

ASSESSING THE EXISTING REGULATORY FRAMEWORK IN HAWAII

Concept Paper to Support Docket Activities

Proceeding to Investigate Performance-Based Regulation (2018-0088)

Hawaii Public Utilities Commission | September 18, 2018

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1 Executive Summary

In April 2018, the Hawaii Public Utilities Commission (“Commission”) initiated a proceeding to investigate performance-based regulation (“PBR”) (Docket No. 2018-0088) to explore new opportunities for evaluating and updating the State’s utility regulatory framework in light of a transforming electric power system. This concept paper is the second in a series by Commission staff, to support party deliberations in Phase 1 of the docket.

As described previously, the Commission has adopted a conceptual framework and two-phase approach to guide the docket process. The conceptual framework begins with identifying priority goals and outcomes for utility operations, products, and services—work that began in a previous staff paper and continued through a Technical Workshop held in July and party briefs filed in August. These regulatory goals and outcomes will anchor and inform evaluation of the current regulatory model to determine which outcomes are not sufficiently being supported, and where new or updated regulatory approaches may be warranted. Based on this work, a list of priority outcomes will be refined, appropriate metrics identified, and possible changes or additions to regulatory structures evaluated. During Phase 2 of the proceeding, new performance incentive mechanisms (“PIMs”) and other regulatory tools will be evaluated and implemented accordingly.

Staff authored this concept paper to provide Parties with a common foundation and suggested approach for assessing a revised set of potential regulatory outcomes with respect to current regulatory mechanisms. Specifically, this paper: (a) reiterates the approach to Phase 1 of the proceeding; (b) reviews party input on regulatory goals and outcomes, resulting in a revised set of potential outcomes to guide the PBR process; (c) offers a characterization of the existing regulatory framework to serve as a common reference for further deliberations; and (d) introduces an assessment template as a recommended structure for evaluating regulatory outcomes and assessing regulatory mechanisms.

A shared understanding of existing regulatory structures will support a constructive dialogue among Parties, and can serve as a common foundation for assessment. To that end, this report provides a characterization of the existing regulatory framework organized according to a four-part categorization of Hawaii electricity regulations: general rate cases, revenue adjustment mechanisms, performance incentives, and non-revenue regulatory provisions. The characterization succinctly describes the main mechanisms within these categories, each of which may be considered in assessing outcomes.

Staff also offers a suggested structure for Parties to evaluate how well individual regulatory mechanisms’ drive achievement of identified outcomes. The Assessment Template (Attachment A to this report) is a simple tool that offers a common methodology and approach to: capture observations about what is working or not working; collect more in-depth description about how

specific mechanisms may impact identified outcomes; highlight inter-dependencies and tradeoffs between outcomes and mechanisms; and, to incorporate data as a reference point for discussion.

The Commission will hold a second Technical Workshop on September 27, 2018 to continue discussion and solicit input from stakeholders on how well outcomes are supported by the current regulatory framework. Similar to Technical Workshop #1, participants will engage in a facilitated dialogue to explore existing regulations and to evaluate their suitability to regulatory goals and outcomes. The workshop will also include participation from invited guests from the investor community, to support deeper understanding of how regulatory structures are evaluated by investors. After Technical Workshop #2, Parties will file briefs by October 25, 2018, presenting their assessment of how well existing regulatory mechanisms drive achievement of the proposed priority outcomes they suggest should be adopted at the end of Phase 1.

2 Introduction

Phase 1 of the PBR docket is intended to identify prioritized regulatory outcomes that warrant further focus for the development of PBR elements in Phase 2.¹ More specifically, Phase 1 will establish a basis from which to implement modifications or refinements to the current regulatory framework. In order to establish a robust, yet flexible process to focus objectives and deliberately advance the proceeding, the Commission has set forth a series of collaborative technical workshops, facilitated by Rocky Mountain Institute, with each followed by focused briefs from the Parties.

This approach encompasses three major steps:

- Identification of regulatory goals and outcomes to serve as guiding principles and to ground an assessment of the regulatory framework;
- Assessment of which outcomes are currently well-served by the regulatory framework and which require greater focus and examination; and
- Determination of which regulatory mechanisms are best-suited to achieve each outcome and identification of attendant metrics, where appropriate, to measure the utility's performance in achieving that outcome.

The first of these three procedural steps in Phase 1 began with Technical Workshop #1, held on July 23-24, 2018. The focus and objective of Technical Workshop #1 was to: (i) review PBR efforts in other jurisdictions, including tools and processes used; (ii) build a shared understanding of the

¹Docket No. 2018-0088, Order No. 35411 at 53.

potential for PBR in Hawaii, and planned approach for the PBR proceeding; and, (iii) discuss potential regulatory goals and outcomes for PBR in Hawaii.

In advance of Technical Workshop #1, Staff submitted a concept paper entitled “Goals and Outcomes for Performance-Based Regulation in Hawaii” (“Staff Paper #1”), to provide the Parties with an initial set of proposed goals and outcomes to respond to, to expand upon, and to offer alternatives.

The second stage of the Phase 1 process continues with Technical Workshop #2, to be held on September 27, 2018. The focus and objective of Technical Workshop #2 is to: (i) deepen collective understanding of existing regulatory mechanisms; (ii) explore how existing structures are or are not supporting achievement of particular regulatory outcomes; and (iii) strengthen Parties and stakeholders capacity to collaborate in this work.

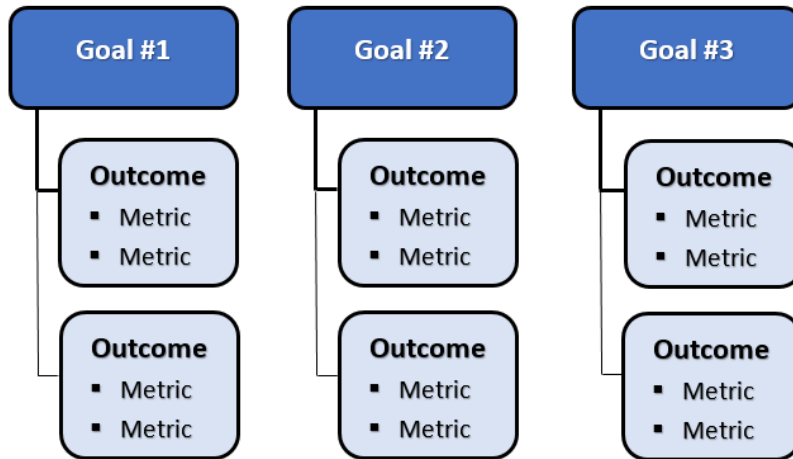
Likewise, in advance of Technical Workshop #2, Staff submits this second concept paper, the purpose of which is threefold:

- To offer a revised set of regulatory goals and outcomes for the Parties’ consideration;
- To provide a characterization of the existing regulatory framework for the Hawaiian Electric Companies; and
- To suggest a template by which the Parties may assess the current regulatory framework, to support a common approach for party discussions and subsequent activities.

3 Reaffirming Goals and Outcomes: Lens for Regulatory Assessment

As established in the Phase 1 Convening Order and summarized in Staff Report #1, the Commission laid out an initial conceptual framework to guide the requisite analysis in the PBR proceeding. The foundational hierarchy helps to transform broad regulatory goals, which are, by nature, high-level, into more specific regulatory outcomes.

Goals-Outcomes Hierarchy



This two-level hierarchical approach provides a lens through which to evaluate whether the existing regulatory framework adequately achieves desired regulatory outcomes. The ensuing assessment of the existing regulatory framework (which is the subject of Technical Workshop #2 and the attendant Parties’ Briefs) will, in turn, help illuminate which specific regulatory outcomes warrant greater focus.

3.1 Three Goals to Guide Performance-Based Regulation in Hawaii

Staff Report #1 introduced three overarching goals and an intentionally broad, preliminary set of associated outcomes to seed discussion and help guide PBR evaluation and development. These goals and outcomes were provided to support a constructive dialogue among Parties and orient activities to move toward an adopted set of regulatory outcomes at the conclusion of Phase 1. The three goals are linked to strategic priorities and objectives of the Commission: (1) to enhance how utilities provide services to customers; (2) to improve how utilities manage their own operations; and (3) to advance broader societal objectives.

Enhance Customer Experience: Delivering affordable and reliable service to customers has always been a core utility responsibility. Needs and expectations are changing, however, as customers transform from mere consumers of energy to active participants in the electricity system. Utilities should be expected to facilitate additional choices and options for customers as they interact with service providers to procure DER and other services and seek to manage their energy use and costs.

Improve Utility Performance: Optimizing utility planning processes, investment choices, and system operations ensures that utilities make decisions necessary to provide exemplary service at the least cost to customers. As Hawaii’s energy portfolio becomes increasingly renewable, diverse, and distributed, utilities will need to invest in a grid with greater capabilities. To protect

customers from unnecessary rate increases or other costs resulting from these potentially large investments and new functions, utilities are expected to operate in an economically efficient and strategically effective manner.

Advance Societal Outcomes: To achieve Hawaii’s ambitious clean energy goals and other policy objectives, there is a need to reevaluate underlying assumptions for how regulated utilities serve societal and public policy goals. Modern electricity needs extend beyond traditional objectives for universal, reliable and affordable energy supply. Additional societal goals have been layered onto these, including environmental performance, market development, data sharing, transport electrification, and more.

3.1.1 Parties’ Feedback on Staff-Proposed Goals

In reflecting upon the Parties’ feedback, both during Technical Workshop #1 and through the subsequently filed Goals-Outcomes briefs, there appears to be general agreement regarding the three overarching regulatory goals proposed by Staff.² Indeed, the three regulatory goals were described as “both appropriate and exhaustive,”³ “designed to be broadly inclusive and to cover both traditional [cost of service regulation] and emerging goals in a distributed electricity system with high levels of renewable energy.”⁴

To the extent certain Parties proposed the inclusion of additional regulatory goals, it would appear that, by-and-large, these goals were offered in order to elevate the relative prioritization of a specific topic. Staff suggests that determination of appropriate prioritization can be adequately handled at the outcome-level of the two-tier hierarchical goals-outcomes structure.

²See, e.g., Docket No. 2018-0088, “Ulupono Initiative LLC’s Brief on Goals and Outcomes and Certificate of Service,” filed August 27, 2018 (“Ulupono’s Brief”) at 2; Docket No. 2018-0088, “Hawaii PV Coalition Technical Workshop 1 – Goals and Outcomes Brief and Certificate of Service,” filed August 27, 2018 (“HPVC’s Brief”) at 1; Docket No. 2018-0088, “Blue Planet Foundation’s Goals-Outcomes Brief and Certificate of Service,” filed August 27, 2018 (“Blue Planet’s Brief”) at 11 (believes these three goals are both appropriate and exhaustive); Docket No. 2018-0088, “Division of Consumer Advocacy’s Goals-Outcomes Brief,” filed August 31, 2018 (“Consumer Advocate’s Brief”) at 19-20; Docket No. 2018-0088, “Distributed Energy Resources Council of Hawaii’s Goals and Outcomes Brief of the Commission’s Staff Report #1 and Certificate of Service,” filed August 27, 2018 (“DERC’s Brief”) at 5, 7, 8; Docket No. 2018-0088, “Goals-Outcomes Brief of the Hawaiian Electric Companies; Exhibits 1-4; and Certificate of Service,” filed August 31, 2018 (“HECO Companies’ Brief”) at 3 (“The Companies are support of and agree with many of the goals and outcomes identified in the Staff Report.”).

