that own electric vehicles. Hawaiian Electric should consider whether to include DER customers in the TOU Study and provide its reasoning for its determination in the ARD Compliance Filing.

²³¹As noted above, DER customers have a substantial impact on system energy use. The TOU study should include examination of DER customer use patterns and system impacts as a group, in addition to consideration of existing customer classes.

²³²Selecting a statistically meaningful sample of customers is consistent with Hawaiian Electric's Final Proposal, which was subsequently revised in its response to PUC-HECO-IR-133. See Hawaiian Electric's Final Proposal at 11; Hawaiian Electric's Response to PUC-HECO-IR-133.

²³³See Hawaiian Electric's Final Proposal at 11-12.

The Commission directs Hawaiian Electric to work with the ARD Working Group to clearly define the objectives and design for such a study, consistent with the parameters outlined above.

Next Steps

Hawaiian Electric should work with the ARD Working Group to finalize the TOU Study design and objectives, consistent with the direction herein. Hawaiian Electric should include the estimated number of customers across Schedules R, G, and J needed to maintain a statistically significant sample of customers (considering potential opt-outs) in the ARD Compliance Filing due 90 days from the date of this Decision and Order.

d.

Marketing, Education, and Outreach ("ME&O")

Context

ME&O is critical to customer success on TOU rates. Messaging that emphasizes customer choice and control over energy usage, opportunities to save money, and support of the State's decarbonization goals may improve customer acceptance, effectiveness of new rates, and may help to minimize the number of customers that choose to leave the TOU Rate onto the

non-TOU rate.²³⁴ Education is critical to ensuring that customers can successfully respond to rates and potentially save money. Outreach via multiple channels allows the utility to maximize customer touchpoints and reach customers where they are.

Party Positions

Hawaiian Electric: Hawaiian Electric's Final Proposal includes an ME&O plan that it indicates is responsive to Stakeholder feedback from both the ARD rate design workshop and prior TOU rate rollouts.²³⁵ Hawaiian Electric offers that a TOU ME&O plan should closely align and follow on the advanced meter customer communications.²³⁶ Hawaiian Electric's Initial Proposal described several types of intended outreach, including news releases, social media posts, in-person presentations and popups (COVID conditions permitting), its monthly newsletter,

²³⁴The Commission recognizes the industry term of art is "opt-out TOU" for TOU rates that customers are automatically enrolled in with the option to opt-out if they are unsatisfied. However, the Commission encourages Hawaiian Electric to be thoughtful in its messaging when referring to the new advanced TOU Rates during its ME&O as Hawaiian Electric will be continuing to roll out advanced meters on an "opt-out" basis in parallel with the new TOU rates. To avoid customer confusion and the possibility of conflating AMI rollout with TOU rollout, the Companies should consider whether the term "opt-out" should be avoided when referring to the new TOU Rates and the non-TOU rates.

²³⁵Hawaiian Electric's Initial Proposal, Attachment 1 at 40-41.

²³⁶Hawaiian Electric's Initial Proposal, Attachment 1 at 41.

TOU testimonials, stakeholder partnerships, a variety of local and LMI-specific approaches, and preparation of the Customer Call Center.²³⁷

In particular, Hawaiian Electric advises that its messaging would include highlighting the customer benefits and customer choice options available through TOU rates.²³⁸ Hawaiian Electric explains that it would plan in-person and virtual learning opportunities for customers and would use what it learned from its efforts to reach LMI customers during the disconnection moratorium for the COVID-19 pandemic, to inform its future engagements.²³⁹ Hawaiian Electric provides an example of such tactics by offering that it now better understands that customer communication strategies should deploy a multi-channel approach across direct mail, email, and LMI stakeholder partners.²⁴⁰ Hawaiian Electric also shares that it intends to leverage existing TOU-RI marketing materials to promote new TOU rates.²⁴¹

²³⁷Hawaiian Electric's Initial Proposal, Attachment 1 at 41-42.

²³⁸Hawaiian Electric's Response to PUC-HECO-IR-133.

²³⁹See Hawaiian Electric's Response to PUC-HECO-IR-134.

²⁴⁰Hawaiian Electric's Response to PUC-HECO-IR-134(k).

²⁴¹Hawaiian Electric's Response to PUC-HECO-IR-134(c).

DER Parties: The DER Parties “reserve their position” on ME&O, and state that the process “can be handled by the responsible utility staff” and that Hawaiian Electric could rely on the experience of other utilities as necessary.²⁴²

Consumer Advocate: The Consumer Advocate provides recommendations for ME&O and offers that Hawaiian Electric should follow utility best practices including the use of multiple communication channels, providing customers with usage information by time period, deploying shadow billing, and providing customer education on how to shift load.²⁴³ The Consumer Advocate also recommends that Hawaiian Electric test different messaging and outreach strategies on focus groups, including surveying their own employees.²⁴⁴ The Consumer Advocate further notes that a lesson learned from the TOU-RI experience is the “need for Hawaiian Electric to test messaging and identify the most effective communication channels to reach various target audiences.”²⁴⁵

Discussion and Decision

To achieve State policy goals for clean energy and carbon neutrality, the appropriate rate design must trend away from

²⁴²DER Parties’ Initial Proposal at 30.

²⁴³Consumer Advocate’s Final Proposal at 46.

²⁴⁴Consumer Advocate’s Final Proposal at 46.

²⁴⁵Consumer Advocate’s Final Proposal at 45-46.

