

Charge Up eBus Pilot Charging Equipment Registration

As a requirement of the Hawaiian Electric Charge Up eBus Pilot, Participants shall design, purchase, permit, install, operate, and maintain registered charging equipment. Charging equipment must be procured between May 7, 2021 and 30 days after execution of the Participant Agreement. The equipment and network service must remain operational during the five-year data collection phase.

Providing charging equipment details in the Charging Equipment Registration form (Part I of this document) helps to ensure that it is compatible with, and may be connected to, the Charge Up Make-Ready Infrastructure. Purchasing charging equipment prior to registration shall be done at the Participant's sole risk.

Permit applications for the charging equipment should not be submitted to the Authority Having Jurisdiction (AHJ) until Hawaiian Electric notifies the Participant that the Make-Ready infrastructure design has been permitted. Prior to using the charging equipment, the Participant must certify that the installation, inspection, and commissioning have been met by submitting the Charging Equipment Certification (Part III of this document).



Charging Equipment Requirements

The Hawaiian Electric Charge Up eBus Pilot requires Participants to purchase, install, and maintain charging equipment with at least one port. The charging equipment's primary function is to charge the eBus(es) registered for the Charge Up eBus Pilot. When submitting the Charging Equipment Registration form, Participants shall provide proof that the charging equipment and services comply with the minimum requirement specified below. Proof of qualification may be provided in the form of manufacturer's specification sheets, manuals, or a vendor email stating proof of compliance for the submitted model number(s).

The equipment shall comply with the following standards:

- SAE J1772 applicable for Level 2 EVSE
- UL 2594 applicable for Level 2 EVSE
- SAE J1772 CCS Interface applicable for DC fast charging EVSE
- SAE J3105 applicable for pantograph connection
- UL 2231-2, UL 2231-2
- OCPP v1.6 or later

The equipment shall meet the following minimum specifications:

- operating temperature -20 to 50°C
- power factor 95%
- NEMA¹ enclosure rating NEMA 3R or 4
- kWh energy metering accuracy 2%

The charging equipment shall also comply with all standards required by the AHJ.

All registered charging stations shall also comply with the Charging Data Requirements.

¹NEMA: National Electrical Manufacturer Association, standards for enclosures to withstand certain environmental conditions



Port-Level Data-Sharing Requirements

Registered charging equipment shall have the ability to provide the charging data specified below. Participants may procure services from a charging equipment network provider and must provide Hawaiian Electric data every month through the data collection phase, regardless if there were no charging sessions. All charging data from registered charging station(s) shall be provided to Hawaiian Electric by the fifth business day of each month for the previous calendar month in a single CSV file². The filename format shall conform to the following syntax: <Application Number>_DATA_<YYYY>_<MM>.csv (i.e., “B1234_DATA_2023_03.csv” for Application Number B1234 during the month of March 2023).

The monthly CSV files shall provide the following data fields for each charging session with the specified field names outlined below.

Field Name	Description	Format
Session ID	Unique identification number for each the charging session	alphanumeric
Charging Station/Cabinet ID ³	Hawaiian Electric assigned Charging Station/Cabinet ID	alphanumeric
Port ID ³	Hawaiian Electric assigned Port ID	alphanumeric
StartTime	Date and time (HST ⁴) 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 eBus charge port	hh:mm
Energy	Energy (kWh) per session	XXX.X
SalesAmount	Total usage fee to the end user for charge session, if applicable	\$XXX.XX
PaymentMethod	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
IntervalEndTime	Interval end date and time (HST)	mm/dd/yy hh:mm
IntervalkWh	Energy (kWh) during interval	XXX.X

² CSV: text file providing data in Comma Separate Values

³ Charging Station and Port ID(s) will be provided with the Notice and Acceptance of Completed Make Ready Infrastructure

⁴ All times must be provided in Hawaii Standard Time (HST), UTC-10



In addition to session data, the monthly CSV file shall provide a monthly summary, including the data below.

Field Name	Description	Format
Participant Name	Name of participant on Participant Agreement	alphanumeric
EBus Application Number	Hawaiian Electric pilot ID assigned to the Participant Application	alphanumeric
Address of Charging Equipment	Service address of EVSE as on Participant Agreement	alphanumeric
Report Start Date	First date of the reporting calendar month	mm/dd/yy
Report End Date	Last date of the reporting calendar month	mm/dd/yy
Total per site		
Total Sessions	Total number of sessions for the reporting month	XXX
Total kWh	Total kWh provided for the reporting month	XXX.X
Total per port		
Total Port Sessions	Total number of sessions for each Port ID for the reporting month	XXX
Total Port kWh	Total kWh provided for each Port ID for the reporting month	XXX.X



How to complete this Charging Equipment Registration form

The Participant shall submit each part along with the requested supporting documents according to the schedule below.

eBus Registration	Submission Schedule	Supporting Documents
Part I: General Information	Prior to executing the Participation Agreement	Manufacturer specification sheets
Part II: Charging Equipment Procurement Details	Within 30 days of executing the Participation Agreement	Proof of purchase for charging equipment and network services
Part III: Charging Equipment Certification	Within 14 days of charging equipment installation and commissioning	

To ensure participants meet the Pilot requirements, Hawaiian Electric may request updates to sections of this form as the Applicant progresses through the process.