³Blue Planet’s Brief at 11.

⁴Ulupono’s Brief at 9.

Accordingly, for purposes of this second concept paper and to inform Technical Workshop #2, Staff reaffirms the following three regulatory goals: (1) **enhance customer experience**; (2) **improve utility performance**; and (3) **advance societal outcomes**.

3.2 Outcomes to Guide PBR Development

The next layer in the PBR design framework is identification of outcomes. Outcomes can be related to traditional expectations for utilities, such as affordability and reliability, or can describe more modern roles and responsibilities, such as electrification of transportation and utilization of distributed energy resources. Outcomes will serve as the basis for evaluating the existing regulatory framework, a subset of which will directly inform development and implementation of PBR mechanisms in Phase 2.

In Staff Report #1, Staff provided a deliberately broad set of potential regulatory outcomes ranging from the conventional, with well-established metrics, to the more novel, which reflect evolving objectives and expectations for the electricity sector. This list of outcomes was offered for stakeholder feedback and further refinement through the course of Phase 1.

3.2.1 Feedback from Technical Workshop #1 and Goals-Outcomes Briefs

The Parties submitted detailed and thoughtful feedback on the proposed regulatory outcomes during Technical Workshop #1 and through their respective briefs. From the feedback provided to date, several themes have emerged. There is a need to continue thoughtful dialogue around what will make up the appropriate set of goals and outcomes to guide the proceeding and sufficiently focus efforts in Phase 2. That said, the following initial summary and perspective is offered to help advance the conversation.

Financial Integrity of the Utility

Several Parties emphasized the importance of the utility's financial integrity as either a standalone goal or a prioritized outcome. As Ulupono stated, "establishing [a financial integrity] goal is necessary and appropriate based on the significant changes in the electric utility industry."⁵ Ulupono further states:

"[T]he financial integrity of the utility must be maintained to ensure the utility is able to fulfil its basic obligation to provide electric service to all customers. The financial integrity of the utility may be viewed as a prerequisite to the utility performing this fundamental duty and thus merits elevation to a PBR goal."⁶

⁵Ulupono's Brief at 12.

⁶Ulupono's Brief at 12-13.

Ulupono emphasizes the importance for investors to consider the utility to be creditworthy. Without a creditworthy offtaker, it may become difficult to execute power purchase agreements (PPAs) necessary in order to achieve the State’s Renewable Portfolio Standard (RPS).⁷

The HECO Companies also specifically mention financial integrity as a priority, stating that “[t]he utility must be able to meet its core, franchise obligation to provide reliable electric service to all customers.”⁸ In addition, the HECO Companies emphasize that, irrespective of the regulatory framework employed, applicable regulatory standards and protections associated with determining an authorized rate of return still apply, and the utility must be provided “a reasonable opportunity to earn a fair rate of return to support prudent investments . . . necessary to implement the Companies’ plans and achieve state objectives.”⁹

The County of Maui contends that utility financial integrity, as a discrete outcome or goal, requires further discussion and offers that “it may be beneficial to consider including a broader look at the financial health of the State, County, and citizens” as financial integrity of independent power producers and the utility should be “balanced with the financial health of the customers and society in general.”¹⁰

Blue Planet expresses reservations about a goal or outcome “focused specifically on protecting the incumbent utility business.” Blue Planet further states:

The financial viability and health of Hawaii’s overall energy economy, including the utility, is a foundation and driver for achieving Hawaii’s goals and outcomes. But PBR is ultimately about performance, and elevating the protection of an incumbent’s financial integrity, especially if it is independent of the utility’s performance, to the level of a goal or outcome in itself is inherently inconsistent and self-defeating. PBR should establish fair rules and a level playing field for the utility to deliver superior performance. Financial integrity and prosperity both contribute to and result from performance, but should not be ends in themselves.¹¹

The Consumer Advocate has also expressed reservations about the need “to make the utility financial health or high credit rating as an objective or goal.”¹² “While both are desirable to underpin efforts to obtain reasonably priced capital to support the needed infrastructure

⁷Ulupono’s Brief at 13.

⁸HECO Companies’ Brief at 7.

⁹HECO Companies’ Brief at 7.

¹⁰Docket No. 2018-0088, “County of Maui’s Goals-Outcomes Brief and Certificate,” filed August 22, 2018 (“County of Maui’s Brief”) at 3.

¹¹Blue Planet’s Brief at 21.

¹²Docket No. 2018-0088, “Division of Consumer Advocacy’s Comments on Preliminary Scope and Proposed Process,” filed May, 8, 2018 (“Consumer Advocate’s Comments on Preliminary Scope and Proposed Process”) at 11.

investments,” the Consumer Advocate maintains that “making the utility’s financial health an explicit objective may create unreasonable tension with other objectives, such as affordable rates.”¹³

The utility’s financial integrity is a theme of critical importance. Rather than articulating this concept as a separate goal or outcome, however, it may be best addressed as an implicit, overarching principle of utility regulation, and a key consideration to be prioritized in the outcome *Capital Formation*. Significant capital investment is likely required to achieve the State’s clean energy goals.¹⁴ Accordingly, the focus could be better framed as an outcome to enable adequate capital formation at reasonable financial cost, housed within the goal to Advance Societal Outcomes.¹⁵

DER Market Innovation and Network Platform Services

Many Parties placed particular emphasis on development of DER markets and the evolution of the utility’s role toward that of a distributed system platform.

HPVC articulates that “an over-arching strategic objective of this proceeding must be the facilitation of self-sustaining DER service and technology markets enabled and enhanced by a fair and efficient utility business model.”¹⁶ Similarly, AEE Institute highlighted specific metrics and outcomes generally associated with market innovation, “such as market animation, interconnection, leveraging available resources, third-party engagement, and data access and exchange.”¹⁷

Uluono underscored this theme to “help to ensure that the scope of changes to utility regulation contemplated by this proceeding is appropriately transformative.”¹⁸ Indeed, Uluono articulated the concept of elevating an additional goal of “network services,” “which refers to services provided by the utility as a neutral platform responsible for the integration and coordination of third-party energy services.”¹⁹ Uluono suggests a framing toward network services is distinguished from interconnection of third-party generation to the electric utility system, in that it shifts the focus away “from the utility accepting and interconnecting additional generation, on

¹³Consumer Advocate’s Comments on Preliminary Scope and Proposed Process at 11.

¹⁴See Consumer Advocate’s Comments on Preliminary Scope and Proposed Process at 11.

¹⁵See Uluono’s Brief at 13-14.

¹⁶HPVC’s Brief at 7.

¹⁷Docket No. 2018-0088, “Comments of Advanced Energy Economy Institute Regarding Commission Staff’s Proposed Goals and Outcomes for Performance-Based Regulation,” (“AEE Institute’s Brief”) at 3.

¹⁸Uluono’s Brief at 17.

¹⁹Uluono’s Brief at 16-17, *quoting* Staff Report #1 at 11, n.8.

an individual, case-by-case basis, to the utility facilitating and promoting widespread access and use of a shared platform.”²⁰

HSEA likewise embraced “[p]latform models,” which, it states, open alternative revenue streams for utilities, give customers greater options, increase price stability, and spur market competition and innovation,” as well as allowing “the utility and other energy service providers a route to provide services traditionally found outside of a utility framework but still necessary to incent customer adoption, such as financing products, new technologies, and access to innovative pilot programs.”²¹

The County of Hawaii recommends that the Commission explicitly aim “to develop an energy market in Hawaii and create the Utility of the Future, as envisioned by the [Commission’s Inclination’s Report],” and, in the furtherance of this end, also “consider tracking the degree to which [the HECO Companies are] making progress toward becoming a platform provider for energy services.”²²

Finally, Blue Planet, in offering an additional proposed outcome for “maximum consumer DER choices,” stated support for advancing “the role of the utility as a platform for a variety of services, some utility-provided, others third-party.”²³

The Commission has previously set forth a vision of the utility as a facilitator and orchestrator of aggregated resources and observed that the utility’s role is evolving to effectively become that of a network systems integrator and operator.²⁴ In many ways, at the Commission’s direction, the HECO Companies have already begun performing certain functions expected of a platform service provider.²⁵ That said, there remains a fair amount of uncertainty around the specific functions to be performed by the “utility of the future” and the full scope of potential network platform services to be delivered. Importantly, the magnitude of revenue generation opportunities derived from the provision thereof is also somewhat speculative at this time.²⁶

²⁰Ulupono’s Brief at 17.

²¹Docket No. 2018-0088, Hawaii Solar Energy Association’s Goals and Outcomes Brief and Certificate of Service,” filed August 27, 2018 (“HSEA’s Brief”) at 8.

²²Docket No. 2018-0088, “County of Hawaii’s Brief on Proposed Goals and Outcomes for Performance-Based Regulation in Hawaii and Certificate of Service,” filed August 22, 2018 (“County of Hawaii’s Brief”) at 7.

²³Blue Planet’s Brief at 15.

²⁴See Commission’s Inclinations at 16.

²⁵See, generally Docket No. 2015-0412, Decision and Order No. 35238 at 62-68 (Demand Response Portfolio); Docket No. 2014-0192, Decision and Order No. 34924 at 139-149 (Distributed Energy Resources, CGS+); and Docket Nos. 2017-0226 (Grid Modernization Strategy) and 2018-0141 (Grid Modernization Phase 1 Application).

²⁶See Anne Pramaggiore and Val Jensen, “Building the Utility Platform: Designing for the Future,” Public Utilities Fortnightly, July 2017.