“set it and forget it” approaches and instead trend toward a framework that iterates based on consumer preference and system value. To this end, connecting with consumers to better understand preferences will require significant and thoughtful planning from Hawaiian Electric. Such an approach to consumer engagement will be necessary to ensure that Hawaiian Electric is leveraging behavioral changes, such as price responsiveness, to cost-effectively address system needs. To facilitate this consumer-centered, learning-focused approach, the Commission finds that creating sound ME&O and E&A plans will be key components of ARD Framework.²⁴⁶

The Commission agrees with the Parties’ positions regarding the need for robust ME&O and agrees with the high-level objectives and approaches identified by Hawaiian Electric, including the additional detail provided on its ME&O intentions, particularly: messaging to customers, employee training, customer touchpoints, and partnerships. However, given the importance of ME&O, the Commission finds that Hawaiian Electric’s initial ME&O plan proposal lacks sufficient specificity and detail, such as specific messaging to be used.

²⁴⁶See ARD Initial Guidance at 3. A ME&O plan is necessary to ensure customer equity and engagement, both guiding principles identified by the Commission.

The Commission also notes Hawaiian Electric's proposal to utilize its existing TOU-RI resources to inform customers of new TOU rates, and finds that given the low enrollment rates²⁴⁷ and limited on-peak consumption shifting in Hawaiian Electric's current TOU-RI rate,²⁴⁸ more attention must be given to ME&O to ensure successful engagement with customers and achievement of beneficial behavioral changes. The Commission finds that relying on existing marketing materials may not be sufficient to facilitate robust TOU adoption. While the Commission appreciates the various contributions from the Parties, it nonetheless finds it necessary to require Hawaiian Electric to supplement and further develop its ME&O approach provided to date.

Therefore, the Commission directs Hawaiian Electric to develop an ME&O plan for review by the Commission and for consideration by the Parties involved in the ARD Working Group Process. Hawaiian Electric shall develop a draft ME&O plan to be filed with the ARD Compliance Filing. The plan shall, at a minimum, include:

- (1) A ME&O timeline for communications corresponding to ARD Roadmap timelines, that identifies specific communication types (e.g., email, telephone,

²⁴⁷Consumer Advocate's Final Proposal at 31 n.49 (noting that the 5,000-participant program was 59% subscribed as of September 30, 2020).

²⁴⁸Consumer Advocate's Initial Proposal at 28.

mailer, social media, etc.) for each communication touchpoint.²⁴⁹

- (2) A strategy for designing communication that targets relevant customer groups.²⁵⁰
- (3) A strategy for reaching different customer segments through a variety of channels, which could include customer-specific communication types and outreach partners for delivering the messaging.
- (4) A strategy for ensuring that customers understand that the AMI rollout is distinct from the implementation and impacts of TOU rates.
- (5) Parameters for determining if the Companies are experiencing a significant deviation from the TOU ME&O Plan, which needs to be reported to the Commission. For example, a significant alteration to a specified timeline becomes known.
- (6) A description of how results from the E&A plan, discussed below, will be integrated into iteration of the ME&O process.

The Commission strongly encourages the Companies to collaborate with Hawaii Energy and other partners to educate customers on TOU rates, and report to the Commission on the

²⁴⁹Ameren Missouri created a TOU customer communications schedule and approach in anticipation of its AMI and TOU rollout that serves as a good example. See Attachment 2 for stakeholder meeting: [https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewitemno details.asp?caseno=ER-2019-0335&attach_id=2021000217](https://www.efis.psc.mo.gov/mpsc/commoncomponents/viewitemno%20details.asp?caseno=ER-2019-0335&attach_id=2021000217).

²⁵⁰Xcel Energy Minnesota filed a Customer Education & Engagement Plan for its Time-of-Use Pilot that includes best practices for targeting relevant customer segments, including demographically-customized messaging and non-English speaking support. See Attachment A at 2: <https://www.edockets.state.mn.us/EFiling/edockets/searchDocument.s.do?method=showPoup&documentId={A0C0D761-0000-CA14-B2BC-2D4E9B3A92D8}&documentTitle=20182-140506-01>.

collaboration efforts. At a minimum, this includes co-developing the messaging to include in brochures, mailers, online advertisements, bus stop advertisements, and earned media. For each communication touchpoint identified in the ME&O timeline, Hawaiian Electric should include draft brochures, fliers, mailers, and other TOU-related advertisements in the ARD Compliance Filing for staff and stakeholder review.

e.

Opening the New TOU Rate to All Customers

Following the approval of the final tariffs for the new TOU Rates, Hawaiian Electric shall make the new TOU Rates available to all Schedule R, G, and J customers to sign up for. Customers that sign up for the new TOU Rates will not be eligible to participate in the TOU Study that begins in July 2023. If these customers do not yet have an advanced meter, Hawaiian Electric may install either an advanced meter or other suitable meter at the customer premises, depending on what is most cost effective for the Company.

f.

Evaluation and Assessment ("E&A")

Context

The ARD Framework can best facilitate the development and deployment of advanced rates and be a comprehensive, innovative, flexible, and iterative framework, if evaluation and assessment is an integral component of TOU rate implementation.²⁵¹ The purpose of an E&A Plan is to clearly demonstrate how a utility will incorporate micro level drivers, such as customer price response, into macro level system assessments, such as resource planning, as well as provide timely modifications to rates to ensure desired outcomes are achieved. The Commission observes that, generally, the evaluation segment of an E&A Plan should identify behavioral responses (e.g., price response), technological features (e.g., demand response enabling technologies), and other concepts to be tested. The evaluation segment should also explain why it is important to evaluate certain behavioral responses, technological features, or other concepts and identify methods for evaluation. Further, the assessment segment of the E&A Plan provides results and lessons learned and explains how the results from the evaluation will be leveraged to create system (i.e., macro level) benefits for ratepayers.

²⁵¹See ARD Initial Guidance at 3.

