California Energy Commission
April 10, 2024 Business Meeting
Backup Materials for Kaluza (US) LLC

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

1. Proposed Resolution
2. Grant Request Form
3. Scope of Work

[PROPOSED]

RESOLUTION NO: 24-0410-17ii

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Kaluza (US) LLC

RESOLVED, that the State Energy Resources Conservation and Development Commission (CEC) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable); and

RESOLVED, that the CEC approves agreement ARV-23-009 with Kaluza (US) LLC for up to $3,355,659. This agreement initially provides $1,547,829 to adapt an existing EV managed charging product to be responsive to dynamic signals, such as dynamic electricity rates and emergency demand response signals. The product will be deployed to residential customers – at least 300 unidirectional charging customers and 30 bidirectional charging customers – in Pacific Gas and Electric Company's territory. In some cases, new EVSE will be deployed with project funds; in others, the software will be connected to existing EVSE. Additional funding, up to $3,355,659 total, may, with approval from the CEC's Executive Director through an amendment, be added to expand deployment to an additional 1,000 unidirectional charging customers and 100 bidirectional charging customers. At least 50 percent of deployments will be in disadvantaged or low-income communities; and

FURTHER BE IT RESOLVED, that the Executive Director or their designee shall execute the same on behalf of the CEC.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on April 10, 2024.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Kristine Banaag
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-270 (Revised 10/2022)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

IMPORTANT: New Agreement # to be completed by Contracts, Grants, and Loans Office.

New Agreement Number: ARV-23-009

B. Division Information

1. Division Name: Fuels and Transportation
2. Agreement Manager: Robert Nolty
3. MS-: Not Applicable
4. Phone Number: 916-931-5321

C. Recipient's Information

1. Recipient's Legal Name: Kaluza (US) LLC
2. Federal ID Number: 35-2724166

D. Title of Project

Title of project: Technology for Reliable EV Electricity

E. Term and Amount

1. Start Date: 4/10/2024
2. End Date:12/31/2026
3. Amount: Up to $ 3,355,659
   ($1,547,829 identified for Phase 1; $1,807,830 to be identified for Phase 2)

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date:4/10/2024
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Robert Nolty
5. Time Needed for Business Meeting: N/A
6. The email subscription topic is: Vehicle-Grid Integration

Agenda Item Subject and Description:

Kaluza (US) LLC. Proposed resolution approving agreement ARV-23-009 with Kaluza (US) LLC for up to $3,355,659, and adopting staff's determination that this action is exempt from CEQA. This agreement initially provides $1,547,829 to adapt an existing EV managed charging product to be responsive to dynamic signals, such as dynamic electricity rates and emergency demand response signals. The product will be deployed to residential customers – at least 300 unidirectional charging customers and 30 bidirectional charging customers – in Pacific Gas and Electric Company's territory. In some cases, new EVSE will be deployed with project funds; in others, the software will be connected to existing EVSE. Additional funding, up to $3,355,659 total, may, with approval from the CEC's Executive Director through an amendment, be added to expand deployment to an additional 1,000 unidirectional charging customers and 100 bidirectional charging customers. At least 50 percent of deployments will be in disadvantaged or low-income communities. (Clean Transportation Program Funding) Contact: Robert Nolty.

G. California Environmental Quality Act (CEQA) Compliance

1. **Is Agreement considered a "Project" under CEQA?**
   Yes

2. **If Agreement is considered a "Project" under CEQA answer the following questions.**
   a) Agreement **IS** exempt?

   Yes

   Statutory Exemption?

   No

   If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

   PRC section number: None
   CCR section number: None

   Categorical Exemption?

   Yes

   If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

   CCR section number: Cal. Code Regs., tit. 14, section 15301, Existing Facilities; and section 15303, New Construction or Conversion of Small Structures.

   Cal. Code Regs., tit. 14, sec. 15301 provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion of existing or former use, are categorically exempt from the provisions of the California Environmental Quality Act (CEQA).The proposed project will operate a residential managed charging and V2X program. The proposed project will also install chargers at approximately 200 existing single family residences in California. The chargers to be installed have a footprint of approximately 2.5 square feet and are similar in size to a microwave. Charger installation may involve minor electrical work, such as routing new conduit and wire, and possible trenching. The project will involve no modification to building structures. For these reasons, the project falls within section 15301 and will not have a significant effect on the environment.

   Cal. Code Regs., tit. 14, sec. 15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of the CEQA. This project will install new charging equipment at approximately 200 existing single family residences. The charging equipment to be installed is small and has a footprint of approximately 2.5 square feet, similar in size to a microwave. For these reasons, the project falls within section 15303 and will not have a significant effect on the environment.

Common Sense Exemption? 14 CCR 15061 (b) (3)

No

If yes, explain reason why Agreement is exempt under the above section. If no, enter "Not applicable" and go to the next section.

b) ☒ Agreement **IS NOT** exempt.