Moving toward a utility platform model may offer significant opportunity to create value for customers and, while specific utility revenue sources and functions remain uncertain, continued testing and development of platform functions and associated utility earnings opportunities deserve attention for regulatory reforms. In particular, these may be addressed through emphasis on and prioritization of particular regulatory outcomes such as *Interconnection Experience*, *Customer Engagement*, *DER Asset Effectiveness*, and *Grid Investment Efficiency*, provided the attendant metrics are framed appropriately.²⁷

Resilience

Parties were generally supportive of resilience as a regulatory outcome. For the County of Maui, the importance of resilience is rooted in the fact that “the need for robust and resilient electricity service is critical to a healthy society.”²⁸ Likewise, HPVC emphasized the importance of “[t]he electric system’s ability to withstand unforeseen shocks.”²⁹

Many Parties identified specific threats to the electric system as evidence for the need for a resilient electric system. HECO believes that “threats can be both external physical- and cyber-related attacks from adversaries – and internal – including aging infrastructure and the increasing adoption of variable generation” and that these threats are amplified by “Hawaii’s geographic isolation and risk of exposure to natural disasters.”³⁰ Uluopono identifies potential threats to the electric system to include attacks on physical infrastructure, cyberattacks, and climate change.³¹ In fact, Uluopono feels so strongly about the grave nature of these threats and the importance of resilience that it “believes it is reasonable and appropriate to elevate resilience to the level of a goal.”³²

Noting the identified need to protect against cyber-related attacks in Staff Report #1’s discussion of resilience, the Consumer Advocate stresses the importance of cybersecurity and urges that it be explicitly identified as a priority outcome.³³ Given the relatively nascent nature of resilience and cybersecurity in terms of regulatory oversight, the Consumer Advocate suggests that “the

²⁷See, generally AEE Institute’s Brief at 3 (recommending Commission either add fourth goal of promoting market innovation “or simply ensure that the specific metrics and outcomes generally associated with market innovation – typically outcomes such as market animation, interconnection, leveraging available resources, third-party engagement, and data access and exchange – are incorporated”).

²⁸County of Maui’s Brief at 5.

²⁹Hawaii PV Coalition’s Brief at 13.

³⁰HECO Companies’ Brief, Exhibit 1 at 22.

³¹See Uluopono’s Brief at 15.

³²Uluopono’s Brief at 15.

³³Consumer Advocate’s Brief at 16.

best initial step may be to identify appropriate reporting measures as it relates to these outcomes.”³⁴

Although the importance of resilience was generally recognized by all, several parties qualified their support for resilience as a regulatory outcome in the PBR context due to its presently nebulous and ill-defined nature. Blue Planet “strongly supports [resilience] in concept but recognizes the current ambiguity and difficulty in defining this term and identifying metrics.”³⁵ Similarly, “the Consumer Advocate has some reservations about the formal adoption of [resilience] as a priority outcome until there is more certainty and agreement as to the appropriate definition of [resilience].”³⁶

Other Parties noted that creating a resilient electric system involves not just the utility but many non-utility actors as well. Both the City and County and the County of Hawaii stressed the need for the utility to coordinate with local officials in designing a resilient electric system. The City and County noted that it is currently in the process of developing a resilience strategy, and that this strategy is highly dependent on the electric system.³⁷ Similarly, the County of Hawaii emphasized that the siting of key system resources should be coordinated with local officials.³⁸

Traditional Outcomes of Electric Utility Service

Several parties stressed that proposed outcomes such as affordability, reliability, and service quality are fundamental to traditional utility regulation and should remain paramount.³⁹

The Consumer Advocate asserted that “the primary goal of electric service is, and should be, meeting customers’ interests and customer satisfaction while ensuring affordability.”⁴⁰ To that end, the Consumer Advocate maintained that “reliable electric service is fundamental to ensuring that customer satisfaction is met.”⁴¹ Likewise, the County of Hawaii highlighted the State’s high electricity rates and indicated that “the over-arching objective of any PBR framework should be to improve on the affordability of electricity and elevate the ability of all consumers to utilize new

³⁴Consumer Advocate’s Brief at 17.

³⁵Blue Planet’s Brief at 20.

³⁶Consumer Advocate’s Brief at 10.

³⁷See Docket No. 2018-0088, “City and County of Honolulu’s Goals-Outcomes Brief; Affidavit of Georgette T. Deemer; and Certificate of Service,” filed August 31, 2018 (“City and County’s Brief”) at 11-12.

³⁸See County of Hawaii’s Brief at 5.

³⁹See Consumer Advocate’s Brief at 9; Blue Planet’s Brief at 14; Ulupono’s Brief at 18-19; City and County’s Brief at 3-4.

⁴⁰Consumer Advocate’s Brief at 9.

⁴¹Consumer Advocate’s Brief at 9.

technologies in their quest to lower their energy expenditures, subject to continued safety and power reliability.”⁴²

The City and County emphasized the importance of a reliable electric system in the provision of vital public goods and services, noting that “[f]rom day-to-day operations across all [City and County] departments to disaster preparedness, emergency response, and public safety, the impact of interruptions in electrical service can range from merely a nuisance to costly and disruptive.”⁴³

Hawaii PV Coalition pointed to DER assets as a source of system reliability, stating that “[m]aintaining and . . . improving utility service quality, including reduced frequency and duration of unplanned outages, should be considered in conjunction with the capabilities that non-utility service providers . . . can provide to maintain and improve service quality.”⁴⁴

Finally, while supporting the outcome of reliability, Blue Planet articulated a more nuanced approach to the issue, in which it “[m]ay be appropriate to consider different levels of reliability for different customer needs.”⁴⁵ In a similar vein, the County of Maui expressed slight reservations about incenting behavior that is already expected, stating that “[o]utcomes such as reliability . . . are expected and rewarding or penalizing these [o]utcomes under a PBR structure may enhance the customer experience but the customer should already have these beneficial Outcomes.”⁴⁶

3.2.2 A Revised Set of Potential Regulatory Outcomes to Inform PBR in Hawaii

The considerable input and recommendations from the Parties is greatly appreciated and should serve the PBR process well moving forward.

Staff has attempted to integrate this thoughtful feedback and, upon initial reflection, developed a revised set of potential regulatory outcomes as set forth in Attachment B.

As before, Staff stresses that the revised goals and outcomes specified in this report are merely Staff’s suggestions, and do not necessarily represent the Commission’s view at this time. The somewhat more focused list of regulatory outcomes are suggestions to help bound thinking as to which outcomes might serve as the lens by which a Party conducts its assessment of the existing regulatory framework. That said, Parties should feel free to assess other regulatory outcomes beyond those articulated in Attachment B.

⁴²County of Hawaii’s Brief at 3.

⁴³City and County’s Brief at 4.

⁴⁴HPVC’s Brief at 12.

⁴⁵Blue Planet’s Brief at 14.

⁴⁶County of Maui’s Brief at 5.

A summary of the modifications to staff’s revised set of potential regulatory outcomes is as follows.

Reframed in Response to Party Feedback

Staff has reframed several potential outcomes in response to Party feedback. Under the **Enhance Customer Experience** goal, “DER Interconnection Experience” has been recast more broadly as *Interconnection Experience* to account for the interconnection experiences of customer-sited DER in addition to Community-Based Renewable Energy (“CBRE”) projects, and third-party owned, grid-scale resources.⁴⁷ Given the substantial overlap between the originally proposed outcomes of “Service Quality” and “Customer Satisfaction,” staff has suggested consolidating the two under the new outcome of *Customer Service*.⁴⁸

With respect to the **Improve Utility Performance** goal, in the interest of clarity and precision, staff has reframed “Investment Efficiency” to *Grid Investment Efficiency*.⁴⁹ In addition, the former “Operational Efficiency” outcome has been replaced by *Cost-effective Operations* to reflect “that the desired outcome is cost-effective operational efficiency, rather than operational efficiency at any cost.”⁵⁰ Similarly, “DER Asset Utilization” has been recast to *DER Asset Effectiveness* to emphasize proper focus on the provision of cost-effective capacity, energy, or other grid services from DER assets.⁵¹

Omitted in Response to Party Feedback

The following represent previously suggested regulatory outcomes that have been omitted in the attached, revised set. Omission of any previously included outcome should not reflect on its relative importance, but rather reflects the need to begin narrowing the field of potential outcomes to guide further PBR development. To that end, staff has omitted the following outcomes, which can be viewed, in part, as derivative of certain outcomes still included: “Reduce Imported Fuel Use,” “Innovation,” and “Beneficial Electrification.”

Added in Response to Party Feedback

The regulatory outcome *Power Quality* was added under the goal **Enhance Customer Experience**. This addition is based on the observation that the quality of electric power delivered varies in

⁴⁷See, generally Blue Planet’s Brief at 14; Ulupono’s Brief at 29-30.

⁴⁸See Blue Planet’s Brief at 14.

⁴⁹See Ulupono’s Brief at 26-27.

⁵⁰Ulupono’s Brief at 21.

⁵¹See Ulupono’s Brief at 22.

importance among customers. For certain customers, power quality is important enough to justify inclusion as a distinct outcome.⁵²

Notwithstanding the revised set of potential regulatory outcomes set forth in this report, Staff acknowledges there is a need for further prioritization as Phase 1 of the proceeding moves into Technical Workshop #3. The Consumer Advocate contends, “if not prioritized, substantial time will likely be spent on a lengthy list of proposed outcomes that will unnecessarily stretch the resources of the Parties and Participants.”⁵³ The HECO Companies also strongly agree that narrowing “the list of outcomes to focus upon as Phase 1 proceeds would be helpful and efficient; a refined list of outcomes will allow for greater focus and attention in future steps of this proceeding, which will involve among other things the important and difficult task of establishing specific measures and metrics for each selected outcome.”

For the reasons mentioned, staff agrees with the need for further down selection of priority outcomes and fully expects that feedback from the Parties during Technical Workshop #2 and through the collective Regulatory Assessment briefs will greatly inform and support further narrowing and prioritization of regulatory outcomes to focus upon as Phase 1 proceeds.

4 Characterization of Existing Regulatory Framework

The purpose of this section is to provide background to inform a discussion and assessment of Hawaii’s existing regulatory framework for the Hawaiian Electric Companies (“HECO Companies”). The summary is compiled with a deliberate focus on those regulatory mechanisms and elements that incent, explicitly or implicitly, the HECO Companies that are the subject of the Commission’s PBR investigation.

Elements and mechanisms of the existing regulatory framework for the HECO Companies are presented in four sections:

- General Rate Cases
- Revenue Adjustment Mechanisms
- Performance Incentives
- Non-Revenue Regulatory Provisions

The general rate case presented in the first section is the primary determinant of the utility’s “revenue requirement”, based on traditional “cost of service” principles. The revenue adjustment mechanisms described in the second section are additional regulatory elements that change and/or ensure recovery of the revenue requirements determined in the general rate case during the interim periods between rate cases. Versions of these mechanisms are components

⁵²See Ulupono’s Brief at 19.

⁵³Consumer Advocate’s Brief at 5.

of various PBR frameworks utilized in other jurisdictions. The performance incentives described in the third section include additional regulatory elements that are deliberately designed to affect utility performance. The fourth section identify several additional existing regulatory elements that are not direct determinants of utility revenues, but form parts of the overall fabric of incentives implicit in the existing Hawaii utility regulation framework.

This summary identifies and briefly describes elements of Hawaii’s regulatory framework that are pertinent to the discussion of performance incentives for the HECO Companies.