Party Positions

Hawaiian Electric: Hawaiian Electric proposes to provide an annual report to the Commission including reporting on a variety of performance metrics including on customer satisfaction, energy usage and load changes, bill impacts, customer equity, and contribution to fixed costs.²⁵² Hawaiian Electric is willing to provide updates on key metrics as frequently as every three months.²⁵³ Hawaiian Electric also proposes a revenue-neutral rate design proceeding occur every three years to ensure that rates are based on reasonably recent sales and other data and to further progress towards facilitating customer equity via rate design updates.²⁵⁴

DER Parties: The DER Parties "reserve their position" on evaluation, measurement, and verification as they did with ME&O.²⁵⁵

Consumer Advocate: The Consumer Advocate emphasized the need to identify necessary data and establish metrics for program evaluation upfront.²⁵⁶ The Consumer Advocate also stressed

²⁵²Hawaiian Electric's Initial Proposal, Attachment 1 at 38.

²⁵³Hawaiian Electric's Initial Proposal, Attachment 1 at 38.

²⁵⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 39.

²⁵⁵DER Parties' Initial Proposal at 30.

²⁵⁶Consumer Advocate's Final Proposal at 48.

the importance of continuously assessing the collected data to inform any needed adjustments to rate design or program education and outreach.²⁵⁷ The Consumer Advocate acknowledges that continuous assessment as proposed would require establishing a long-term plan upfront for advanced rate design rollout and evaluation and assessment.²⁵⁸ Such a plan would include Hawaiian Electric needing to file both quarterly reports and data related to implementation progress as well as annual rate design evaluations.²⁵⁹ Further, the Consumer Advocate proposes that rates should be updated frequently to ensure that they are aligned with marginal costs.²⁶⁰ For example, minor modifications (+/- 20% for any particular rate component) could be undertaken annually. However, the Consumer Advocate maintains that larger modifications (e.g., changes in the peak to off-peak ratio) should occur less often, perhaps once every three years at most.²⁶¹

²⁵⁷Consumer Advocate's Final Proposal at 48.

²⁵⁸Consumer Advocate's Final Proposal at 49.

²⁵⁹Consumer Advocate's Final Proposal at 50.

²⁶⁰Consumer Advocate's Initial Proposal at 33.

²⁶¹Consumer Advocate's Initial Proposal at 33.

Discussion and Decision

Considering these inputs, the Commission notes that the evaluation of rate rollouts may have varied objectives. For instance, the objective of an evaluation may be to adjust rates or messaging, or perhaps to better understand system benefits so that the utility can better integrate behavioral changes into system planning processes. However, the Commission observes that the most successful evaluations provide information about the subject matter as issues arise and simultaneously documents lessons learned so that the Commission and stakeholders understand how the utility adjusted to the issue and/or new information. Further, the Commission shares that its objective in creating a comprehensive implementation, evaluation, and planning process for Hawaii's ARD implementation, is ultimately to inform a suite of rate design options for ratepayers that can be frequently iterated and improved upon to maximize load flexibility and ratepayer and system benefits.

Given these and other considerations identified throughout this proceeding, the Commission finds that Hawaiian Electric's E&A plan will be an integral part of the iterative ARD Framework articulated herein. The E&A plan will inform the continual evolutions of Hawaiian Electric's rate offerings. The Commission also finds that E&A provides critical documentation that captures both the planned program rollout and

any subsequent rate design pilot offerings, which aids in developing a comprehensive understanding of the market potential and barriers.

Therefore, the Commission directs Hawaiian Electric to develop a customer class specific E&A plan that it shall submit for review by March 2023. The E&A plan shall be designed to apply to: (1) TOU rate rollouts directed in this proceeding; and (2) any future rate design pilots. The E&A plan shall also provide a clear process for making necessary changes and improvements based on findings. Hawaiian Electric shall track, report, evaluate, change, and improve all elements of the TOU rate rollout in response to E&A findings and clearly incorporate these learnings into future rate design initiatives articulated in the respective compliance filings.

Hawaiian Electric's E&A plan shall propose specific E&A approaches for the TOU rates and rollout methods approved herein and should identify a general framework that it will apply moving forward. The Commission offers the following discussion, which is not meant to be prescriptive but is instead meant to provide guidance as to what the E&A plan framework may include.

Contents of a basic E&A plan should include: (1) a proposed timeline for internal status and formal program reporting to the Commission; (2) reporting metrics with identified

baseline metrics; (3) proposed data collection activities; and (4) expected budget for all evaluation activities.

Data collection: Final data collection instruments will be proposed by Hawaiian Electric based on the final set of metrics; however, below are examples of possible data collection activities:

- Program marketing review
- Participant, nonparticipant, and unenrolled customer surveys
- Post event or other customer surveys
- Stakeholder interview with program and implementation staff

Suggested Example Metrics for Hawaiian Electric's E&A Plan:

- TOU rate impact (should include estimation of impacts across specific segments such as by rate class, LMI/non-LMI, with/without enabling technology, rural/urban, Single Family/Multi-Family, etc.):
 - o Average and hourly peak impacts (absolute and as a function of temperature)
 - o Total annual and temporal impacts including energy shift by hour
 - o Peak impact persistence
 - o Locational energy and demand impacts
 - o Customer self-reported actions taken to shift energy
- Bill impacts:
 - o How do customer bills change as a result of TOU?
 - o How do customer bills change when they leave the TOU onto the non-TOU rate (relative to TOU and relative to Schedule R)?
 - o LMI bill impacts are of particular interest/importance.

- Customer acceptance of TOU Rates:
 - o How many/what percent of customers opt-out of the TOU Rates?
 - o What types of customers opt-out of the TOU Rates (e.g., LMI, DER, EV, etc.)?
 - o After what period of time do customers opt-out of TOU Rates?
 - o Why do customers opt-out of TOU Rates?
 - o Customer satisfaction.
 - o Effectiveness of marketing and educational efforts (e.g., which messages are most effective, which customer touchpoints are most effective, etc.).
 - o Customer comprehension of rate design/educational materials.
- Cost-effectiveness:
 - o Administrative program costs
 - o Marketing costs
 - o Revenue impacts
 - o Arrearages
 - o Carbon impacts & other quantifiable non-energy benefits.