IMPORTANT: consult with the legal office to determine next steps.

[N/A]

If yes, answer yes or no to all that applies. If no, list all as "no" and "None" as "yes".

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes

H. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter "No subcontractors to report" and "0" to funds. **Delete** any unused rows from the table

Subcontractor Legal Company Name	CEC Funds	Match Funds
Valley Clean Air Now (Phase 1)	$ 45,176	$ 25,476
Valley Clean Air Now (Phase 2)	$ 67,000	$ 79,984

I. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Wallbox USA Inc. (Phase 1)	$275,153	$ 91,718
TBD – Installation of unidirectional EVSE (Phase 1)	$ 31,500	$176,000
TBD – Installation of bidirectional EVSE (Phase 1)	$103,500	$ 34,500
TBD – Automaker, interoperability testing (Phase 1)	$ 75,000	$ 25,000
Wallbox USA Inc. (Phase 2)	$563,700	$563,700
TBD – Installation of unidirectional EVSE (Phase 2)	$ 31,530	$394,470

TBD – Installation of bidirectional EVSE (Phase 2)	$300,000	$300,000
TBD – Automaker, interoperability testing (Phase 2)	$ 50,000	$ 50,000

J. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name
Pacific Gas and Electric Company
Sonoma Clean Power
Redwood Energy
Leapfrog Power Inc. (aka Leap)
Auto OEM partners (TBD)
Wallbox

K. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
ARFVTF	2020-2021	601.118M	$1,547,829
TBD (Phase 2)	N/A	N/A	Up to $1,807,830

TOTAL Amount: Up to $3,355,659

R&D Program Area: [N/A]

Explanation for "Other" selection [N/A]

Reimbursement Contract #: [N/A]

Federal Agreement #: [N/A]

L. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Samuel Goda

Address: Kaluza / 1701 Rhode Island Ave NW

City, State, Zip: Washington, DC 20036

Phone: 510-229-0483

E-Mail: samuel.goda@kaluza.com

2. Recipient's Project Manager

Name: Russell Vare

Address: Kaluza / 1701 Rhode Island Ave NW

City, State, Zip: Washington, DC 20036

Phone: 408-306-267

E-Mail: russel.vare@kaluza.com

M. Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	GFO 22-609
First Come First Served Solicitation #	Not Applicable
Other	Not Applicable

N. Attached Items

1. List all items that should be attached to this GRF by entering “Yes” or “No”.

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager: Robert Nolty

Approval Date: 12/4/2023

Office Manager: Jaron Weston

Approval Date: 12/26/2023

Deputy Director: Jen Kalafut

Approval Date: 2/13/2024

Exhibit A
SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2	X	Phase 1 Product Development and Bidirectional Charging Plan
3	X	Phase 1 Customer Deployment
4		Performance Data Collection and Analysis
5	X	Phase 2 Customer Deployment
6		Operations and Reliability*
7		Semi-Annual Electric Vehicle Charger Inventory Reports (for charging infrastructure projects)*
8		Other Data Collection and Analysis*
9		Project Fact Sheet

* Some or all subtasks may not apply to specific deployments. See language in the specific tasks for exclusions.

KEY NAME LIST

Task #	Key Personnel	Key Subrecipient(s)	Key Partner(s)
2			Wallbox, auto OEM partners (TBD), PG&E, Sonoma Clean Power, Redwood Energy
3		Valley CAN	Wallbox, auto OEM partners (TBD), PG&E, Sonoma Clean Power, Redwood Energy
5		Valley CAN	Wallbox, auto OEM partners (TBD), PG&E, Sonoma Clean Power, Redwood Energy

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
AC Level 2	A charger that operates on a circuit from 208 volts to 240 volts and transfers alternating-current (AC) electricity to a device in an electric vehicle (EV) that converts AC to direct current to charge an EV battery.
AMI	Advanced Metering Infrastructure (“smart meter”)
API	Application programming interface. A type of software interface that offers service to other pieces of software. An API allows two or more computer programs to communicate with each other.
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
Charge attempt	Any instance of an EV driver taking action to initiate a charging session by taking one or all of the following steps in any order: 1) attaching the connector to the EV appropriately or 2) attempting to authorize a charging session by use of radio frequency identification (RFID) technology, credit card, charging network provider smartphone application (app), screen input, or calling the charging network provider’s customer service number.
Charger	A device with one or more charging ports and connectors for charging EVs. Also referred to as electric vehicle supply equipment (EVSE).
Charging network	A collection of chargers located on one or more property(ies) that are connected via digital communications to manage the facilitation of payment, the facilitation of electrical charging, and any related data requests.
Charging network provider	The entity that provides the digital communication network that remotely manages the chargers. Charging network providers may also serve as charging station operators and/or manufacture chargers.
Charging port	The system within a charger that charges one EV. A charging port may have multiple connectors, but it can provide power to charge only one EV through one connector at a time.
Charging session	The period after a charge attempt during which the EV is allowed to request energy. Charging sessions can be terminated by the customer, the EV, the charger, the charging station operator, or the charging network provider.
Charging station	The area in the immediate vicinity of one or more chargers and includes the chargers, supporting equipment, parking areas adjacent to the chargers, and lanes for vehicle ingress and egress. A charging station could comprise only part of the property on which it is located.

