February 20, 2024

The Honorable Chair and Members
of the Hawai‘i Public Utilities Commission
Kekuanao‘a Building, First Floor
465 South King Street
Honolulu, Hawai‘i 96813

Dear Commissioners:

Subject: Docket No. 2022-0212 – Innovative Pilot Process
Hawaiian Electric Responses to PUC-HECO-IRs 01-04

Hawaiian Electric[1] encloses for filing the Company's responses to PUC-HECO-IRs 01-04, which the Commission issued in this proceeding on February 12, 2024, and a certificate of service. The Company was unable to complete the response to PUC-HECO-IR-05 to review and validate the estimated costs requested in PUC-HECO-IR-05. The Company will file PUC-HECO-IR-05 as soon as possible and no later than Friday, February 23, 2024. The Company apologizes for any inconvenience.

Sincerely,

/s/ Aki Marceau

Aki Marceau
Director, Electricication of Transportation

Enclosures

[1] Hawaiian Electric Company, Inc., Hawai‘i Electric Light Company, Inc., and Maui Electric Company, Limited are collectively referred to as "Hawaiian Electric" or the "Company."

PUC-HECO-IR-01

Reference: Letter From: A. Marceau To: Commission Re: Docket No. 2022-0212 – Innovative Pilot Process; Proposed Extension to Charge Ready Hawaii Pilot, filed on January 10, 2024 ("Pilot Notice") at 1; Docket No. 2020-0202, "Hawaiian Electric Application; Verification; Exhibits A-D; and Certificate of Service," filed on December 4, 2020 ("Charge Ready Application") at 14-15.

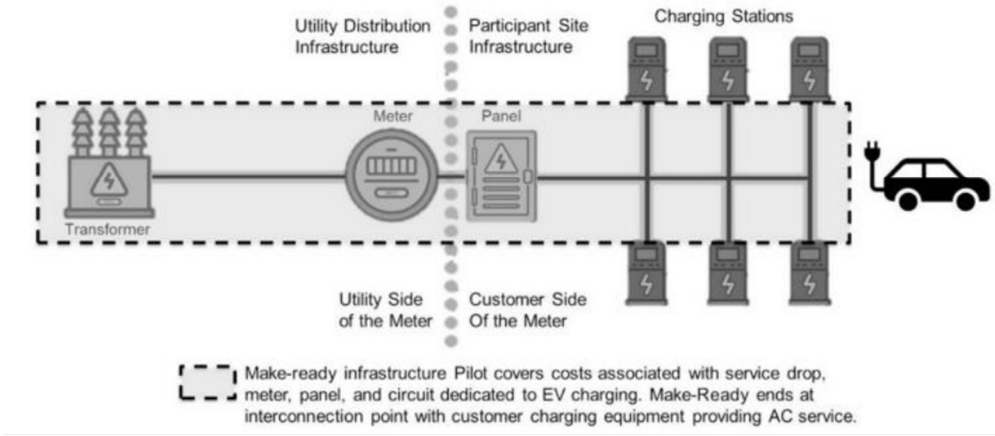
In the Pilot Notice, Hawaii Electric states:

> In order to enable increased Pilot participation, the Company proposes to remove the dedicated metering and Commercial EV rate enrollment requirements for primary-metered customers only. Through the Pilot implementation process, the Company has learned that primary metering is common for many existing hotel customers, which increases the complexity and cost to enroll in a separately metered Commercial EV rate.

In the Charge Ready Application, pages 14-15, Hawaiian Electric states:

> "Make-ready" includes all infrastructure that the customer would otherwise be responsible for under Rule 14 Service Connections and is necessary to provide electrical service to the charging stations (including facilities on the customer side of the meter), but excludes the charging stations, which are provided by the customer. In other words, it is the infrastructure required to "make ready" a location to support a charging station but does not include the charger itself. The Company will own and maintain the supporting electrical infrastructure and customers will choose, own, operate and maintain the charging stations.

Figure 2. Make-Ready Infrastructure Illustration



a. Please describe how the Make-Ready infrastructure configuration shown in Figure 2 will change for primary-metered customers if the dedicated metering requirement is removed?
b. By using the existing primary meter and customer transformer, what new electrical facilities on the customer side of the meter will HECO need to install?

Hawaiian Electric Response:

a. Figures 1 and 2 below display the difference between the standard make-ready infrastructure configuration and the make-ready infrastructure configuration for primary-metered customers. For primary-metered customers, a utility meter is on a high voltage distribution line and the customer installs their own transformer behind the meter to step down the voltage for the facility. For primary-metered participants, the Company will install a sub-meter after the transformer to capture the total energy consumption from the EV chargers. In a standard make-ready configuration, the Company installs a transformer to step down voltage before the meter, as displayed in Figure 1.