Regarding the assessment portion of the E&A plan, the Commission directs Hawaiian Electric to develop a timeline for implementing changes based on E&A results and to address the integration of rate design impacts into resource planning processes. The Commission observes that integrating rate design impacts into resource planning requires identifying impacts both before-the-fact through forecasting and after-the-fact through careful tracking.²⁶² Thus, at a minimum, Hawaiian Electric's E&A

²⁶²Prior work in this field may be instructive to the Companies, including The Brattle Group's quantification of

plan should include provisions for forecasting load modification from different rate designs, monitoring price-induced load modifications more granularly (e.g., real-time system data), and integrating forecasted and monitored impacts into resource planning and other processes, such as interconnection.

Additionally, the Commission agrees with Hawaiian Electric that rate recalibration using recent data and results from E&A activities is critical to ensuring that rates are equitable and progressing towards the Commission's objectives. Therefore, the Commission finds that revenue-neutral rate design proceedings should occur every three years, unless otherwise ordered by the Commission. In addition, the Commission directs Hawaiian Electric to conduct a revenue-neutral rate re-calibration following the TOU Study.

g.

Marginal Cost Study

Context

The Commission emphasizes the need to continuously refine and improve TOU rates and has noted several areas

residential and commercial consumption impacts in Hawaii - overall and during peak hours - depending on opt-in, opt-out, or mandatory rate design: https://hawaiienergy.com/images/about/information-and-reports/market-potential-study/mps_appendix-D-advanced-rate-design.pdf.

for continued refinement of the ARD Framework throughout this Decision and Order. During the ARD Working Group process, the Parties specified a number of data sets that should be updated or developed to support TOU rate development more robustly. In particular, the Working Group devoted significant time to discussing the Companies' Cost of Service Studies ("COSS") used to allocate costs between customer classes and inform rate design.

Hawaiian Electric's current COSS is an embedded COSS, which is based on incurred costs corresponding to recent rate cases for each operating company. The current COSS distinguishes costs by rate schedule as either "customer-related," "demand-related," or "energy-related," averaging costs across all hours (i.e., costs are not time-differentiated). Hawaiian Electric provided updates to its COSS in response to ARD Working Group requests.²⁶³

Party Positions

Hawaiian Electric: Hawaiian Electric states that, "[t]he Company is open to exploring the feasibility of developing time-based cost of service studies and or the feasibility of developing rates based on forward looking costs and/or marginal costs."²⁶⁴ The Company also notes that while agreement on

²⁶³Hawaiian Electric's Initial Proposal, Attachment 1 at 14-16.

²⁶⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 16.

COSS methodologies is not necessary for revenue-neutral rate recalibration, it is open to working with the Parties to develop a COSS that can be used in a revenue-neutral rate design proceeding.²⁶⁵

DER Parties: The DER Parties state that customer cost allocation for the modern grid should include time-based allocation of capital and operating costs.²⁶⁶ The DER Parties note that a time-based COSS is not necessary to make progress towards implementation of TOU rates, but that the COSS methodology should be updated over the longer-term.²⁶⁷

Consumer Advocate: The Consumer Advocate bases its ARD Proposals on the principle that charges for energy consumption should be based on long-run marginal costs that are adequate to recover embedded costs.²⁶⁸ The Consumer Advocate states that:

When establishing pricing based on marginal costs, it is important to base price signals on forecasted costs, rather than historical costs, so that the price signals will not be stale by the time that they go into effect and TOU windows do not have to be frequently modified. . . [i]t is important that marginal costs are based on the cost to modify the system to produce a small change in output over the long-run, rather than the short-run. What constitutes "long-run" depends on

²⁶⁵Hawaiian Electric's Initial Proposal, Attachment 1 at 39.

²⁶⁶DER Parties' Initial Proposal at 36-37.

²⁶⁷DER Parties' Initial Proposal at 39.

²⁶⁸Consumer Advocate's Final Proposal at 5.

how long it takes for the utility to optimize production.²⁶⁹

The Consumer Advocate retained a consultant to develop estimates of marginal costs to inform its proposals.²⁷⁰

Discussion and Decision

In Order No. 37066, the Commission established an objective of facilitating reasonable cost allocation among customers and noting that rates should reflect forward-looking costs, when possible, to align customer behavior with the minimization of utility investments.²⁷¹ Following the ARD Working Group process and record development, the Commission agrees with the Consumer Advocate that rates should ultimately be based on time-differentiated marginal prices in order to facilitate efficient price signals. The Commission also agrees that time-based cost allocation may more appropriately support TOU rate implementation, and notes that Parties raised additional potential modifications to the COSS, including class consumption by time period and further changes to the current minimum system approach.

²⁶⁹Consumer Advocate's Final Proposal at 7.

²⁷⁰Consumer Advocate's Final Proposal at 5.

²⁷¹Order No. 37066 at 15; ARD Initial Guidance at 3.

The Commission, therefore, directs Hawaiian Electric to work with Parties to develop Objectives and a Scope of Work for a TOU Marginal COSS. In the ARD Compliance Filing, the Companies shall announce a workshop with Parties to develop the Objectives and Scope of Work. The final Objectives and Scope of Work for the TOU Marginal COSS shall be filed with the Commission by May 2023. The Commission envisions results from the updated COSS will be available in time to inform rate recalibration for the Evolve Period.

h.

Designing a Non-time Varying Rate Option for
Customers that Opt-out of TOU Rates

Context

The Commission' guiding principles for rate design established that rates should facilitate customer choice by providing options as to how customers participate in the energy system. The Commission therefore observes that the future of ARD should include an option for customers to enroll in an updated non-time varying rate option, should they decide to leave the TOU Rates (i.e., a Non-TOU Rate). Consistent with the principle that rates should holistically consider system cost and value, these rates should be designed to reflect the costs incurred to

the system by customers on the rate (e.g., reduced price responsiveness and potentially higher peak system impacts).²⁷²

Party Positions

The Commission notes that design and implementation of Non-TOU Rates has not been discussed by Parties to date, and hereby initiates a process for collaborative development of such rates for Schedules R, G, and J.