Term/ Acronym	Definition
Charging station management system	A system that may be used to operate a charger, to authorize use of the charger, or to record or report charger data, such as by using the Open Charge Point Protocol (OCPP).
Charging station operator	The entity that owns the chargers and supporting equipment and facilities at one or more charging stations. Although this entity may delegate responsibility for certain aspects of charging station operation and maintenance to subrecipients, this entity retains responsibility for operation and maintenance of chargers and supporting equipment and facilities. In some cases, the charging station operator and the charging network provider are the same entity.
Connector	The device that attaches an EV to a charging port in order to transfer electricity.
Corrective maintenance	Maintenance that is carried out after failure detection and is aimed at restoring an asset to a condition in which it can perform its intended function.
CPR	Critical Project Review
CPUC	California Public Utilities Commission
CT	Current Transformer, a power measurement device
CTP	Clean Transportation Program
Depot	Type of “home base” behind-the-fence location where a vehicle is typically kept when not in use (usually parked on a nightly basis).
DCFC	Direct current fast charger. A charger that enables rapid charging by delivering direct-current (DC) electricity directly to an EV's battery.
Disadvantaged Community	Geographic areas as defined by the California Climate Investments Priority Populations map, as cited in the GFO-22-609 solicitation manual.
Downtime	A period of time that a charger is not capable of successfully dispensing electricity or otherwise not functioning as designed. Downtime is calculated pursuant to Task 6.4.
DR	Demand response
DSGS	Demand Side Grid Support (Program)
ELRP	Emergency Load Reduction Program
EV	Electric vehicle. A vehicle that is either partially or fully powered on electric power received from an external power source. For the purposes of this Agreement, this definition does not include golf carts, electric bicycles, or other micromobility devices.

Term/ Acronym	Definition
EVSE	Electric vehicle supply equipment. A charger as defined.
EVSP	Electric vehicle service provider (in this context, technical provider of charging optimization or demand response services)
Excluded downtime	Downtime that is caused by events pursuant to Task 6.4.
Failed charging session	Following a charge attempt, the criteria for a successful charging session were not met.
FTD	Fuels and Transportation Division
Hardware	The machines, wiring, and other physical components of an electronic system including onboard computers and controllers.
ICE	Internal combustion engine
Inoperative state	The charger or charging port is not operational.
Installed	Attached or placed at a location and available for use for a charging session. The date a charger is installed is the date it is first available for use for a charging session.
Interoperability	Successful communication between the software, such as the software controlling charging on the EV and the software controlling the charger. Interoperability failures are communication failures between the EV and charger that occur while the software of each device is operating as designed. Interoperability failure leads to failed charging sessions.
ISO	International Organization for Standardization
ISPP	Information Security Program Plan
Low-Income Community	Geographic areas as defined by the California Climate Investments Priority Populations map, as cited in the GFO-22-609 solicitation manual.
Maintenance	Any instance in which preventive or corrective maintenance is carried out on equipment.
MIDAS	Market Informed Demand Automation Server
Networked	A charger can receive or send commands or messages remotely from or to a charging network provider or is otherwise connected to a central management system, such as by using OCPP 2.0.1, for the purposes of charger management and data reporting.
Nonnetworked charger	A charger that is not networked.
OCA	Open Charge Alliance (maintainer of OCPP)

Term/ Acronym	Definition
OCPP	Open Charge Point Protocol. An open-source communication protocol that specifies communication between chargers and the charging networks that remotely manage the chargers.
OEM	Original Equipment Manufacturer
Operational	Or “up.” A charging port’s hardware and software are both online and available for use, or in use, and the charging port is capable of successfully dispensing electricity.
Operative state	The charger is operational.
PG&E	Pacific Gas and Electric Company
Preventative maintenance	Maintenance that is performed on physical assets to reduce the chances of equipment failure and unplanned machine downtime.
Private	Charging ports located at parking space(s) that are privately owned and operated, often dedicated to a specific driver or vehicle (for example, a charging port installed in a garage of a single-family home).
Product	The Recipient smart charging system, including customer-facing apps and cloud platform
Public	Charging ports located at parking space(s) designated by the property owner or lessee to be available to and accessible by the public.
Recipient	The applicant awarded this grant, i.e. Kaluza (US) LLC
REDWDS	Responsive, Easy Charging Products with Dynamic Signals (title of the solicitation GFO-22-609)
RIN	Rate Identification Number
SAM	State Administrative Manual
SCE	Southern California Edison
Shared Private	Charging ports located at parking space(s) designated by a property owner or lessee to be available to, and accessible by, employees, tenants, visitors, and residents. Examples include workplaces and shared parking at multifamily residences.
SoC	State of charge
Software	A set of instructions, data, or programs used to operate computers and execute specific tasks.
SOW	Scope of Work
Successful charging session	Following a charge attempt, a customer’s EV battery is charged to the state of charge the customer desires and is disconnected manually by the customer or by the EV’s onboard software system terminating the charging session, without an additional charge attempt.