The charging equipment manufacturer specification sheets should demonstrate compliance with the Charging Equipment Requirements. Network Service Provider product sheets should demonstrate compliance with the Charging Data Requirements. This information will be used to ensure potential Participants meet Pilot requirements.

Submit all documents to chargeup@hawaiianelectric.com. Please reference your assigned eBus Application Number in the subject line. Attachments in a single email shall not exceed 10 MB.

Form Definitions

Ancillary Equipment – Equipment required to support the charging equipment requirements or charging data requirements which are not part of the charging station, such as electrical equipment to support data communications or charge management.

Charge Level – Industry charge level standard, such as “DC” or “Level 2”.

Charge Standard – Charging port standards such as SAE J1772, SAE J1772 CCS Interface, and SAE J3105.

Date of Procurement – Enter date when charging equipment is procured (Part II).

Expected Date of Arrival – Enter date when charging equipment is anticipated to arrive on site (provided by Participant at time of procurement).



Charging Station/Cabinet ID – Unique alphanumeric code assigned by Hawaiian Electric upon registration which identifies a specific registered charging station or cabinet mapped to specific session data defined in the Charge Data Requirements.

Charging Equipment Manufacturer – Manufacturer of the charging equipment. Include all Manufacturers if the system is made of subsystems from multiple manufacturers.

Max Power Output – Manufacturer maximum rated power output (kW) of charging equipment to eBus.

Model Number – Full manufacturer model number(s) of all charging equipment, including options.

Network Service Provider – The third-party entity that will provide network services for charging equipment installed at the Participant's site. The Network Service Provider will be required to transmit port level data and other information to the Participant and/or Hawaiian Electric complying with Pilot requirements.

Number of Ports – Number of conductive charging ports/cords per charging equipment capable of dispensing energy to the eBus.

Port ID – Assigned by Hawaiian Electric upon acceptance which identifies a specific charging equipment port/cord mapped to specific session data defined in the Charge Data Requirements.

Serial Number – Manufacturer nameplate serial number provided upon receipt of charging equipment.



Part I: General Information

Name of Applicant and point of contact for the charging equipment procurement.

Applicant Information	
Company Name	eBus Application Number
Point of Contact	
Name	Phone Number
Email Address	

Charging Equipment Information

Name of charging equipment supplier and their point of contact who can provide detailed charging equipment information, as needed.

Charging Equipment Supplier Information	
Charging Equipment Supplier Name	
Charging Equipment Supplier Sales Point of Contact	
Name	Position
Phone Number	Email Address

Network Service Information

Name of network service provider and point of contact who can provide networking information, as needed. Provide network provider product sheet and or email indicating compliance of Charging Data Requirements for all charging equipment listed below.

Network Service Provider Information	
Network Service Provider Company Name	
Network Service Provider Point of Contact	
Name	Position
Phone Number	Email Address



Prior to executing the Participation Agreement, Applicants shall provide the following information for each charging station to be acquired over the three-year pilot period. Additional pages may be submitted if more equipment will be procured.

Charging Station 1			
Manufacturer		Model Number	Quantity
Charge Level/Voltage	Max Power Output (kW)	Number of Ports per Station	Charge Standard

Charging Station 2			
Manufacturer		Model Number	Quantity
Charge Level/Voltage	Max Power Output (kW)	Number of Ports per Station	Charge Standard

Ancillary Equipment			
Manufacturer		Model Number	
Description of Equipment			
Input Voltage (V)	Expected Current (A)		

Attachments Included

___ Charging equipment manufacturer specification sheet(s)

Prior to executing the Participation Agreement, Applicants shall provide details for the charging equipment.



Part II: Charging Equipment Procurement Details

Proof of charging equipment purchase (e.g. purchase order or receipt) must be submitted within 30 calendar days of executing the Participation Agreement.

Charging Station 1	
Model / Model	Quantity
Date of Procurement	Expected Date of Arrival

Charging Station 2	
Model / Model	Quantity
Date of Procurement	Expected Date of Arrival

Ancillary Equipment			
Manufacturer		Model Number	
Description of Equipment			
Input Voltage (V)	Expected Current (A)		

Installation Information

Name of company which will install and electrically test the charging equipment.

Contractor Information	
Contractor Name	
Contractor Point of Contact	
Name	Position
Phone Number	Email Address

Attachments Included

___ Proof of purchase for charging equipment and network services.



Part III: Charging Equipment Certification

The Hawaiian Electric Charge Up eBus Pilot Participant hereby certifies that the registered charging equipment was:

- installed by a licensed contractor(s);
- commissioned with network service provider for data-collection services; and
- inspected and approved by the authority having jurisdiction

Charging equipment was placed in service on (In-Service Date, MM/DD/YYYY):

Installed charging station details are as follows:

Make-Ready Assigned Charging Station/Cabinet ID	Charging Station Serial Number

eBus Make-Ready Participant: _____

eBus Make-Ready Application Number: _____

Print name: _____

Signature: _____

Title: _____

Date: _____