Discussion and Decision

Similar to the TOU rates established herein, it is important to iterate on the Non-TOU Rates, particularly by using E&A results when available. Therefore, the Commission envisions initial versions of the Non-TOU rates should be available to customers participating in the TOU Study during the Ramp Up phase. The Commission emphasizes, however, that participants initially placed in the study should also be offered an option to opt out of the study entirely, in which case they would remain on their existing rate schedule. The Commission envisions that Non-TOU Rates will become the default rate for customers opting out of TOU during the Evolve Period on a timeline to be determined and aligned with E&A results from the TOU Study during the

²⁷²ARD Initial Guidance at 3.

Roll Out period. The Commission will provide subsequent guidance on the procedural elements for development of Non-TOU Rates.

i.

Additional Implementation Issues

Context

Parties addressed additional elements of the ARD rollout in their proposals, including customer bill protection, shadow billing, rate riders, and rate design pilots. The Commission addresses each of these in turn.

Party Positions

Hawaiian Electric: Hawaiian Electric's proposal includes an option to provide partial bill protection for residential full requirements customers²⁷³ for the first six months the customer is on the TOU rate.²⁷⁴ Under this proposal, the customer would be protected from any bill increase in excess of \$10 per bill.²⁷⁵ Hawaiian Electric notes that, "[a]ll customers on

²⁷³Defined by the Companies as, "[c]ustomers who have all of their electric energy requirements provided for by Hawaiian Electric are full requirements customers. Partial requirements customers have some of their electric energy requirements served by a source other than Hawaiian Electric, which could include a rooftop solar system." Hawaiian Electric's Initial Proposal, Attachment 1 at 6.

²⁷⁴Hawaiian Electric's Initial Proposal, Attachment 1 at 26.

²⁷⁵Hawaiian Electric's Initial Proposal, Attachment 1 at 26.

the proposed TOU rates would have the opportunity to view an alternative bill calculation of their bill on the regular default rate schedule in the online portal.”²⁷⁶

Hawaiian Electric proposes to end new enrollment for and transition existing customers off of existing time-based rate options (TOU-RI, TOU-G, TOU-J, TOU-P, and Rider M).²⁷⁷ Hawaiian Electric proposes to terminate these schedules, as well as Rider T, Schedule U, and Schedule TOU-R, 36 months after new TOU rates are effective, providing customers the option to move to either the default rate schedule or new TOU rates at any point prior to the sunset date.²⁷⁸ Rider M and Rider I should sunset 36 months following new TOU rates under Hawaiian Electric’s proposal provided there are grid service programs available to such customers.²⁷⁹ The Companies also propose a number of changes to Schedule SS, Standby Service.²⁸⁰

Hawaiian Electric states that it “will later consider a critical peak incentive or dynamic pricing pilot, which were previously mentioned in the Company’s ARDS,” and responded

²⁷⁶Hawaiian Electric’s Initial Proposal, Attachment 1 at 38.

²⁷⁷Hawaiian Electric’s Initial Proposal, Attachment 1 at 38.

²⁷⁸Hawaiian Electric’s Initial Proposal, Attachment 1 at 38.

²⁷⁹Hawaiian Electric’s Initial Proposal, Attachment 1 at 38.

²⁸⁰Hawaiian Electric’s Initial Proposal, Attachment 1 at 23.

directly to the Consumer's Advocate's Critical Peak Incentive proposal noting that it believes that three-period TOU rates are sufficient and that priority should be given to TOU prior to implementing critical pricing rates.²⁸¹

DER Parties: Since Hawaiian Electric's rate design team has the tools and knowledge to conduct bill impact analyses, the DER Parties recommend working with this team to workshop different rate design proposals.²⁸² The DER Parties also recommend providing "appropriate safeguards such as shadow billing and partial bill protection, particularly for LMI customers."²⁸³ The DER Parties further propose offering bill protection for one-year,²⁸⁴ but did not specify the structure that bill protection should take.

The DER Parties discuss that pilots should be reserved to answer questions where information is not readily available, such as for programs more advanced than TOU rates, but generally did not provide further comment on pilots.²⁸⁵

²⁸¹Hawaiian Electric's Initial Proposal, Attachment 1 at 6; Hawaiian Electric's Final Proposal at 6.

²⁸²DER Parties' Initial Proposal at 30-31.

²⁸³DER Parties' Initial Proposal at 35.

²⁸⁴DER Parties' Final Proposal at 23.

²⁸⁵DER Parties' Initial Proposal at 30.

Regarding existing rate riders, the DER Parties propose the following: Discontinue Rider T and move customers to the applicable TOU rate; Revise Rider I to include a time-differentiated credit for interruptible-demand; and Revise Rider M to reflect current TOU periods.²⁸⁶

Consumer Advocate: The Consumer Advocate maintains that no customer class should experience an average rate increase greater than 25%.²⁸⁷ The Consumer Advocate also emphasizes the importance of providing customer education and tools to manage bill increases, as well as the ability to easily opt out of TOU rates.²⁸⁸ The Consumer Advocate also proposes to offer shadow billing and bill protection to all customers. Under its proposal, all customers would be billed the lesser of two electric bills (i.e., one calculated on the existing Schedule R rate versus one calculated on the TOU rate) for an initial period lasting between three and twelve months.²⁸⁹

The Consumer Advocate recommends evaluating a targeted Critical Peak Pricing ("CPP") program, which it notes can produce

²⁸⁶DER Parties' Initial Proposal at 33.

²⁸⁷Consumer Advocate's Initial Proposal at 30.

²⁸⁸Consumer Advocate's Initial Proposal at 30.