4.1 General Rate Cases

In Hawaii, the general rate case is the foundational mechanism for determining the utility’s revenue requirement and setting utility rates charged to customers. This is consistent with and typical of regulatory frameworks in most states and most investor-owned utilities, including states and utilities that utilize PBR.

A general rate case includes several conventional determinations, including:

- **Revenue Requirement:** the amount of revenue collected from customers for utility services⁵⁴
 - Target Revenue: In the context of PBR mechanisms already established in Hawaii (e.g., the Revenue Adjustment Mechanisms), the term “Target Revenue” is used to more precisely describe certain components of the revenue requirement established in the general rate case, as adjusted for various factors. Target Revenue excludes certain variable costs and other costs that are recovered through separate trackers and riders (e.g., fuel and purchased power costs).
- **Customer Class Revenue Allocation:** the amount of revenue to be charged to each class of similar customers (i.e., how the overall revenue requirement is split among residential, small commercial, large commercial/industrial customers, etc.)
- **Rate Design:** the specific structure and magnitude of rates charged to each customer class (i.e., monthly customer charges, energy charges, demand charges, and other utility fees and charges on customer bills)

A general rate case also serves as the venue for periodic review of several other matters associated with determinations of rates and allowed revenue, including, for example, the review of: utility financial and accounting policies and practices; design and implementation of various

⁵⁴ The term used in rate cases for the amount of revenue collected from customers for utility services is “Electric Sales Revenue.” The term “Revenue Requirement” includes usually-minimal additional amounts of revenue that is not collected from customers. Consistent with the common, albeit “loose,” usage in the literature, the term “revenue requirement” is used herein without technical distinction.

revenue trackers; reasonableness of management efficiency; and review of the prudence and “used and useful” status of utility plant included in rate base.

Revenue requirements are examined in the context of a “test year” to determine a reasonable amount of annual revenue to be collected from customers through utility rates. The determination of allowed revenues is based on estimates of the costs to provide necessary utility services (i.e., cost of service). Utility expenses and a “reasonable” return on investment are estimated for a test year based on extensive testimony and exhibits by the utility, the Consumer Advocate, and any other rate case parties.

Revenue requirements are comprised of two basic types of component costs: (1) expenses, and (2) return on investment.

Utility expenses are typically allowed at the best estimate of test year costs, without any markup or margin for utility earnings. Expenses include the costs of operations and maintenance, depreciation and amortization expense, and taxes. The component of the revenue requirement associated with return on investment is based on (1) the amount of utility investment that is subject to a return on investment (i.e., the “rate base”), and (2) a determination of a “rate of return” on rate base. The rate of return is derived from a “capital structure” composed of proportions of financing provided by utility short- and long-term debt, and equity provided by investors.

The overall test year revenue requirement is then allocated amongst customer classes, and specific rates are designed to collect the revenue from customers. Revenue allocation and rate design are primarily focused on issues including the cost to serve different types of customers, fairness, and customer incentives.

The components of the revenue requirement in the most recent rate case for each of the HECO Companies is provided as Attachment A, including a summary of the results of operations and capital structure for each utility.

4.2 Revenue Adjustment Mechanisms

Revenue Adjustment Mechanisms change the utility revenue requirement in the stay-out periods of the multi-year rate plan (i.e., between general rate cases). For the HECO Companies, essentially all revenues are subject to interim adjustment by one or more of the mechanisms described in this Staff Report.

4.2.1 Three-Year Rate Case Period

General rate cases for the HECO Companies are scheduled on a three-year cycle with one company rate case scheduled each year. This requirement effectively serves as a multi-year rate plan for each of the HECO Companies.⁵⁵

The most recent general rate cases for each Company are as follows:⁵⁶

- HELCO: Test Year 2016, Docket No. 2015-0170
- HECO: Test Year 2017, Docket No. 2016-0328 (pending)
- MECO: Test Year 2018, Docket No. 2017-0150 (pending)

The three-year rate case cycle for the HECO Companies serves several objectives. From an administrative standpoint, the rate case cycle allows the utilities, Consumer Advocate and Commission to more predictably and uniformly manage the substantial work load and allocation of resources necessary to process rate cases.

Important to the consideration of utility incentives and PBR design, the three-year cycle also affects utility incentives to manage costs. In the interim periods between rate cases, the utilities have opportunities to increase earnings by frugal management of O&M costs and tactical management of financing. The opportunity to increase earnings by efficient management and the hope that these efficiencies can be captured to the benefit of customers in subsequent rate cases is a fundamental tenet of “traditional” PBR.

4.2.2 Revenue Balancing Account (RBA)

The HECO Companies each have an RBA tariff that “decouples” utility sales (kWh) from revenues (\$) by automatically accounting for under- or over-collection of Target Revenue throughout the year, in order to ensure the utility’s Target Revenue is ultimately collected from customers, regardless of how energy efficiency programs, customer self-generation and load management measures, weather and business cycles, or any other factors may affect utility sales or other revenue determinants. In other words, if utility sales decrease as a result of increased adoption of rooftop solar PV, for example, rates will ultimately increase to ensure the Target Revenue is collected from customers. Conversely, if utility sales increase due to a strengthening economy or weather patterns, for example, utility rates will ultimately decrease to ensure the utility does not “over-collect” from customers and exceed its Target Revenue.

⁵⁵ A mandatory three-year rate case cycle was established in conjunction with the HECO Companies’ RBA and RAM provisions in Docket No. 2008-0274 (re: Investigation regarding implementing a decoupling mechanism). The mandatory cycle was amended to a three-year minimum filing period in conjunction with establishment of a cap on interim revenue attrition (RAM Cap) in Docket No. 2013-0141 (re: Investigation to reexamine existing decoupling mechanisms).

⁵⁶ Each of these proceedings was the first full rate case review in six years due to exceptional “abbreviated” rate case filings by HELCO, HECO and MECO for the test years 2013, 2014 and 2015, respectively. Future rate cases are expected to be filed on a strict three-year maximum period basis.

The RBA mechanism is a balancing account for Target Revenue which is initially established and reset in each utility general rate case. The RBA does not make adjustments for certain portions of the revenue requirement that vary with sales, or are collected through other trackers and riders, such as revenue taxes, fuel, and purchased energy expenses.

The RBA is intrinsically revenue-neutral, providing for correction of both over and under-recovery of Target Revenues. However, with the substantial and persistent decreases in sales volume for the HECO Companies, the primarily upward allowed adjustments in Target Revenue, and the structural lag in RBA revenue recovery, the RBA mechanisms for each company have consistently provided for additional billing for under-recovery of Target Revenues.

The RBA is designed to entirely eliminate short-term incentives for the HECO Companies to maintain or increase sales and demand, and thus eliminate short-term disincentives to allow or encourage measures or programs that would decrease sales and demand.

4.2.3 Revenue Adjustment Mechanism (RAM)

The RAM tariff for each of the HECO Companies provides for automatic adjustments to the utility's Target Revenue in the years between general rate cases. The RAM provision consists of three primary attrition relief elements, plus several safeguard elements. The primary attrition relief elements are:

- O&M RAM
- Rate Base RAM
- Depreciation and Amortization RAM

The safeguard elements include:

- Earnings Sharing Mechanism
- Major Projects Capital Credits
- Baseline Projects Capital Credits

The O&M RAM element provides for automatic increases in the O&M portion of the utility's Target Revenue. The non-labor O&M component is allowed to increase at the rate of inflation projected for the upcoming year. The "bargaining unit" labor O&M component is allowed to increase at the actual rate of negotiated contract increases. The "merit labor" component of O&M expense is not escalated.

The Rate Base RAM element provides for automatic changes to the amount of return on investment (and associated income taxes) included in the Target Revenue, resulting from changes in rate base during the stay-out period of the multi-year rate plan. Interim changes to rate base are determined as the sum of: changes in end-of-prior-year recorded net plant in service (compared to amounts determined in previous rate case), average current year plant additions (expected to be in service prior to the last quarter), changes to depreciation and

amortization balances, and changes to the balances of accumulated deferred income tax (ADIT) and Contributions In Aid of Construction (CIAC).

The allowed return on rate base, assumed capital structure and numerous other rate base determinants are not adjusted during the stay-out period and remain the same as determined in the most recent general rate case. The Rate Base RAM adjustment is equal to the allowed rate of return on rate base (grossed up for income tax effects) times the calculated cumulative interim change in rate base.

The Depreciation and Amortization RAM adjusts for changes in recorded depreciation and amortization expense. Annual adjustments are the differences between rate case depreciation and amortization expense, and prior-year-end recorded depreciation and amortization expense, adjusted for exclusion of specific classes of property.

The Earnings Sharing Mechanism is a safeguard component of the RAM Provision tariff but is discussed separately below since it is a prominent component of some PBR frameworks that can be considered independently from the primary attrition aspects of the existing RAM Provision.

Major Capital Projects Credits and Baseline Capital Projects Credits are elements of the RAM Provision to provide a credit (refund to customers) for prior RAM Revenue Adjustments for projects planned but not actually placed in service. To date, no such credits have been ordered by the Commission.

4.2.4 RAM Cap

For each of the HECO Companies, the magnitude of the combined RAM Revenue Adjustment is “capped” to ensure that, except as specifically ordered by the Commission, the annual incremental RAM Revenue Adjustment does not increase Target Revenue in excess of the projected annual rate of inflation.⁵⁷

The RAM Cap is an element of the RAM tariff, which was added to mitigate certain unintended consequences of the RAM Provision.⁵⁸ Specifically, the RAM Provision appeared to encourage baseline capital expenditures by automatically increasing effective rate base (and resulting return on rate base) for baseline capital additions, without prior Commission review.

The RAM Cap thus currently provides an annually adjusted, partial revenue cap for each of the HECO Companies that limits increases to Target Revenue to the rate of inflation, with provisions

⁵⁷The annual incremental increase resulting from the RAM Revenue Adjustment cannot exceed previous year Target Revenues times the projected annual GDPPI percentage increase, provided that, as specifically ordered by the Commission, certain components of Target Revenues may not be included in the determination of the RAM Cap, and certain adjustments to Target Revenues may not be subject to limitation by the RAM Cap.

⁵⁸See Docket No. 2013-0141, Order No. 32735 at 81.

for additional interim revenue recovery above the RAM cap, as specifically ordered by the Commission for certain Major Projects (as discussed below).

Since the implementation of the RAM Cap, the amounts of the RAM Revenue Adjustments have been limited by the RAM Cap in some, but not all, instances.

4.2.5 Major Project Interim Recovery (MPIR) Guidelines

In conjunction with implementation of the RAM Cap, the Commission recognized that provisions for interim recovery of revenue “above” the RAM Cap would be necessary for certain Major Projects⁵⁹ brought into service outside the most recent rate case test year, and thus not otherwise provided for in the utility’s revenue requirement. The HECO Companies may request interim recovery for Major Projects in accordance with the MPIR Guidelines established in the Decoupling Re-examination Investigation (Docket No. 2013-0141).