Term/ Acronym	Definition
Uptime	The time that a charger is installed during a reporting period excluding downtime pursuant to Task 6.4.
V2G	Vehicle-to-grid
V2X	Vehicle-to-everything, i.e., bidirectional charging

Background

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Clean Transportation Program. The statute authorizes the CEC to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change and clean air goals. AB 126 (Reyes, Chapter 319, Statutes of 2023) reauthorized the funding program through July 1, 2035 and focused the program on zero-emission transportation.

The Clean Transportation Program has an annual budget of approximately $100 million and provides financial support for projects that:

- Develop and deploy zero-emission technology and fuels in the marketplace where feasible and near-zero-emission technology and fuels elsewhere.
- Produce alternative and renewable low-carbon fuels in California.
- Deploy zero-emission fuel infrastructure, fueling stations, and equipment where feasible and near-zero-emission fuel infrastructure, fueling stations, and equipment elsewhere.
- Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

On March 10, 2023, the CEC released a Grant Funding Opportunity (GFO) entitled "GFO-22-609 Responsive, Easy Charging Products with Dynamic Signals (REDWDS)." This competitive grant solicitation was designed to accelerate the development and deployment of easy-to-use charging products which help customers manage electric vehicle (EV) charging and respond to dynamic grid signals. In response to GFO-22-609, the Recipient submitted application #20 which was proposed for funding in the CEC's Notice of Proposed Awards on September 29, 2023. GFO-22-609 and Recipient's application are hereby incorporated by reference into this Agreement in their entirety.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient's Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient's Application and the terms of this Agreement, this Agreement shall control. Similarly, in the event of any conflict or

inconsistency between the terms of this Agreement and the Solicitation, the terms of this Agreement shall control.

Problem Statement

California energy utilities employ a range of signal-based strategies to enable and incentivize widespread customer load shift in response to electric grid conditions, including demand response, other event-based signals, and rates. To realize load shift, customers and their devices must be able to easily access and respond to these dynamic grid signals. This Agreement will help develop and deploy charging products that help customers respond to dynamic grid signals while ensuring that customer charging and mobility needs are met.

One of the key issues with enabling customers to easily access and respond to dynamic grid signals is effective enrollment and participation of customers in dynamic pricing programs. Evidence from the market shows that customer recruitment led by automobile original equipment manufacturers (OEMs) in managed charging can double the customer enrollment in these programs. The Recipient will therefore look to leverage these new business models to drive high participation levels with managed charging products.

Customers from low-income and disadvantaged communities also have a problem accessing the technologies – electric vehicles (EVs) and EV supply equipment (EVSE), i.e., chargers – that allow them to respond to these dynamic price signals and participate in and benefit from these customer load shift events. The Recipient's project will address this by educating the customers and subsidizing the upfront cost of these technologies for these customers, leveraging the expected benefits from enrolling these customers in dynamic managed charging programs.

Goals of the Agreement:

The goal of this Agreement is to develop and deploy products that enable charging load flexibility, which supports transportation electrification, grid decarbonization, and electric system reliability.

The goals of this Agreement are:

- To adapt the Recipient-managed charging app and cloud platform to optimize charging based on dynamic signals.
- To pilot a new method of customer acquisition beginning at the top of the EV purchasing funnel by partnering with energy utilities and Community Choice Aggregators (CCAs) to auto-enroll customers in dynamic pricing structures or other demand response markets.
- To develop new business models/propositions with auto and EVSE OEMs and community organization partners to lower barriers to low-income and disadvantaged customer participation.
- To demonstrate electric grid system and customer value benefits in California from deploying "vehicle-to-everything" (V2X), i.e., bidirectional charging technologies with residential customers.