²⁸⁹Consumer Advocate's Initial Proposal at 19.

larger load reductions than TOU alone and may help with capacity adequacy concerns on Oahu and Maui.²⁹⁰

The Consumer Advocate does not comment on treatment of existing rate riders.

Discussion and Decision

The Commission is not inclined to approve permanent bill protection at this time as it can work against the intended pricing signal for customers to shift electricity usage to off-peak times of day. Hawaiian Electric noted this effect in response to the Consumer Advocate's bill protection proposal, in which it states, "[t]he Company opposes this bill protection as it eliminates the customer's incentive to consider its energy usage profile and respond to TOU rates."²⁹¹

However, the Commission also observes that the Parties agree that partial bill protection is an appropriate safeguard for customers as they adapt to changing rates. Therefore, the Commission adopts Hawaiian Electric's proposal to implement six months of bill protection for residential customers on new TOU rates that experience bill increases in excess of

²⁹⁰Consumer Advocate's Final Proposal at 25-26.

²⁹¹Hawaiian Electric's Final Proposal at 7.

\$10 per bill.²⁹² The Commission does not accept Hawaiian Electric's proposal to apply bill protection only to "full requirements" residential customers, and therefore this bill protection will apply to all residential customers on the new TOU rates.

This bill protection scheme will be in place for the first six months of the TOU Study period, after which the Commission and the ARD Working Group will reassess its necessity and effectiveness, using Hawaiian Electric's E&A results. The E&A results will allow the Commission and stakeholders to track customer experiences on the TOU rate via reporting of key metrics, including bill impacts by customer segment (such as DER and non-DER customers). The Commission emphasizes the need to monitor bill impacts to LMI customers during the TOU Study.

The Commission also agrees with the Consumer Advocate's assessment of the importance of preparing customers for forthcoming TOU rates, and the Commission will carefully review Hawaiian Electric's ME&O plan to ensure customer success on the implementation of TOU rates.

Further, the Commission similarly finds that robust education and outreach to customers aimed at allowing them to respond and be successful on TOU rates is more beneficial for

²⁹²See Hawaiian Electric's Initial Proposal, Attachment 1 at 26.

customer rate acceptance than shadow billing, which should not be included on customer bills for new TOU rates.

Regarding rate design pilots, the Commission finds that the ARD Framework is a forward-looking framework that captures immediate decisions, as well as pathways for investigation. One pathway for investigation can be through pilots. The DER Parties' proposed grid integrated water heater program has merit and potential to contribute to management of the electric system. However, given Hawaiian Electric's existing demand response program targeting energy savings from an aggregation of electric resistance water heaters and the development of Emergency Demand Response programs in the Program Track, the Commission does not approve pursuing such a pilot at this time. Nevertheless, the Commission believes that Hawaiian Electric should consider developing such a pilot program, provided a new program is thoughtfully planned so as not to duplicate existing program offerings or confuse customers.

The Commission agrees with Hawaiian Electric that the near-term focus of the Companies and Parties should be on successful implementation of the TOU rates established herein. However, the Commission agrees with the Consumer Advocate and DER Parties that CPP programs can effectively produce load reduction impacts. The Commission notes that large customers in particular are strong candidates for CPP options, given their

higher levels of demand. Therefore, the Commission directs Hawaiian Electric to identify priority rate design pilots in the ARD Compliance Filing. The Companies should discuss appropriate timelines for implementing rate design pilots. While Hawaiian Electric may discuss any rate design pilots it feels are appropriate, the Commission encourages consideration of a CPP option for Schedule J customers to help with identified system capacity needs. Hawaiian Electric may consider additional pilots such as Daily Pricing or Tempo rate designs.

Regarding the treatment of rate riders, Hawaiian Electric shall immediately close the following rate riders to new customers and shall notify all customers currently enrolled in these riders, as soon as practicable, that Hawaiian Electric is currently in the process of designing new TOU rates and that all Riders will sunset 12 months after new TOU rates become effective (e.g., in the Evolve Period): TOU-R, TOU-RI, TOU-G, TOU-J, TOU EV, and Rider T. Hawaiian Electric may propose modifications to other Riders or schedules (e.g. Rider I, Schedule RP, Rider SSP, etc.) for consideration by the Commission in the Compliance Filing, as necessary.

Hawaiian Electric should prioritize such customers for TOU rate enrollment in the Evolve Period and should allow customers to opt-into TOU rates at any point prior to the sunset of their

effective rider. These customers should have AMI at the customer premises and access to the new billing portal.

Since the Commission does not address Schedule DS and P at this time, Rider M should remain in place. The Commission declines to modify Schedule SS at this time, but may consider modifications at a future time.

2.

TOU Rate Rollout Plan - Evolve Period

Context

Adoption of an ARD Framework for Schedules R, G, and J is a milestone accomplishment. This accomplishment is the beginning of a longer-term transition to more dynamic pricing structures. While the Ramp Up Period prepares stakeholders for the initial rollout of TOU rates for the identified Schedules, and the Roll Out Period (July 3, 2023 - July 1, 2024) provides critical data and experience with TOU rates, the Evolve Period will build on the critical building blocks established to stage broader TOU rate adoption. Portions of the Parties' proposals that addressed this later stage of TOU rollout are summarized immediately below.

Party Positions

Hawaiian Electric: Hawaiian Electric's mid- to long-term proposals for TOU rates include further development of rate offerings for future rollouts and adoption of some form of TOU rate as the default rate for new customers with an advanced meter.²⁹³ Hawaiian Electric prefers to proceed gradually towards TOU rates for all residential and commercial customers, given that advanced meters, a meter data management system, and rate designs are all relatively new to customers and Hawaiian Electric.²⁹⁴

DER Parties: The DER Parties propose general steps for the longer-term roadmap of ARD activities. These include:

- (1) Continue (or begin) enrolling all new or changed customers onto TOU rates, as well as a water heater control program.
- (2) Provide a default, opt-out option for residential customers, particularly multi-family, to enroll in the water heater control program for a bill credit.
- (3) Transition all Schedule J, P, and DS customers to TOU rates by the end of 2021, or six months after the Commission's decision in the ARD track, whichever is sooner.
- (4) Begin transitioning smaller commercial customers and single-family residential customers to TOU rates on an opt-out basis, with the necessary advanced metering, preferably by January 2023.