The MPIR Guidelines provide that requests for interim recovery for Major Projects will be made in the context of the proceedings separately required by General Order No. 7 (to consider approval for expenditure of funds on Major Projects). The Guidelines identify, among other provisions, eligibility criteria, what information must be provided in an application, what types of costs are eligible for interim recovery, and the timing and mechanism of interim cost recovery. Generally, the MPIR Guidelines provide that (1) interim cost recovery will be provided as approved on a case by case basis (i.e., the Guidelines serve as guidelines, not rules or a tariff), and (2) allowed costs will be determined on a “net” basis (i.e., identified costs reduced by quantifiable monetized utility benefits).

4.2.6 Earnings Sharing Mechanism

The RAM tariff includes an earnings sharing mechanism as a safeguard to ensure that the automatic attrition relief adjustments provided by the RAM do not result in excessive utility earnings. The mechanism calculates and compares the achieved percentage return on common equity from the most recent full year recorded results with the return on equity allowed in the most recent general rate case. If the realized regulatory return on common equity is in excess of the allowed return, specified proportions of the excess is returned to customers.

- First 100 basis points excess => 25% of excess is returned to customers
- Next 200 basis points excess => 50% of excess is returned to customers
- Above 300 basis points excess => 90% of excess is returned to customers

⁵⁹A “Major Project” is a capital project in excess of \$2.5 million, for which Commission approval is required prior to substantial expenditure of funds in accordance with the Commission’s General Order No. 7.

The earnings sharing mechanism has resulted in refunds to customers through the RAM Provision tariff in several instances.

4.2.7 Energy Cost Adjustment Mechanism (ECAC/ECRC) and Purchased Power

Adjustment Mechanism (PPAC)

Each of the HECO Companies has an automatic energy cost adjustment provision (ECAC) that adjusts monthly energy charges to customers based on the most current fuel price and purchased energy costs. Monthly energy charge adjustments are reconciled quarterly to correct for under-or-over recovery, updated price and cost information, and “heat rate” adjustments for company generation efficiency.

As discussed below, the ECAC for each company currently includes a generation efficiency provision and, for HECO, will include a fuel cost risk sharing provision effective January 1, 2019. Notwithstanding these existing and pending provisions, the ECAC passes most of the fluctuations in fuel costs directly to customers. The ECAC thus provides recovery of fuel and purchased power expense, avoids the need for frequent rate cases that would otherwise be needed primarily to adjust rates to account for changes in fuel prices, and avoids “gaming” the timing of rate cases to take advantage of fuel price fluctuations. The ECAC also substantially insulates the HECO Companies from the impacts of the fuel price risk and revenue variability associated with utilizing petroleum-based fossil fuels.

The HECO Companies recover contractually purchased capacity and other non-energy contract costs through the PPAC mechanism. This mechanism is a straight pass through of contractual power purchase expenses not otherwise recovered through base rates or the ECAC provision.

4.3 Performance Incentives

4.3.1 Metrics Reporting Requirements

The HECO Companies are required to maintain and prominently publish on the Companies’ web sites a list of performance metrics covering renewable energy, utility costs, safety and reliability, and other indicators.⁶⁰ The list of metrics was established in the Decoupling Re-examination (Docket No. 2013-0141). Data for most of the metrics is reported on a quarterly basis for the most recent two years and on an annual basis for the most recent ten-year period.

Although some of the metrics are utilized in existing PIMs (discussed below) most metrics do not include performance targets or financial incentives.

⁶⁰The list of reported performance metrics is included as Appendix A to the Commission staff report in this proceeding: Goals and Outcomes for Performance-Based Regulation in Hawaii, July 10, 2018.

4.3.2 Performance Incentive Mechanisms (PIMs)

Service Quality PIMs

Each of the HECO Companies has a Performance Incentive Mechanism tariff including three performance incentive mechanisms (PIMs), including two reliability PIMs and a customer service PIM.

These PIMs were established as “backstop” PIMs to ensure that any financial incentives to reduce utility operation costs and thereby increase profits under the existing regulatory structure, will not be attained by sacrificing utility service quality.

- **Reliability PIMs**
 - System Average Interruption Duration Index (SAIDI)
 - Metric: Target and Measured SAIDI per IEEE Standard 1366 methodology
 - Target: Average of prior ten year historical period record
 - Deadband: one standard deviation of historical period record
 - Maximum Financial Incentive: Penalty only, 20 basis points of ROE
 - Penalty Formula: Linear interpolation from zero incentive at deadband extreme to maximum incentive at additional one standard deviation limit.
 - The Target, Deadband and Maximum Incentive are reset at each rate case Final D&O but remain fixed in interim periods.
 - System Average Interruption Frequency Index (SAIFI)
 - Same provisions as SAIDI PIM for the SAIFI metric per IEEE 1366 Standard methodology
- **Customer Service PIM**
 - Call Center Performance
 - Metric: Percentage of calls to the call center answered within thirty seconds
 - Target: Average of most recent eight quarters (two years)
 - Deadband: plus/minus 3% of Target
 - Maximum Financial Incentive: Symmetrical penalty/reward, 8 basis points ROE
 - Penalty Formula: Linear interpolation from zero incentive at deadband extreme to maximum incentive at minimum/maximum of historical quarterly performance.
 - The Target, Deadband and Maximum Incentive are reset at each rate case Final D&O but remain fixed in interim periods.

Demand Response and Renewable Energy PIMs

The Commission set forth a performance incentive related to the timely acquisition of cost-effective demand response resources from third-party aggregators. For cost-effective demand response resources acquired, enrolled, and operational in 2018, the Companies will receive a performance incentive equivalent to up to 5% of the aggregate annual contract value, subject to a cap of \$500,000.⁶¹

The Commission has also established performance incentives to reward successful procurement of grid-scale renewable resources. A shared-savings performance incentive mechanism for Phase 1 of the HECO Companies' ongoing competitive procurement for renewable generation provides an 80% customer / 20% utility split of the estimated first-year savings from low-cost renewable project, subject to Commission approval, up to a cap of \$6,500,000.⁶²

4.3.3 ECAC Generation Efficiency Incentives

The ECAC passes changes in fuel prices and purchased energy expenses through to customers. The ECAC provisions are not, however, an automatic straight pass through of all company fuel costs. The ECAC provides some incentives for efficient operation of the company-owned components of the generation system.

Recovery of company-owned generation fuel costs is determined by a formula based on company thermodynamic generation efficiency (heat rate) that allows the company to earn revenue rewards with generation performance that, for each fuel type, is better than a "target" heat rate by an amount in excess of a "deadband" margin, and penalizes the company for performance worse than the target heat rate by more than the deadband margin. Within the range of the deadband margin around the target heat rate, the ECAC serves as a straight pass through of fuel and purchased energy expense.

The ECAC generation efficiency provisions provide incentives for the HECO Companies to commit and dispatch the resources on the generation system to maximize company-owned generation efficiency, to maintain company-owned generation in good condition, to efficiently schedule planned unit maintenance, and to minimize forced outages.

The generation efficiency incentives are also recognized to conflict with some system operation objectives, such as minimizing curtailment of variable renewable energy generation and providing associated operation reserve margins.⁶³ The deadband margins around the target heat

⁶¹Docket No. 2015-0412, Decision and Order No. 35238 at 104-105.

⁶²See Docket No. 2017-0352, Order No. 34505 at 11, 37; Docket No. 2017-0352, Order No. 35664 at 7.

⁶³Providing the increased operating reserve margins necessary to mitigate the variability in the output of some renewable generation can result in decreased generation system thermodynamic (heat rate) efficiency.

rate were implemented to mitigate this recognized conflict by providing a range within which the utility can provide necessary operation reserves without penalty.

4.3.4 ECAC/ECRC Fuel Cost Risk Sharing Amendment

For HECO, the Commission has approved amendments to the ECAC provision that will pass through 2% of overall fuel cost risk (including both fuel price and operational efficiency risks) to the Company, subject to a cap on Company revenue exposure of \$2.5 million per year. This risk sharing provision is scheduled to become effective in January 2019, as part of a renamed and reconfigured “ECRC” provision. The reconfigured ECRC provision also moves the fuel and purchased energy costs that are currently embedded in base rates to be recovered fully through the revised ECRC provision. Similar proposals are being examined in MECO’s pending 2018 general rate case.

The ECAC currently provides some incentives (as described above) to the utility to operate its generation resources efficiently, but passes all risks associated with fuel price changes through to customers. Thus, the fuel cost risk sharing amendment will provide some “sharing” of fossil fuel cost risks with HECO and provides some long-term incentives to HECO to embrace resource strategies that manage and/or avoid fossil fuel price risks.

4.4 Non-Revenue Regulatory Provisions

In addition to the revenue and incentive-focused PBR mechanisms discussed above, there are several additional mechanisms and requirements that frame the overall regulatory environment of the State’s electric utilities. Some provisions that may be pertinent to consideration of utility incentives and risks are identified briefly below.

4.4.1 Renewable Portfolio Standards (RPS)

The State of Hawaii established RPS for all electrical utilities by statute, with several sequential statutory revisions in the dates, required percentages and definitions of percentage determinants. The current effective statutory standards require KIUC and the combined HECO Companies to attain the following percentages of annual renewable generation as a fraction of annual utility sales:

- 10% by 2010
- 15% by 2015
- 30% by 2020
- 40% by 2030
- 70% by 2040
- 100% by 2045

As provided by the RPS statute, the Commission has established penalties to the utilities of \$20 per MWh for non-attainment of the RPS. In this way, the penalties associated with the RPS serve an incentive to achieve or exceed the RPS requirements.

4.4.2 System Planning Requirements

The Commission requires the HECO Companies to conduct periodic long-term planning activities, including ensuring active stakeholder engagement and input into the planning process. Over time, the planning process has evolved along with improvements to planning tools and methods used by the utilities.

The HECO Companies are currently preparing for an “Integrated Grid Planning” process which is the subject of an investigation by the Commission, Docket No. 2018-0165.

4.4.3 Competitive Bidding Framework for New Generation

The Commission established a Framework for Competitive Bidding that applies to procurement of new generation facilities above a certain threshold (5 MW for HECO and about 2 MW for MECO and HELCO).⁶⁴ A utility may propose to self-build a new generation facility, in which case the Framework provides for an Independent Observer to oversee the RFP and bidding process. The utility may apply for a waiver from the competitive bidding process in specified circumstances.

4.4.4 Review of Major Capital Improvement Projects, Fuel Contracts, and Purchased Power Contracts

Prior to expenditure of funds on a Major Project (a project costing in excess of \$2.5 million), a utility must obtain approval from the Commission in accordance with the Commission’s General Order No. 7 provisions.

In addition, prior to including costs for fuel contracts or purchased power agreements in the ECAC or PPAC, the utility must obtain the Commission’s approval.