- Significantly expand deployment of advanced charging use cases to bring scale to the industry.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Modify the Recipient's EV charging cloud platform, adding features specified below in Task 2 including retrieving dynamic signals, and incorporating them into optimization algorithms. Manage charging through both vehicle-based (telematics) and EVSE-based communication.
- Enroll at least 330 customers in Phase 1, 30 with bidirectional chargers; and, if approved, at least 1100 additional customers in Phase 2, 100 with bidirectional chargers.
- Enroll at least 165 customers in Phase 1 in low-income or disadvantaged communities. If approved for Phase 2, enroll at least 551 customers in such communities.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The Commission Agreement Manager (CAM) shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

The Recipient shall:

- Attend a "Kick-Off" meeting that includes the CAM and may include the Commission Agreement Officer (CAO) and a representative of the CEC Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
- Provide a written statement of project activities that have occurred after the notice of proposed awards but prior to the execution of the agreement using match funds. If none, provide a statement that no work has been completed using match funds prior to the execution of the agreement. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.
- Discuss the following administrative and technical aspects of this Agreement:
    - Agreement Terms and Conditions
    - Critical Project Review (Task 1.2)

- Match fund documentation (Task 1.7) No reimbursable work may be done until this documentation is in place.
- Permit documentation (Task 1.8)
- Subawards needed to carry out project (Task 1.9)
- The CAM's expectations for accomplishing tasks described in the Scope of Work
- An updated Schedule of Products and Due Dates
- Monthly Calls (Task 1.4)
- Quarterly Progress Reports (Task 1.5)
- Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Final Report (Task 1.6)

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits
- Written Statement of Match Share Activities

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

CPRs provide the opportunity for frank discussions between the CEC and the Recipient. The goal of this task is to determine if the project should continue to receive CEC funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

The CAM may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the CAO, the Fuels and Transportation Division (FTD) program lead, other CEC staff and Management as well as other individuals selected by the CAM to provide support to the CEC.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the CEC, but they may take place at another location or remotely.

- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation for his or her concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a *CPR Report* for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

CAM Products:

- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting
The goal of this task is to closeout this Agreement.

The Recipient shall:

- Meet with CEC staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient and the CAM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the CAM.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The CAM will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the CAM about the following Agreement closeout items:

- What to do with any equipment purchased with CEC funds (Options)
- CEC request for specific "generated" data (not already provided in Agreement products)
- Need to document Recipient's disclosure of "subject inventions" developed under the Agreement, if applicable
- "Surviving" Agreement provisions
- Final invoicing and release of retention

- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

Task 1.4 Monthly Calls

The goal of this task is to have calls at least monthly between CAM and Recipient to verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted, or the CAM determines that a monthly call is unnecessary.

The CAM shall:

- Schedule monthly calls.

- Provide questions to the Recipient prior to the monthly call.
- Provide call summary notes to Recipient of items discussed during call.

The Recipient shall:

- Review the questions provided by CAM prior to the monthly call
- Provide verbal answers to the CAM during the call.

Product:

- Email to CAM concurring with call summary notes.

Task 1.5 Quarterly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:

- Prepare a *Quarterly Progress Report* which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Progress reports are due to the CAM the 10th day of each January, April, July, and October. The Quarterly Progress Report template can be found on the ECAMS Resources webpage available at https://www.energy.ca.gov/media/4691.

Product:

- Quarterly Progress Reports

Task 1.6 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.

The Final Report shall be a public document and is limited to 25-pages. If the Recipient has obtained confidential status from the CEC and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

In addition to any other applicable requirements, the Final Report must comply with the Americans with Disabilities Act (ADA) of 1990 (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability; all applicable regulations and guidelines issued pursuant to the ADA; Cal. Gov. Code sects. 7405 and 11135; and Web Content Accessibility Guidelines 2.0, or a subsequent version, as published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success criteria.

The Recipient shall:

- Prepare an *Outline of the Final Report*, if requested by the CAM.
- Prepare a *Draft Final Report* complying with ADA requirements and following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
- Submit *Final Report* in Microsoft Word format or similar electronic format as approved by the CAM.

Products:

- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.7 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the CEC budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
    - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.

  - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.

- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.8 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the CEC budget for this task will be zero dollars, the Recipient may budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
    - A list of the permits that identifies the:
        - Type of permit
        - Name, address and telephone number of the permitting jurisdictions or lead agencies
    - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the CAM.
- As permits are obtained, send a copy of each approved permit to the CAM.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)
- A copy of each final approved permit (if applicable)

Task 1.9 Obtain and Execute Subawards

The goal of this task is to ensure quality products and to procure subrecipients required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures.

The Recipient shall:

- Manage and coordinate subrecipient activities.
- Submit a *letter* to the CAM describing the subawards needed or stating that no subawards are required.
- If requested by the CAM, submit a *draft of each subaward* required to conduct the work under this Agreement to the CAM for review.
- If requested by the CAM, submit a *final copy of each executed subaward*.
- If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM.