²⁹³Hawaiian Electric's Initial Proposal, Attachment 1 at 6.

²⁹⁴Hawaiian Electric's Final Proposal at 10-11.

Provide appropriate safeguards such as shadow billing or partial bill protections, particularly for LMI customers.

(5) Begin transitioning multi-family residential customers to TOU rates on an opt-out basis, again with appropriate safeguards. Pending the full and final transition to TOU for all customers, provide multi-family customers the default, opt-out option to enroll in the water heater control program for a bill credit and beneficial management of their main load resource.²⁹⁵

The DER Parties also recommended implementing the separation of single-family and multi-family residential customers, and the recognition of commercial customer classes based on whether they take power at the secondary or primary voltage, and continuing to gather information to further refine the calculation of grid access charges, as necessary.²⁹⁶

Consumer Advocate: The Consumer Advocate "recommends that there be a long-term plan for the roll-out of the advanced rate design and the evaluation of the roll-out (including education and outreach, customer satisfaction, and peak load reductions). This should be informed by the schedule to deploy the advanced metering infrastructure."²⁹⁷

²⁹⁵DER Parties' Initial Proposal at 34-35.

²⁹⁶DER Parties' Initial Proposal at 35-36.

²⁹⁷Consumer Advocate's Initial Proposal at 34.

Discussion and Decision

The Commission agrees that the broader rollout of TOU rates should be implemented carefully. As noted throughout this Decision and Order, the Commission finds that TOU rates should be informed by early experiences with enrollment in TOU rates during the Roll Out Phase. The Commission also observes that there are opportunities to plan for further advancing ARD in Hawaii that will require time and advanced planning. Therefore, the Commission directs the Companies to include in the ARD Compliance Filing a plan for data collection necessary to inform efforts including the identification of differences in cost-causation by single- and multi-family customers and customers served at different voltage levels (this is also noted in the GAC section), and data necessary to inform TOU rates for Schedules DS and P. Informed by Party input, this data collection plan may also address the need for updated class load studies and a plan for implementing such studies.

3.

Summary of the ARD Compliance Filing Requirements

The Commission summarizes the requirements for the ARD Compliance Filing (to be filed 90 days from issuance of this Decision and Order):

- (1) Rate calculations (including workpapers with source data and formulas intact) for all rate components as defined in this Decision and Order;
- (2) A marketing and enrollment plan for residential EV customers in new TOU rates;
- (3) A timeline for updating utility billing and accounting systems;
- (4) Draft ME&O materials for stakeholder review and input (this should include a draft customer bill);
- (5) A timeline for annual TOU block price adjustments to incorporate relevant surcharge reconciliations;
- (6) Identification of priority rate pilots (e.g., Schedule J CPP);
- (7) A plan for data collection to inform:
 - (a) The new TOU Rates;
 - (b) Multi-family vs. single-family cost of service and for commercial customers served at different voltage levels;
 - (c) Development of TOU rates for Schedules DS and P; and
 - (d) Other items aligned with Working Group needs (e.g., time-differentiated cost of service studies); and
- (8) Announcement of a workshop to define the objectives and scope of a TOU marginal cost study.

VI.

CONCLUSIONS

There is a pressing need to advance Hawaiian Electric's rate design to one that better captures the capabilities and

efficiencies of an increasingly renewable energy-powered electric grid. Improving customer rates in this manner will improve grid resilience and reliability by encouraging customers to reduce load during peak times when energy costs are high and shift load to the time of day when cheaper renewable resources are plentiful. This is especially important given recent and planned retirements of major fossil fuel generators and the increasing amount of distributed and utility-scale renewable generation coming online. The new TOU Rates will help with grid optimization by encouraging customers to consume and save energy in a manner that better aligns with grid needs. Evening peak demand reductions and higher mid-day load will contribute to smoothing out the overall system load profile, thereby lowering resource adequacy risk.

Encouraging customers to shift more energy consumption to the time of day when renewable energy is abundant will reduce the negative environmental impacts associated with greenhouse gas emissions. In addition to these load-shifting, creating an evening peak period and overnight period will incent conservation and energy efficiency investments which also promote cost savings and curbing environmental impacts. The new TOU Rates will also provide customers the opportunity to better influence and control their bills.

More fair apportionment of costs across the customer charge, the new GAC, TOU blocks, and surcharges will facilitate

customer equity by allowing customers to pay a more reasonable amount for power supply and grid services in proportion to how much and when these services are used. Rates will be more precisely priced according to what energy and grid services cost. Furthermore, to facilitate customer choice and different options for participating in the energy system, customers will be able to leave the new TOU Rate onto a Non-TOU Rate if they choose. The new Non-TOU Rate will be designed to also reflect system costs better when compared to status quo rate design. Ultimately, advanced rates should be based on long-run forecasted marginal energy, capacity, and grid service costs. This will encourage customers to adjust energy use patterns most effectively to the efficient economic advantage of the utility system. The Commission looks forward to the upcoming collaborative effort among Parties to develop a holistic time-based marginal cost of service study.

Educating both residential and commercial customers about how they can best take advantage of the benefits of the new TOU Rates is equally important to the rate design, itself. Effective marketing, education, and outreach will provide customers the means to know and take advantage of opportunities available to help them control their energy usage and save money. Such efforts are especially critical for low- and moderate-income communities and small businesses.

VII.