4.4.5 Rules and Standards (including Interconnection)

In addition to the rate schedules established in a general rate case, each utility is subject to “rules” which are maintained as tariffs, and which are reviewed and approved by the Commission. The rules consist of standards and regulations addressing a wide spectrum of subject matter governing relations and accounts with utility customers. These include the interconnection standards and provisions for several compensation programs for customer-generated energy.

⁶⁴See Docket No. 03-0372, Decision and Order 23121, Exhibit A, Framework for Competitive Bidding, Section II.A.3.f.

4.4.6 Review of Utility Accounting and Financial Affairs

The accounting practices, major financial transactions and the issuance and management of security instruments are subject to various standards and laws implemented by several agencies, with some aspects subject to review and approval by the Commission.

4.4.7 Energy Efficiency Portfolio Standards

Ratepayer-funded energy efficiency programs are provided by a “third-party” contractor reporting to the Commission (known as “Hawaii Energy”). These programs contribute towards the state’s achievement of the statutorily mandated EEPS, which requires savings of 4,300 GWh of electricity by 2030. Program costs are provided by a Public Benefits Fee charged to HECO Companies’ customers.

4.5 Summary of Existing Regulatory Mechanisms

Below is a three-column list of the mechanisms identified in this section.

Revenue Adjustment Mechanisms	Performance Incentive Mechanisms	Non-Revenue Regulatory Provisions
3 Year Rate Case Cycle	Metrics Reporting Requirements	RPS and EEPS Requirements
Revenue Decoupling (RBA Provision)	Backstop PIMs (SAIDI, SAIFI, Customer Service)	System Planning Requirements
RAM Attrition Relief Provisions (O&M, Rate Base, Depreciation & Amortization)	Demand Response PIM	Competitive Bidding Framework
Partial Revenue Cap (RAM Cap)	Renewable Procurement PIMs	Approval of Major Capital Projects, Fuel Contracts, and Purchased Power Contracts
Major Projects Interim Recovery Mechanism	ECAC/ECRC Fuel Cost Risk Sharing Incentive	Approval of Rules and Standards
Earnings Sharing Mechanism	ECAC Generation Efficiency Incentive	Approval of Accounting Policies and Financing Arrangements
Major Projects and Baseline Projects Credit Mechanisms		
ECAC/ECRC and PPAC fuel and purchased power pass-through		

5 Regulatory Assessment

Assessment of the regulatory structure, which was characterized in Section 4, above, is an intermediary step in Phase 1 in which outcome achievement and areas for improvement are assessed based on the current regulatory framework.

5.1 Process Design Context

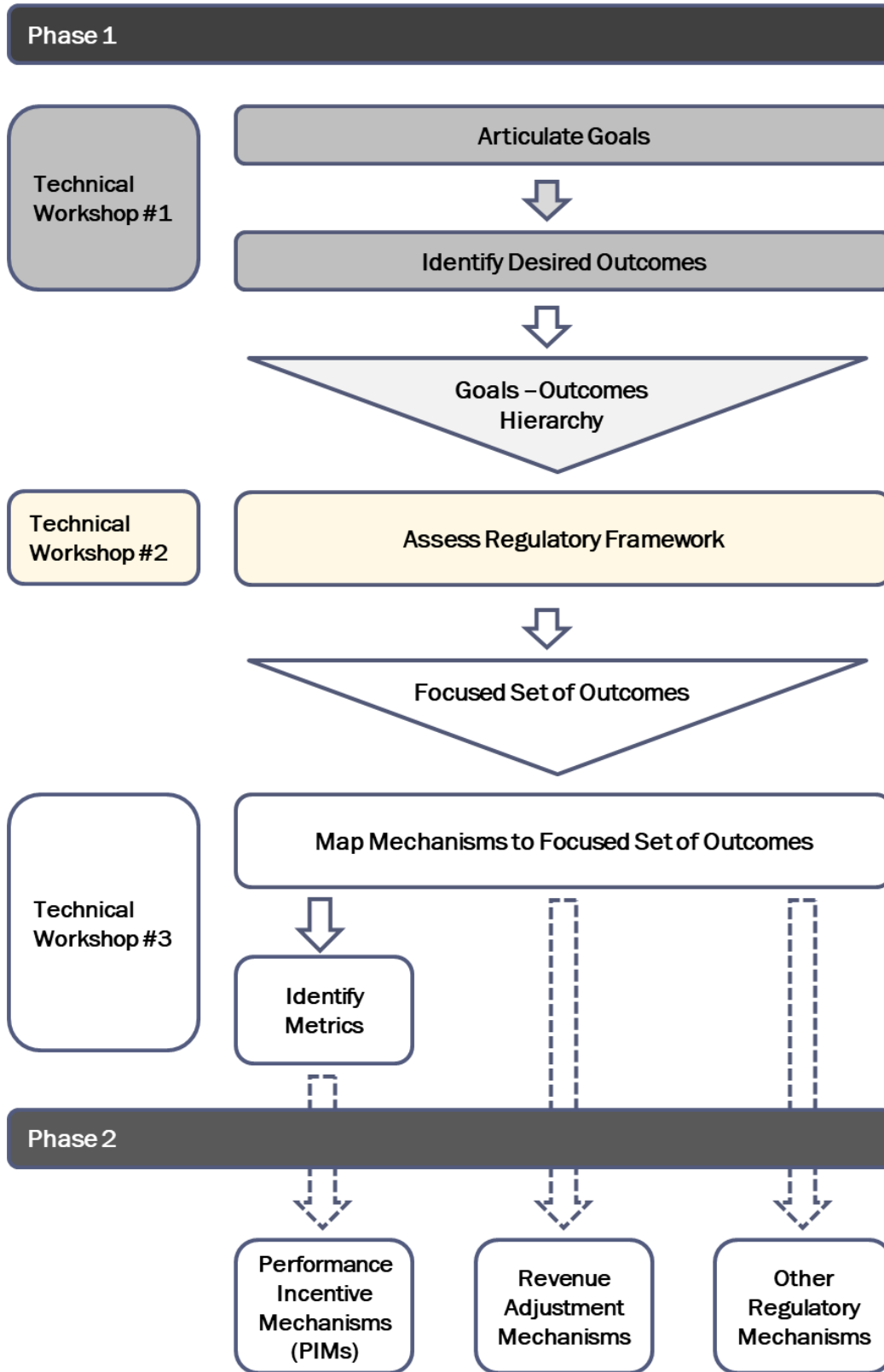
As laid out in Section 2 above, Phase 1 of this proceeding is comprised of three major steps.

Step 1, identified regulatory goals and outcomes to serve as guiding principles as well as a lens by which to assess the existing regulatory framework.

Step 2, the current stage, seeks to elicit insights about the effectiveness of the current regulatory framework by examining how individual regulatory mechanisms help, hinder, or have no impact on the achievement of identified outcomes. The goal of this high-level assessment is to inform a down selection of priority outcomes - a focused subset of which will serve as inputs into *Step 3*.

Step 3, in turn, will map each of the prioritized outcomes to an appropriate category of regulatory mechanism for further evaluation, including revenue adjustment mechanisms, performance incentive mechanisms, or other regulatory tools. Outcomes will be matched to the appropriate set of regulatory tools that can most effectively support achievement of the outcome. Where appropriate (e.g., those outcomes identified as mapping to the PIM category), relevant metrics will be developed.

PBR Process Design



5.2 A Common Assessment Approach

The primary aim of the present stage of Phase 1 is to conduct an outcome-oriented assessment of the current regulatory framework. The approach outlined in this section is intended to provide a high-level examination of which regulatory outcomes are currently well-served by the existing regulatory framework and which are not. The goal of this evaluation and assessment is to inform the development of a distilled and focused list of regulatory outcomes to be further addressed in Phase 1 and throughout Phase 2.

In their Regulatory Assessment Briefs, Parties are encouraged to perform an assessment for each of their top five priority outcomes. It is expected that these prioritized outcomes will correspond to those outcomes the Party believes warrant further focus in Phase 2 of this proceeding.

To aid the Parties' as they conduct their respective assessments, Staff has created a suggested structure to evaluate individual regulatory mechanisms' efficacy in supporting the achievement of identified outcomes. The Assessment Template (Attachment A to this report) is a simple tool that offers a common methodology and approach to: capture observations about what is working or not working; describe how specific mechanisms may impact identified outcomes; highlight inter-dependencies and tradeoffs between outcomes and mechanisms; and, incorporate data as a reference point for discussion.

The Parties are strongly encouraged to rely on quantitative data and information as an evidentiary basis and foundation to support their qualitative conclusions. Parties may also highlight where more information or data is desired. The incorporation of data will provide a useful bridge to the next stage of Phase 1 of this proceeding, which will focus on identifying key outcome metrics that should be targeted for improved tracking, measurement and possible incorporation into new or revised regulatory mechanisms.

5.3 The Assessment Template: Introduction

Step 1 – Select Outcome

The assessment structure begins with the selection of a particular regulatory outcome to be assessed. The selected outcome should be concisely described, and the attendant overarching regulatory goal should also be noted. For example, if the Staff-proposed outcome of "Affordability" were to be assessed, the Assessment Template might be populated as follows:

Outcome: Affordability	Goal: Enhance Customer Experience
Description: Hawaii customers experience the highest electric retail rates in the nation. Changing customer preferences, declining retail sales, and investments needed to address aging infrastructure, emphasize the growing need to focus on affordability and to bring down the total cost of energy services.	

Step 2 – Evaluating Each Mechanism’s Effect on Outcome

The Assessment Template, applied to one regulatory outcome at a time, is organized as a table with existing regulatory mechanisms enumerated as rows down the left side of the matrix. For each regulatory mechanism a “Score” determination is made as to whether:

- The mechanism incents achievement of this outcome (indicated by “+”)
- The mechanism does not seem to impact achievement of this outcome (indicated by “0”)
- The mechanism disincentivizes achievement of this outcome (indicated by “-“)

Existing Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
Multi-Year Rate Plan (MYRP)	Multi-year rate plans use general rate cases as the primary mechanism for setting utility rates and determining allowed utility revenues. Rate cases revisit revenue requirements (based on cost of service and a 'reasonable' return on investment) and revenue collection from customers every three years.			

Each row offers a “Discussion” area, which provides opportunity to narratively explain the scoring of the mechanism. Additional “Issues for Attention” can be highlighted as well, which could include any interplay and/or tension between one regulatory mechanism and another.

Step 3 – Overall Assessment Conclusion

After each individual regulatory mechanism is evaluated against the outcome in question, an overarching, summary question is posed: *“Overall, does the existing regulatory framework sufficiently support achievement of this outcome?”* Responses in this field should provide an overall, qualitative statement for how well existing regulations drive achievement of the outcome, and should note any additional considerations that may not be captured by individual mechanism examinations.