Products:

- Letter describing the subawards needed, or stating that no subawards are required
- Draft subaward (if requested)
- Final subaward (if requested)

Task 1.10 Handling CEC Or Third-Party Confidential Information and Personal Information

The Recipient shall:

- Submit signed Information Security Program Plan Attestation that Recipient has an Information Security Program Plan (ISPP) that meets the minimum requirements as stated in SAM 5300 and any other applicable law. CAM will provide ISPP Attestation form.
- Submit signed Non-Disclosure Agreements (NDAs) from Recipient and subrecipient employees prior to the sharing of confidential information with the employees. CAM will provide NDA form.
- Recipient shall ensure that all individuals employed by Recipient or a subrecipient who will have access to confidential information take an annual security awareness training and submit the Employee Security Awareness Training Certificates.
- Submit verification that confidential information and personal information is destroyed at agreement end (or when work is completed).
- Please see Exhibit D, Special Terms and Conditions, for additional requirements related to confidential and personal information.

Products:

- Signed non-disclosure agreement from Recipient and subrecipient employees

- Signed Information Security Program Plan Attestation Form
- Employee Security Awareness Training Certificates
- Verification of destruction of confidential information and personal information

TECHNICAL TASKS

TASK 2 PHASE 1 PRODUCT DEVELOPMENT

This task applies only to Phase 1. The goal of this task is to develop the Recipient app and associated cloud platform to meet the minimum requirements detailed below.

The Recipient shall:

1. Make the product capable of, at minimum:
    - Automatically retrieving dynamic electric grid signals including but not limited to electricity rates and Flex Alerts from the Market Informed Demand Automation Server (MIDAS), Emergency Load Reduction Program (ELRP) events, and Demand Side Grid Support (DSGS) events.
        - Recipient will work with PG&E to ingest the dynamic rates developed as part of their Day-Ahead Hourly Real Time Pricing pilot (DAHRTP) or similar dynamic tariff to test and further develop the dynamic rate optimization and customer user experience.
        - Recipient will integrate with the VGI dynamic rate providers for the project (including MIDAS), ingest the rate data from these providers and transform it to existing dynamic rate schemas within the Recipient platform.
        - The platform will be updated to include Flex Alerts from MIDAS, ELRP and DSGS.
    - Optimizing the charging schedule in response to the dynamic signals described in the previous bullet and customer needs and preferences.
        - Recipient will ensure both dynamic price signals and DR events ‘work together’, i.e., are incorporated into a broad optimization framework, whilst continuing to prioritize customer needs and preferences.
        - Recipient will collect customer charging preferences / constraints and factor them into the optimization:
            - Ready-by (departure) time: This need is typically prioritized over all else. Recipient will share the charging schedule with the consumer to assuage range anxiety.

- Battery SoC Targets / Limits: Minimum and maximum state of charge (SoC) target. Recipient will provide recommendations as to what those numbers should be.

- Connecting and managing charging behavior via vehicle telematics and through smart charging stations via OCPP.
  - Recipient will integrate directly with EVSE brands:
    - Wallbox Pulsar and Wallbox Quasar 2
  - Recipient (or its subcontractors) shall implement an OCPP integration between the Recipient cloud platform and smart chargers.
  - The product shall not affect charging when the vehicle is at any charger that is not used routinely in the program (for example, public chargers).
- Collecting inputs, explaining how charging will be optimized, explaining how responding to grid signals will create value for the customer, and notifying the customer of additional savings opportunities using one or more customer-facing interfaces.
  - Recipient will continue to interface with customers via both an IOS app and an Android app. As detailed above, the user can input Ready-by time and State-of-charge requirements. The app also communicates the value of optimized charging.
  - The Recipient app will collect additional inputs needed for the project - such as the customer's Rate Identification Number.
  - Recipient will communicate the value of optimized charging to the customer:
    - Show customer cost of charging EV at home based on their tariff.
    - Show customer additional earnings gained from demand response events such as DSGS (where applicable)
    - Inform and notify customers of potential revenue opportunities and changes to charging plan based on future demand response events and customer tariff (where applicable and necessary)

2. Supporting needs of EVSE, vehicle maker or utility partners to communicate with participants of the managed charging programs they administer and develop the following additional product features:

   - Recipient will offer customer engagement tools tailored for V2X management, leveraging data from connected devices and the AMI. Engagement tools provide tailored V2X deployment reporting to assess performance and build V2X learning.

- Where necessary, Recipient (or its subcontractors) will update its EVSE integrations to support V2X functionality.

3. Demonstrate that the product meets the minimum interoperability requirements described in the GFO manual.
   - The product will achieve OCA certification for OCPP version 2.0.1 or later.
   - Recipient will continue to work alongside automotive and EVSE partners implementing ISO 15118 protocols.
   - Recipient will develop integrations with at least one new auto OEM brand to connect and control these vehicles via the vehicle telematics.