ORDERS

THE COMMISSION ORDERS:

1. The Commission establishes the ARD Framework to guide the development, implementation, and iteration of Hawaiian Electric's ARD.

2. The ARD Framework shall include TOU rates in three daily time periods.

3. In its calculation of the customer charge, Hawaiian Electric shall only include the costs of meters, metering and billing, and directly associated supporting expenses as established herein.

4. All costs that are currently assigned to the customer charge that are not related to metering and billing shall be reassigned to TOU energy charges and a new GAC as established herein.

5. The GAC for Schedules R and G shall include the cost of services and line transformers but shall not include any other distribution costs as established herein.

6. The GAC for Schedule J shall include the cost of the customer service drop, line transformers, and other secondary distribution costs, as established herein.

7. For Schedules R, G, and J, the TOU energy charge shall include all costs not otherwise recovered through the GAC,

customer charge, and certain separate surcharge adjustments, as established herein.

8. Hawaiian Electric shall, for the time being, maintain existing billing practices for the Minimum Charge.

9. Hawaiian Electric shall phase out its Minimum Charge and address the process and timeline for this transition in the ARD Working Group. Hawaiian Electric shall begin collecting bi-directional customer metered demand data to facilitate this transition as soon as possible.

10. The RBA Rate Adjustment shall be applied on a percentage-of-bill basis (excluding the ECRC expense) for all customer classes that are subject to the RBA. Changes to the implementation of the RBA Provision tariff shall be made for all customers at the time of the next scheduled change to the RBA Rate Adjustment.

11. TOU block energy prices shall be adjusted annually. This adjustment will incorporate any cumulative adjustments and reconciliations of applicable surcharges including the ECRC, PPAC, RBA, IRP/DSM Surcharge, and REIP. The primary collection of revenue for these surcharges shall be one component of the TOU block energy charges, allocated to TOU block energy charges according to a 1:2:3 price ratio, as described herein.

12. The PBF and GIF surcharges, which do not recover utility revenue, shall continue with both collection of primary

revenue, adjustments, and reconciliation through line-item charges on customer bills.

13. Residential EV rates shall be aligned with the residential TOU Rate established herein and Hawaiian Electric shall notify all Residential TOU EV Pilot customers, as soon as practicable, that TOU EV will sunset 12 months after new TOU rates become effective.

14. Hawaiian Electric shall immediately close the following rate riders to new customers and shall notify all customers currently enrolled in these riders, as soon as practicable, that Hawaiian Electric is currently in the process of designing new TOU rates and that all Riders will sunset 12 months after new TOU rates become effective: TOU-R, TOU-RI, TOU-G, TOU-J, TOU EV, and Rider T.

15. Hawaiian Electric shall immediately begin updating its billing and accounting systems to include the TOU Rates and bill protection mechanism adopted herein, as well as any internal processes necessary to support TOU rate rollout.

16. The ARD Framework shall be implemented pursuant to the ARD Rollout Strategy, as provided in Section V.D.

17. Hawaiian Electric shall conduct a TOU Study by randomly selecting a statistically significant sample of customers who have had AMI installed for a minimum of six months,

including DER customers. Hawaiian Electric shall work with the ARD Working Group to finalize the TOU Study design and objectives.

18. The TOU Study shall commence on July 3, 2023.

19. Hawaiian Electric shall develop a customer class specific E&A Plan to be submitted for review by March 2023. Hawaiian Electric shall track, report, evaluate, change, and improve all elements of the TOU rate rollout in response to E&A findings and clearly incorporate these learnings into future rate design initiatives.

20. Hawaiian Electric shall work with the Parties to develop the Objectives and a Scope of Work for a Marginal COSS. The Objectives and Scope of Work shall be filed with the Commission by May 2023.

21. Parties will be given the opportunity to respond to the Marginal COSS Objectives and Scope of Work, and the final Marginal COSS shall be submitted during the Roll Out Period.

22. Hawaiian Electric shall collaborate with the ARD Working Group to develop a Non-TOU Rate by July 1, 2023. Customers participating in the TOU Study shall have the options to choose to enroll in the Non-TOU Rate or to leave the TOU Study altogether back onto Schedule R, G, or J rates.

23. Following the approval of the final tariffs for the new TOU Rates, Hawaiian Electric shall make the new TOU Rates available to all Schedule R, G, and J customers. Customers that

sign up for the new TOU Rates will not be eligible to participate in the TOU Study.

24. Hawaiian Electric shall conduct a revenue-neutral rate re-calibration following the TOU Study.

25. Revenue-neutral rate design proceedings shall occur every three years.

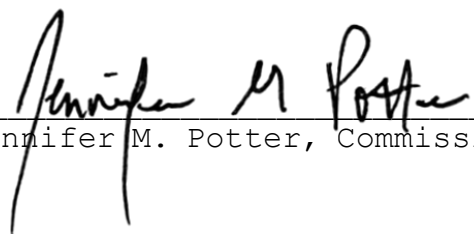
26. Within 90 calendar days of the date of this Decision and Order, Hawaiian Electric shall submit the ARD Compliance Filing pursuant to the guidance herein.

27. The ARD Working Group is reinstated as of the filing date of this Decision and Order.

DONE at Honolulu, Hawaii OCTOBER 31, 2022.

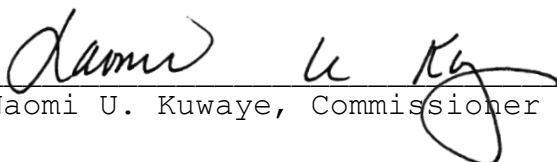
PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

By 
Leodoloff R. Asuncion, Jr., Chair

By 
Jennifer M. Potter, Commissioner

APPROVED AS TO FORM:


Keira Y. Kamiya
Commission Counsel

By 
Naomi U. Kuwaye, Commissioner

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CERTIFICATE OF SERVICE

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