Overall, does the existing regulatory framework sufficiently support achievement of this outcome?		Discussion (Conclusions/Recommendations/Primary Observations)
+ YES Incentivizes Achievement		
0 NO IMPACT		
- NO Disincentivizes Achievement		

Supporting Data or Information

Finally, as noted above, Parties are encouraged to supply relevant data as an evidentiary basis for their qualitative conclusion(s). This could include information derived from pertinent reports filed with the Commission or other agencies, among other sources.

Supporting Data or Information	
<p>Existing Data or Measurements (e.g., from HECO Companies’ reporting or other sources)</p>	

6 Next Steps

This report has two primary objectives: (1) to provide a characterization of the existing regulatory framework, which should help support common understanding of the individual mechanisms that comprise it; and, (2) to introduce an Assessment Template, a suggested approach or tool that the Parties may use to conduct their individual regulatory assessments.

Building off this report, the central events of this stage of the PBR proceeding encompass Technical Workshop #2 and the Parties' subsequent Regulatory Assessment briefs.

Technical Workshop #2

To be held on Thursday, September 27, Technical Workshop #2 will include collaborative activities to explore and examine the existing regulatory framework, including exercises to help the Parties become better acquainted with the Assessment Template introduced in this report to the extent it may serve as a useful tool to guide the Parties' briefs.

Regulatory Assessment Briefs

Due October 25, 2018, the Parties shall submit briefs that focus on assessing the existing regulatory framework. To that end, Parties may consider structuring their briefs to include the following:

- Set forth top five priority outcomes, which should correspond to those outcomes warranting further focus in Phase 2;
- Assess whether individual regulatory mechanisms sufficiently drive achievement of each of the five prioritized outcomes;
- Provide an informed conclusion as to whether, overall, the existing regulatory framework adequately supports achievement of each of the five prioritized outcomes; and
- Cite to data or quantitative information, where appropriate, to help support the proffered conclusions.

ATTACHMENT A

Docket No. 2018-0088: Performance-Based Regulation
 Regulatory Assessment Template

Outcome:		Goal:		
Description:				
Do the existing regulatory mechanisms sufficiently support the outcome?				
Key				
+	Yes	The mechanism incentivizes achievement of this outcome		
0	No Impact	The mechanism does not seem to impact achievement of this outcome		
-	No	The mechanism disincentivizes achievement of this outcome		
Existing Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
Multi-Year Rate Plan (MYRP)	Multi-year rate plans use general rate cases as the primary mechanism for setting utility rates and determining allowed utility revenues. In Hawaii, rate cases revisit revenue requirements (based on cost of service and a 'reasonable' return on investment) and revenue collection from customers every three years.			

Docket No. 2018-0088: Performance-Based Regulation

Outcome:			Goal:	
Description:				
Existing Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
RAM	The RAM (Revenue Adjustment Mechanism) adjusts the Target Revenue during the multi-year rate plan, changing allowed revenues for O&M, Rate Base (net plant capital costs in two categories, baseline and major capital expenditures), depreciation and amortization. The RAM also includes safeguards (such as ESM and major and baseline capital project credits).			
RAM Cap	The RAM Cap sets a limit on the size of the annual RAM adjustments so that Target Revenues do not increase in excess of the projected rate of inflation.			
MPIR	The MPIR (Major Project Interim Recovery) mechanism allows for recovery of costs for large plant additions, not limited by the RAM Cap.			

Outcome:			Goal:	
Description:				
Existing Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
Revenue Decoupling - RBA	The RBA (Revenue Balancing Account) is a revenue decoupling mechanism that ensures recovery of allowed revenues (excluding fuel and purchased power, which are collected separately by the ECAC and PPAC) regardless of sales, demand, etc.			
Earnings Sharing Mechanism (ESM)	The ESM (Earning Sharing Mechanism) returns a portion of the revenue to customers if the utility earns more than the return on equity approved in the most recent rate case.			

Docket No. 2018-0088: Performance-Based Regulation

Outcome:			Goal:	
Description:				
Existing Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
ECAC/ ECRC/ PPAC	Provisions that adjust monthly energy charges to customers based on the most current fuel prices and purchased power costs. These pass most of the fluctuations in costs directly to customers, substantially insulating the HECO Companies from the impacts of power cost risk and variability.			
PIMs	Service Quality – Performance Incentive Mechanisms that include SAIDI, SAIFI, and Call Center Performance			
	Targeted Energy Policy – Performance Incentive Mechanisms that include Demand Response Portfolio Program Launch and Renewables Procurement			

Docket No. 2018-0088: Performance-Based Regulation

Outcome:			Goal:	
Description:				
Current Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
RPS	Renewable Portfolio Standards require increasing proportions of renewable energy in the HECO Companies' portfolio. The Commission has established penalties for non-compliance.			
EEPS	EEPS (Energy Efficiency Portfolio Standards) require increasing amounts of energy savings statewide (4,300 GWh by 2030). The Commission has contracted with a third-party to administer energy efficiency programs in the HECO Companies' service territories. Funding for these programs comes from a surcharge on customer bills.			

Outcome:			Goal:	
Description:				
Current Regulatory Mechanism	Description	Mechanisms' Effect on Outcome		Issues for Attention
		Score (+/0/-)	Discussion	
Other Existing Mechanisms (if relevant)				

Outcome:		Goal:
Description:		
Overall, does the existing regulatory framework sufficiently support the achievement of this outcome?		Discussion (Conclusions/Recommendations/Primary Observations)
+ YES Incentivizes Achievement		
0 NO IMPACT		
- NO Disincentivizes Achievement		

Outcome:		Goal:
Description:		
Supporting Data or Information		
Existing Data or Measurements (e.g., from HECO Companies' reporting or other sources)		
Other Pertinent Information		

ATTACHMENT B

Goals	Outcomes	Description
Enhance Customer Experience	Affordability	Hawaii customers experience the highest electric retail rates in the nation. Changing customer preferences, declining retail sales, and investments needed to address aging infrastructure, emphasize the growing need to focus on affordability and to bring down the total cost of energy services.
	Reliability	<p>Reliable supply of electricity is a necessity. For utilities, maintaining a high level of reliability is central to the core functions of providing safe, reliable, and affordable electricity for all its customers.</p> <p>The North American Electric Reliability Council's definition of reliability encompasses two concepts: adequacy and operating reliability. Adequacy is defined as "the ability of the system to supply the aggregate electric power and energy requirements to the consumers at all times." Operating reliability is defined as "the ability of the system to withstand sudden disturbances such as electrical short circuits."</p>
	Power Quality	Electric service must be of high quality with a level of consistency delivered to all customers. HECO defines power quality as "a voltage and frequency compatible with operation of our customers' end-use equipment." For many customers and end-uses, power quality is as important as reliability.
	Interconnection Experience	As the number of Distributed Energy Resources (DER), Community-Based Renewable Energy (CBRE) projects, and third-party-owned, grid-scale resources on Hawaii's electric grid increases, a streamlined process for connecting these technologies is needed to ensure interconnection is efficient and seamless. Numerous aspects and phases of the interconnection experiences are important for the customer services, grid management, and achievement of Hawaii's energy policy goals.

Goals	Outcomes	Description
Enhance Customer Experience	Interconnection Experience (continued)	These factors include the complexity and timeliness of the application process, effective communication and provision of grid data and customer information, the use of advanced inverters and other technologies to facilitate the interconnection process and reduce the costs of interconnection.
	Utility Bill Stability	For families and businesses to make informed budget decisions, it is important that the total cost of energy services remain relatively stable, without extreme volatility over short time periods. Possible indications of utility bill stability include percent change in average bill per customer class between months and years, or absolute change in average customer bill between periods, including payments or credits for non-utility energy services.
	Customer Engagement	Utilities will need to adequately and equitably facilitate a move toward a participatory electric grid, as customers migrate from passive consumers of a commodity (kWh) to active participants in a dynamic market for grid services. Expectations for customer engagement and education have increased along with technological advances. To that end, it may be important to track customer participation in DER, DR, other customer-facing programs, as well as the level of quality program administration and innovative product and service offerings on the part of the utility.
	Customer Service	Utilities should be held accountable for treating customers the way they would if customers had the option to take their business elsewhere. As the Commission considers regulatory outcomes anew in this proceeding, customer satisfaction should be considered separately from service quality. This outcome could consider a broad range of metrics relating to services for customers.

Goals	Outcomes	Description
Improve Utility Performance	Cost Control	Utilities should take measures to manage investments, projects and business operations in an efficient manner without undue waste or cost overruns. Transparently tracking specific utility expenditures can help ensure that utilities are prudently managing costs in a manner that does not negatively impact service to customers. Although Cost Control is an outcome that will likely overlap with others, namely Cost of Power Supply and Grid Investment Efficiency, there may be value in setting forth distinct regulatory outcomes to separately account for Cost Control (particularly operations and maintenance); Cost of Power Supply (utility and independent power); and Grid Investment Efficiency (focused on capital bias and asset management).
	Grid Investment Efficiency	Given the already high cost of electricity for Hawaii customers, and the increasing availability of alternatives to traditional electric service, it is important that utilities pursue optimal solutions for identified grid needs irrespective of the nature of the investments (i.e., investment in utility-owned capital expenditures versus third-party provided service-based solutions).
	Cost-Effective System Operations	Due to Hawaii's dynamic and evolving energy landscape, the HECO Companies have engaged in significant efforts to adapt system operations. This outcome relates to day-to-day utility system operations, with the objective that the Companies commit and dispatch units and operate the system in an economically optimal manner that is aligned with, and informed by, the State's energy and policy goals.
	Cost of Power Supply	A large share of customers' bills is attributable to power supply costs. Although overlapping with other cost-focused regulatory outcomes, it is critical to measure and track this component, as it also maps back to the customer-centric regulatory outcome of Affordability.