4. Prepare a bidirectional charging plan. The bidirectional charging plan shall describe:
   - The target use case(s) for bidirectional charging in the product. For example, backup power, grid interactive during emergency, grid interactive under normal conditions, or some combination of these.
   - The current safety certification status of the EVSE model(s) to be developed and deployed.
   - The target safety certification of the EVSE model(s) and whether this meets Rule 21 interconnection requirements. If not UL 1741 SB, the recipient should specify the programs and utility territories in which they plan to deploy with that do not require UL 1741 SB and seek written CAM approval.
   - If applicable, estimated certification timeline, cost, and lab partner.
   - Plans for coordination with specific utilities and CEC listing of EVSE (on the V2G Equipment List).

Products:

1. Evidence of product development, product capabilities, product testing, and ultimately customer availability of the product, including the following:
   - Summary of planned product development roadmap
   - Summary of planned product capabilities and demonstration of existing product capabilities
   - Product testing and certification plans
   - Product testing and certification results, such as Open Charge Alliance certification for OCPP or verification of ISO 15118 implementation
   - Public product website/app with datasheet (via auto and EVSE OEM partners)
   - Evidence of the following product features, as they are added (this can be a video, a live demo during a monthly call, a screen grab, a screen video, even a network trace (Wireshark “sniff” / data packet analysis) if the CAM determines that is the best way to demonstrate a feature):
     - Price data was retrieved from MIDAS

- PG&E DAHRTP (or similar dynamic tariff) price data was retrieved
- RIN was retrieved from customer UI and affected prices retrieved
- ELRP, DSGS and Flex Alerts were received, affected charging schedule (when it was optimal to change the schedule) and appeared in the customer user experience
- Any screens (web or mobile) on which customer enters charging preferences, including ready-by time
- Charging started, limited and stopped via EVSE
- Charging started, limited and stopped via telematics
- Charging and (if applicable) discharging controlled via telematics for newly-integrated auto OEM brand
- If feasible, evidence of retrieving user charger preferences from the vehicle
- Product does not use telematics to interfere with charging at a public charger
- Screenshots of user experience showing how DER events (e.g. ELRP, DSGS, Flex Alerts) have been factored into the managed charging and associated explanations of value

2. Evidence of bidirectional charging features.
    - Evidence (video or a transaction log) of a discharge event controlled by telematics
    - Evidence (video or a transaction log) of a discharge event controlled via EVSE
3. Evidence that the product meets the minimum interoperability requirements.
    - For charging station management system products: Provide certificate from Open Charge Alliance certification for OCPP 2.0.1 or later (core and security profiles at minimum). Provide evidence that the product supports network migration without the need for additional fees, tools, or site visits.
    - For vehicle telematics-based products: Provide evidence (such as videos, or communications from the vehicle makers) that the product is compatible with multiple vehicle makes and models, including a list of compatible vehicle models.
4. Bidirectional Charging Plan.

TASK 3 PHASE 1 CUSTOMER DEPLOYMENT

This task applies only to Phase 1. The goal of this task is to deploy the product developed under Task 2 to customers and meet the customer deployment minimum requirements below.

The Recipient shall

1. Accumulate 375 or more deployment credits as described in Section II.B.2 of the solicitation manual. The Recipient shall meet this requirement with the following planned deployments:

Table 1: Summary of Planned Phase 1 Deployments

Deployment Type	Number of Deployments	Calculated Deployment Credits
New unidirectional charging hardware/EVSE (22 kW or less) *EVSE will be the Wallbox Pulsar Plus 40amp mode*	166	166
New bidirectional charging hardware/EVSE (22 kW or less) *Equipment will be Wallbox Quasar 2 bidirectional EVSE*	30	75
New higher-power charging hardware/EVSE (greater than 22 kW, uni or bidirectional)	0	0
Existing EVSE connected to product (for charging station management systems and other EVSE based products)	0	0
Existing EV connected to product (for telematics aggregators and other EV based products)	134	134
Total	**330**	**375**

2. Ensure:
    - Deployments span at least three California electric utility customer accounts at unique service addresses.
    - All deployments are in California.
    - At least 50 percent of deployments are in a disadvantaged or low-income community based on the California Climate Investments Priority Populations 2022 CES 4.0 map.

- At least 35 percent of deployments are with customers who enroll in a dynamic or transactive energy rate, and that all remaining deployments are with customers enrolled in a time varying rate, such as a time of use rate.
- All deployments must be at existing structures or facilities and involve negligible or no expansion of the existing or former use.