Figure 1. Standard Make-Ready Infrastructure Configuration

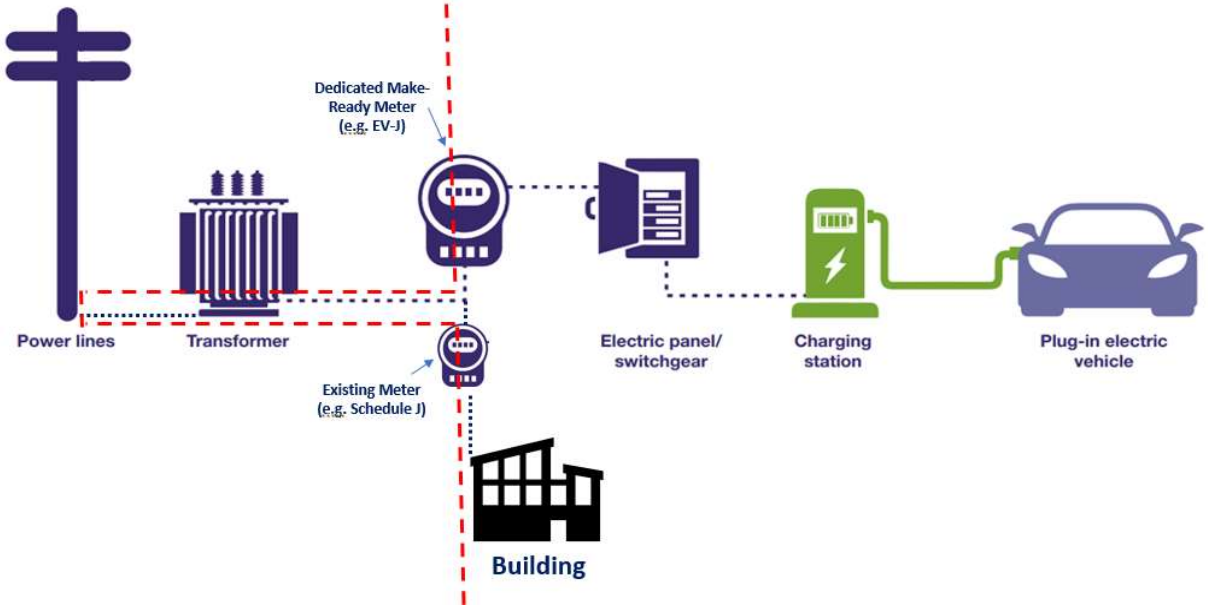
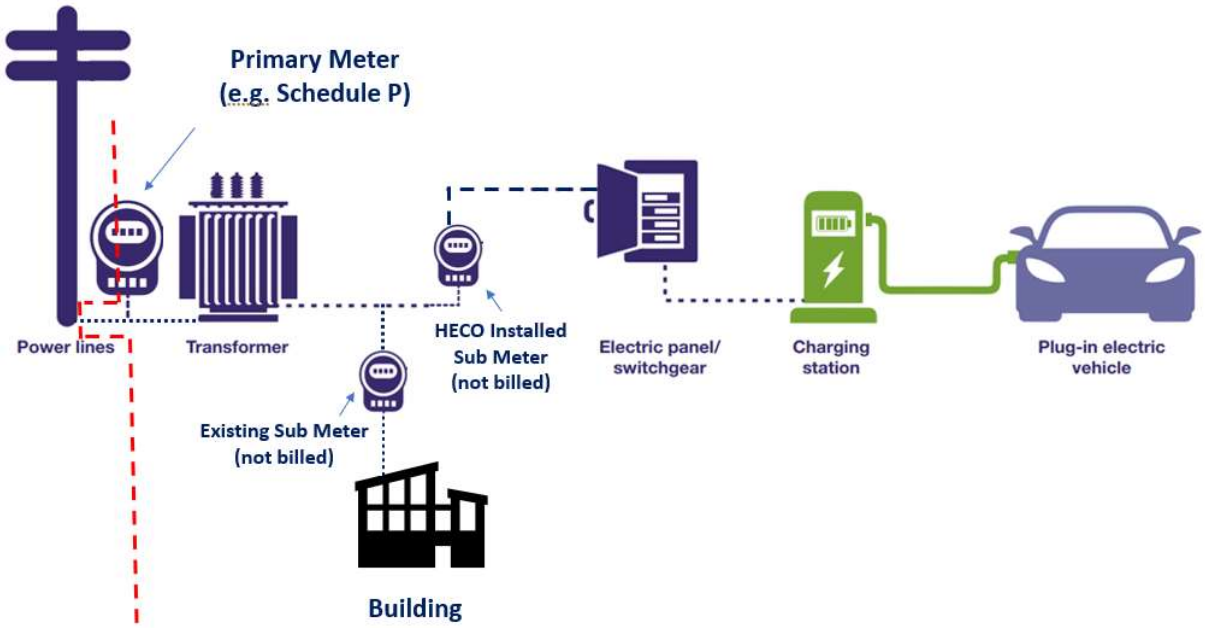


Figure 2. Make-Ready Infrastructure Configuration for Primary-Metered Customers



b. The Company will be responsible for installing the new sub-meter and electric panel after the sub-meter for primary-metered participants (as shown in Figure 2 above).