Goals	Outcomes	Description
<p style="text-align: center;">Improve Utility Performance</p>	<p>Grid Planning Effectiveness</p>	<p>As the price of renewable energy sources drops and capabilities of new grid technologies advance, it is important that utilities make efficient decisions regarding resource and infrastructure investments. Utilities increasingly have an opportunity to design diversified and flexible plans to meet future electricity needs. Planning effectiveness can be harder to measure than other outcomes, but could be tracked according to stakeholder engagement efforts and timely completion of the planning process.</p>
	<p>DER Asset Effectiveness</p>	<p>The HECO Companies' service territories have experienced some of the highest DER adoption in the world. The trend toward more dynamic and distributed power systems is expected to continue, as a result of underlying economics, customer preferences, and the State's policy goals. As the electric utility network continues to transform from one defined by central station generation and one-way power flow to a system in which there are thousands of DER and multi-directional power flows, there is an emergent and increasing need to ensure that these new resources are able to play an integral role in the optimal functioning of the network. From a customer perspective, there are benefits to deferring traditional investment, increasing grid reliability and power quality, and procuring grid services in the most cost-effective manner.</p>
	<p>Resource/Grid Solutions Procurement Transparency</p>	<p>As new technologies and grid solutions become available and economic, open and transparent procurement processes can help to promote prudent consideration of available options. Competitive procurement processes can result in cost-effective and innovative new solutions. Stakeholder engagement and participation through all stages of procurement can improve dialogue and support better solutions.</p>

Goals	Outcomes	Description
	Safety	Safety for workers as well as the public remains vitally important to track carefully throughout utility operations. HECO current publishes several categories of safety data, including a Total Case Incident Rate (number of work-related injuries and illnesses per 100 employees), Lost Time Rate (a measurement of injury or illness resulting in an employee unable to work a full assigned work shift), and Public Safety Incidents (injuries connected to utility operations and services).
Advance Societal Outcomes	RPS Achievement	Hawaii's 100% renewable energy portfolio standard is a major policy priority that should inform utility regulations, planning, operations, and investments. Annual energy production from renewable energy sources will remain an important outcome to track.
	Energy Efficiency and Conservation (EEPS)	Hawaii's Energy Efficiency Portfolio sets a target of reducing electricity usage by 4,300 GWh by 2030. This constitutes a significant portion of forecasted electricity demand. Hawaii Energy is the Program Administrator (under contract to the Commission) for energy efficiency and demand-side management programs in the HECO Companies' service territories. This outcome would focus primarily on ensuring coordination and collaboration between Hawaii Energy and the HECO Companies.
	Carbon Intensity	Along with RPS standard, reducing the carbon dioxide emissions of Hawaii's electricity system is a priority, with a goal of reducing statewide greenhouse gas emissions to 1990 levels by January 2020. Carbon intensity can be quantified by person (CO2/customer), by unit of electricity (CO2/MWh), or by percentage of electricity from fossil fuels.
	Environmental Goals Visual/Air/Water Pollution	Other environmental goals include reducing visual, air, and water pollution that may have an adverse impact on the public. Non-greenhouse gas pollutants include SOx, NOx, and particulates, which are regulated at the state and federal level. These pollutants can result in severe health effects and environmental harm.

Goals	Outcomes	Description
Advance Societal Outcomes	Resilience	<p>Resilience is the ability of a system or its components to adapt to changing conditions and withstand and rapidly recover from disruptions. It can be thought of as having four dimensions: (1) robustness (the ability to absorb shocks and continue operating); (2) resourcefulness (the ability to skillfully manage a crisis as it unfolds); (3) rapid recovery (the ability to get services back as quickly as possible); and (4) adaptability (the ability to incorporate lessons learned from past events to improve resilience).</p> <p>Threats to the grid can be both external (e.g., physical and cyber-related attacks from adversaries) and internal (e.g., aging infrastructure and the increasing adoption of variable generation). In light of the inevitable risks facing the electric power system, heightened further by Hawaii's geographic isolation and risk of exposure to natural disasters, there is an increasing emphasis on the importance of resilience.</p>
	Risk Distribution	<p>Ratepayers have historically borne a significant share of risk from investment decisions and other aspects of utility operations. This has supported some attractive features of the electricity sector, including a low cost of capital for utilities to borrow money and make investments. It may also result in less incentive for utility managers to make sound, long-term decisions in all cases, as compared to how other businesses in the competitive economy must operate. Risk distribution is a particularly hard outcome to attach precise metrics to, but it is an important outcome to consider and monitor as regulatory reform is pursued.</p>
	Capital Formation (sector wide)	<p>Capital formation is the ability to attract debt and equity at a reasonable cost. Beyond the utility, capital formation also can refer to the ability of third parties to attract capital at sufficient scale. While traditional utility regulations do not consider broader capital flows in the electricity sector, the increasingly diverse and competitive marketplace for electricity services suggests that regulations do not serve their societal objectives through a narrowly constructed view to promote or maintain the financial health of the utility. Rather, while indisputably</p>

Goals	Outcomes	Description
Advance Societal Outcomes	Capital Formation (sector wide) (continued)	an important regulatory consideration, the utility's financial profile should be evaluated along with other sources of market investment that can serve customer and societal needs. An outcome such as capital formation, however, may not directly lead to a PBR mechanism in and of itself, but including it among other outcomes can provide a useful reference to monitor overall conditions and place the utility in the context of broader market health.
	Electrification of Transportation	Electrification of Transportation (“EoT”) represents a key component of the State's energy policy goals. As stated in the HECO Companies' EoT Strategic Roadmap, "Renewable energy growth and electrification of transportation are complementary, greater clean energy Impacts and customer value can be created by achieving both in tandem." Through rate design and other programmatic offerings, electric vehicles can help to manage a high-renewables grid, by providing grid services and optimizing load shape. EoT also constitutes an emerging business opportunity for utilities, as it presents an opportunity for increased customer engagement, as well as to offer additional value to customers.
	Social Equity/Opportunity	It is a public policy imperative that, to the extent possible, all customers fairly share in the costs and benefits associated with Hawaii's energy transition. As a possible example, the total number or percent participation by Low-to-Moderate Income (LMI) customers in customer programs (DER/DR/CBRE/EE) may be one approach to measuring this outcome.
	Access to System/Planning Data	To support grid modernization, including other regulatory outcomes like grid planning effectiveness, DER integration, and procurement transparency, it is important to ensure system data and planning information are readily available to appropriate stakeholders and potential service providers. As new grid planning approaches are developed, including through HECO’s Grid Modernization and Integrated Grid Planning efforts, timely access to underlying data, analyses, and assumptions will support more robust solution development and efficient investments.

ATTACHMENT C

Quantitative Information Regarding Existing Regulatory Elements for the HECO Companies (\$000)

Revenue Determinations In General Rate Cases							
			HELCO TY 2016 Final			MECO TY2018 Interim	
Expenses							
	Fuel			45,996			103,385
	Purchased Power			72,438			54,970
	Production			18,451			31,362
	Transmission			4,367			3,928
	Distribution			12,118			10,323
	Customer Accounts			7,736			7,017
	Uncollected Accounts			446			169
	Customer Service			1,216			3,519
	Admin. & General			18,375			21,332
	Customer Benefit Adjust			0			(411)
	O&M Expense		181,143			235,594	
	Depreciation and Amort			37,675			29,591
	State Tax ITC Amort.			(598)			(1,469)
	Taxes Other Than Income			27,160			31,883
	Interest on Cust. Deposits			180			145
	Income Taxes			9,145			8,780
Total Operating Expenses				254,705		304,524	
Return on Investment							
Average Rate Base			481,309			462,372	
			Fraction of Capitalization	Cost Rate or Rate of Return	Cost or Return	Fraction of Capitalization	Cost Rate or Rate of Return
	Short Term Debt		0.00%	1.50%	0	1.37%	3.00%
	Long Term Debt		40.13%	5.40%	10,430	38.68%	4.54%
	Hybrid Securities		1.86%	7.21%	645	1.96%	7.16%
	Preferred Stock		1.31%	8.18%	516	0.98%	8.15%
	Common Equity (ROE)		56.69%	9.50%	25,921	57.02%	9.50%
	Equity Basis for PIMs		272,854			263,645	
	Return on Ratebase (ROR)			7.80%	37,541	7.434%	34,373
Operating Income				37,541		34,373	
	Other Revenue			(888)		(2,852)	
Test Year Electric Sales Revenue				291,358		336,045	
	Tax Act Lag Adjustment			(1,587)		(2,769)	
Adjusted Electric Sales Revenue				289,771		333,276	
	Fuel			(45,996)		(103,385)	
	Purchased Power			(72,438)		(54,970)	
	Revenue Taxes			(25,746)		(29,612)	
Test Year Target Revenue (Accrual)				145,591		145,309	
Revenue Adjustments							
Test Year Target Revenue (Accrual)				145,591		145,309	
	2018 RAM Revenue Adj.			5,993		0	
	Earnings Sharing Adjustment			0		0	
	MPIR Adjustment			0		0	
	PIM Incentive Adjustments			0		0	
Current Effective Target Revenues				151,584		145,309	
RBA Reconciliation (Decoupling)							
	2018 Adjustment Balance			3,972		6,085	
	GWH Sales Est. (6/18 - 5/19)			1,038,400		1,041,700	
	Cnts. per kWh Rate Adjust.			0.383		0.584	

Quantitative Information Regarding Existing Regulatory Elements for the HECO Companies (\$'000)

Revenue Determinations In General Rate Cases						
		HECO TY2017 Final			Combined Companies	
Expenses						
	Fuel			327,609		476,990
	Purchased Power			466,211		593,619
	Production			79,306		129,119
	Transmission			15,808		24,103
	Distribution			46,825		69,266
	Customer Accounts			20,354		35,107
	Uncollected Accounts			732		1,347
	Customer Service			15,651		20,386
	Admin. & General			119,758		159,465
	Customer Benefit Adjust			(10,023)		(10,434)
	O&M Expense		1,082,231			1,498,968
	Depreciation and Amort			123,516		190,782
	State Tax ITC Amort.			(5,633)		(7,700)
	Taxes Other Than Income			145,569		204,612
	Interest on Cust. Deposits			723		1,048
	Income Taxes			37,538		55,463
Total Operating Expenses				1,383,944		1,943,173
Return on Investment						
Average Rate Base				1,993,360		2,937,041
		Fraction of Capitalization	Cost Rate or Rate of Return	Cost or Return		
	Short Term Debt	1.18%	1.75%	412		
	Long Term Debt	39.59%	5.03%	39,695		
	Hybrid Securities	1.22%	7.19%	1,749		
	Preferred Stock	0.90%	5.37%	963		
	Common Equity (ROE)	57.10%	9.50%	108,130		159,097
	Equity Basis for PIMs			1,138,209		
	Return on Ratebase (ROR)		7.57%	150,896		222,810
Operating Income				150,896		222,810
	Other Revenue			(2,988)		(6,728)
Test Year Electric Sales Revenue				1,531,852		2,159,255
	Tax Act Lag Adjustment			(2,143)		(6,499)
Adjusted Electric Sales Revenue				1,529,709		2,152,756
	Fuel			(327,609)		(476,990)
	Purchased Power			(466,211)		(593,619)
	Revenue Taxes			(135,915)		(191,272)
Test Year Target Revenue (Accrual)				599,974		890,874
Revenue Adjustments						
Test Year Target Revenue (Accrual)				599,974		890,874
	2018 RAM Revenue Adj.			12,599		18,592
	Earnings Sharing Adjustment			0		0
	MPIR Adjustment			6,014		6,014
	PIM Incentive Adjustments			0		0
Current Effective Target Revenues				618,587		915,480
RBA Reconciliation (Decoupling)						
2018 Adjustment Balance				54,032		64,089
	GWH Sales Est. (6/18 - 5/19)			6,556,200		
	Cnts. per kWh Rate Adjust.			0.824		