PUC-HECO-IR-02

Reference: Charge Ready Application at 14 and 21.

Some of the objectives for the Charge Ready Hawaii Pilot listed by Hawaiian Electric in the Charge Ready Application include:

> Objective 3B: Encourage vehicle charging during the mid-day, when solar energy is available. The proposed EV-J and EV-P tariffs offer a lower cost period from 9:00am to 5:00pm, so participation on these rates and response to this price signal will help integrate daytime solar.

And:

> This Pilot will allow us to examine how EV drivers and charging sites respond to price signals of the proposed EV-J and EV-P tariffs and enable us to evaluate the effectiveness of the overall rate design during the Pilot and beyond.

Please discuss how removing the Commercial EV rate requirement for primary-metered customers will impact these objectives.

Hawaiian Electric Response:

Removing the Commercial EV rate requirement for primary-metered customers would remove the incentive for primary metered participants to charge electric vehicles during the daytime. However, if the proposed change is accepted, the Company expects two primary-metered commercial customers on Hawai'i Island to participate, expanding Pilot participation to Hawai'i Island. Although the Company would not gain learnings from how drivers respond to price signals at these two sites, the Company would gain Pilot participation from Hawai'i Island, where the Company has not executed a Participation Agreement to date. Participation from primary-metered customers will also provide the Company insight into driver's charging habits at different types of properties (e.g., hotels). The Company will still collect time-of-use interval data from all other Pilot participants, enabling the Company to collect data on customer response to price signals. In addition, if the Shift and Save pilot is expanded to all customers, the

primary-metered customers would then be incentivized to charge during lower cost rate periods (i.e., daytime or overnight).

For all Pilot participants, the Company will use EV charging session data captured by participants' charging equipment to estimate energy use by time-of-use period and help inform future programs. Primary-metered customers will additionally provide total EV charging energy consumption from the non-utility sub-meter that will supplement the EV charging session data, giving the Company insight into the sites' overall utilization, total energy consumption, and estimated revenue. See the Company's response to PUC-HECO-IR-03, parts c and d.

PUC-HECO-IR-03

Reference: Pilot Notice at 2

Hawaiian Electric states that it "will install a non-utility sub-meter for the primary-meter customers and will require these customers to provide monthly readings, which should capture total EV charging energy consumption to supplement charging session data."

a. Please discuss whether the non-utility sub-meter is an item that Hawaiian Electric keeps in stock, whether it has experience with this sub-meter, and how this sub-meter costs compares to the originally planned dedicated meter.
b. Please confirm that Hawaiian Electric will not be able to communicate directly with the sub-meter and that the monthly readings must be forwarded to Hawaiian Electric.
c. Please discuss whether the sub-meter has the capability to log energy use by one hour or shorter time intervals and, if it does, whether Hawaiian Electric will be collecting this data.
d. Please provide additional detail on the charging session data that Hawaiian Electric will be collecting. Please include a list of the data to be collected and a description of how the data is collected.

Hawaiian Electric Response:

a. The Company does not keep non-utility sub-meters in stock and currently does not have experience with sub-meters. Sub-meter costs are less than or equivalent to the originally planned dedicated meter.

b. The sub-meters would not be smart meters. The Company will not be able to communicate directly with the sub-meter. The monthly readings must be forwarded to Hawaiian Electric by the customer. The penalty for not providing or complying with the data requirements would not change for primary-metered customers.

c. It is common for sub-meters to log energy use in one-hour intervals. The Company will not collect energy use by time intervals from the sub-meters, however, the Company will collect 15-minute interval data from the charging sessions. The Company will only collect the total EV charging energy consumption when the sub-meter is read, giving the Company insight into the sites' overall utilization, total energy consumption, and estimated revenue.

d. The Pilot participant will email the charging session data to the Company in a CSV file by the fifth business day of each month. To streamline the data collection process, the Company is developing a Charging Data Management System that will consolidate the data in a central database. Please see Table 1 below for a list of data fields that charger session data will capture.

Table 1. Charging Session Data Fields

Field Name	Description	Format
Session ID	Unique identification number for each of the charging sessions	Alphanumeric
Charing Station/Cabinet ID[3]	Hawaiian Electric assigned Charging Station/ Cabinet ID	Alphanumeric
Port ID	Hawaiian Electric assigned Port ID	Alphanumeric
StartTime[4]	Date and time (HST) at start of charge session and energy flow	mm/dd/yy hh:mm
EndTime	Date and time (HST) at end of charge session and energy flow	mm/dd/yy hh:mm
ChargeDuration	Duration of charge session (energy flow)	hh:mm
ConnectionDuration	Duration the port is connected to the vehicles charging port	hh:mm
Energy	Energy (kWh) per session	XXX.X
SalesAmount	Total usage fee to the end user for charge session, if applicable	$XXX.X
Payment Method	Type of payment used to authorize session (credit card, subscription card, mobile app) if applicable	Alpha
15-Minute Interval Data		
IntervalStartTime	Interval start date and time (HST)	mm/dd/yy hh:mm
IntevalEndTime	Interval end date and time (HST)	mm/dd/yy hh:mm
IntervalkWh	Energy (kWh) during interval	XXX.X

PUC-HECO-IR-04

Reference: Pilot Notice at 1.

Hawaiian Electric states:

> To date, 68 completed applications have been received with 21 of those sites being accepted, of which 11 participation agreements have been executed. The other 10 accepted sites withdrew for various reasons including uncertainty in their ability to fulfill the 10-year commitment period and estimated incremental costs above the $90,000 cap.

a. Please provide a breakdown of the reasons for the withdrawal of the 10 accepted sites.
b. Please provide a breakdown of the reasons why 47 of completed applications were not accepted.
c. If the removal of the requirements for dedicated metering and Commercial EV rate enrollment are approved, please discuss whether the 11 participants with executed agreements will be allowed/required to switch to a non-utility sub-meter and keep their current rate schedule.

Hawaiian Electric Response:

a. Of the 10 accepted sites that withdrew, three sites were Hawai'i Island sites with the same owner. The owner did not agree to the 10-year commitment period which requires the participant, at their own expense, to operate and maintain charging equipment in good working order at the originally installed location for at least 10 years following the date the equipment is placed in service. Five Maui sites and two O'ahu sites withdrew after Pilot acceptance. The reasons for withdrawal included plans to pursue Direct Current Fast Charging instead of Level 2 charging, uncertainty of future plans for the property, impacts of the Maui windstorm and wildfires, or inability to agree to the general terms and conditions of the participation agreement.

b. To clarify, the Company has not declined 47 applicants, rather, the Company has declined 34 applicants to date. The Company is still considering 13 applicants (two previously waitlisted applicants, two applicants the Company is currently working with to execute

Participation Agreements, and nine of from a pool of new applicants). Table 1 below shows the status of all completed applications.

Table 1. Status of Completed Applications

	Accepted - Participation Agreement Executed	Accepted - Withdrew	Declined	Pending Decision/ Agreement	Total Completed Applications
Original Applicants	11	10	30	4	55
New Applicants	0	0	4	9	13
Total	11	10	34	13	68

The most common reason for declining a site was related to site conditions. The cost for many sites would have been greater than the $90,000 cap per site and some applicants did not agree to cover incremental costs above the cap. Oftentimes, these costs were due to long trenching distances. In addition, some sites did not have sufficient transformer capacity to accommodate the charging equipment, increasing complexity and impacting the overall implementation schedule due to national supply-chain constraints for new pad-mount transformers. Other common reasons for declining a site included inability to comply with the accessibility requirements, and space limitations in the parking area.

c. The 11 participants with executed agreements have agreed to the terms of the Pilot that the Company will install a separately metered service under the Commercial EV rates. These participants are not primary-metered and will not be allowed to switch to a non-utility sub-meter. These participants have already agreed to designs, which are moving forward with permitting. The Pilot modification requested focuses on removing the requirements for dedicated metering and Commercial EV rate enrollment for only primary-metered customers.

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAI‘I

In the Matter of PUBLIC UTILITIES COMMISSION Instituting a Proceeding Relating to an Innovative Pilot Process for the Hawaiian Electric Companies.	DOCKET NO. 2022-0212

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing document, together with this Certificate of Service, were duly served on the following party, by electronic mail service as set forth below:

Michael S. Angelo
Executive Director
Division of Consumer Advocacy
Department of Commerce and Consumer Affairs
mangelo@dcca.hawaii.gov
consumeradvocate@dcca.hawaii.gov

DATED: Honolulu, Hawai‘i, February 20, 2024.

/s/ Kyle Kawata
Kyle Kawata
HAWAIIAN ELECTRIC COMPANY, INC.