3. Coordinate with project team partners to ensure successful and timely customer deployment. Recipient shall also coordinate with other relevant partners to ensure successful and timely customer deployment, such as with community-based organizations, permitting authorities, local governments, electrical contractors, and so on.
    - Determine the best proposition / business model for discounting the upfront cost of hardware for low-income customers. This will be based around estimates of potential value from dynamic rate optimization, and may be split between funding hardware, upfront cost reductions and lowering customers' ongoing bills. This will also differ for V2X customers. These propositions will be determined in partnership with the other project partners (auto OEMs, Wallbox, Valley CAN and Redwood Energy).
    - Support auto and EVSE OEMs in messaging the propositions throughout the course of the project. .
    - Supporting product launch and customer recruitment
        - Recipient will support the marketing of products and customer recruitment via the other project partners (auto OEMs, Wallbox, Valley CAN and Redwood Energy)
    - Recipient will provide first line support.
    - Recipient will provide services to utilities to rapidly build, launch and run a V2X program, including: customer identification, recruitment and support, UI development and program design, hardware installation and maintenance, behind the meter control and optimization, and VPP aggregation and utility dispatch.
    - Coordinate with project partners:
        - **Auto OEMs** – proposition and optimization design coordination/workshops. Coordination around app customization and cloud platform integration. Joint development of customer recruitment plan and launch marketing/other material.
        - **EVSE OEM** – proposition and optimization design coordination/workshops. Coordination around app customization and cloud platform integration. Joint development of customer recruitment plan and launch marketing/other material. Coordination with EVSE installation partners to ensure necessary installation requirements / permits are adhered to.

- **PG&E** – coordination to integrate dynamic rates, data sharing processes, support in customer recruitment plan and launch marketing/other material.
- **Sonoma Clean Power** – coordination to integrate dynamic rates, data sharing processes, support in customer recruitment plan and launch marketing/other material.
- **Valley CAN** – coordination to integrate dynamic rate enrollment proposition into existing vehicle exchange program when customers bring their old ICE vehicle and purchase an EV for a discounted price, support in customer recruitment plan and launch marketing/other material.
- **Redwood Energy** – coordination to integrate dynamic rate enrollment proposition into existing housing development program, support in customer recruitment plan and launch marketing/other material.

4. Ensure all EVSE models installed are safety certified by a Nationally Recognized Test Laboratory and certified by the Open Charge Alliance.
    - The bidirectional EVSE will meet all required NRTL safety certifications for DC chargers and anti-islanding requirements for interconnection.
    - The unidirectional EVSE will meet all required NRTL safety requirements as documented in the data sheet.
5. Certify that the project has complied with all AB 841 (2020) requirements specified in the Agreement Terms and Conditions or describes why the AB 841 requirements do not apply to the project. CAM will provide certification form. The certification shall be signed by Recipient's authorized representative.
6. Submit EVITP Certification Numbers of each Electric Vehicle Infrastructure Training Program certified electrician that installed electric vehicle charging infrastructure or equipment. EVITP Certification Numbers are not required to be submitted if AB 841 requirements do not apply to the project.

Products:

1. Evidence of each completed customer deployment (such as a photo of the installation, a screenshot of the EV or EVSE uniquely identified in a management dashboard, or similar) compiled in a document or shared folder, available to CEC upon request.
2. Entry of deployment information in the Customer Deployment Log (see next task and available template) for each completed customer deployment. (Note that the CEC has provided a Customer Deployment log template. Recipients may use an alternative Customer Deployment Log if all data fields from the CEC's template are included in the Recipient's alternative reporting format.)

3. Indication of participation in SCE Dynamic Rates pilot in the Customer Deployment Log for each participating deployment (use column G, “SCE Dynamic Rates Pilot?” in the Customer Deployment Log).
4. Evidence of coordination and coordination plans with project team partners. Evidence of coordination and coordination plans with other relevant partners.
   - Evidence of auto OEM coordination plan and planned joint proposition/product development
   - Evidence of EVSE OEM coordination plan and planned joint proposition/product development
   - Evidence of utility/CCA coordination / customer recruitment plan
   - Evidence of community organization coordination plan and planned joint proposition/customer recruitment plan development
5. Datasheets for each EVSE model listed in the Customer Deployment Log indicating certification by a Nationally Recognized Test Laboratory and the Open Charge Alliance, or equivalent.
6. Completed and signed AB 841 certification.
7. Entry of EVITP Certification Numbers in the Customer Deployment Log of the electricians employed for each completed customer deployment with EVSE installation (use column O, “EVITP Cert Number(s)”).

TASK 4 PERFORMANCE DATA COLLECTION AND ANALYSIS

This task applies to both Phase 1 and the possible Phase 2. The goal of this task is to collect, analyze, and report operational data from project deployments and meet the data reporting minimum requirements outlined in Section II.B.3 of the solicitation manual.

The Recipient shall:

1. Develop and implement a plan for accurate and timely data collection and reporting for customer deployments. Record charging power in kilowatts (kW), connector status, and real-time electricity price (in $/kWh) at 15-minute intervals or more frequently for each deployment. NOTE: if queries every 15 minutes are not feasible for the EVSE or EV, 15-minute interval data may be reconstructed from less frequent measurements, if approved by the CAM. For deployments with bidirectional charging, charging power values must indicate when the vehicle is charging (positive) or discharging (negative). Connector status should indicate, at minimum: connected and charging, connected and not charging, and not connected.

1. Calculate, record, and plot two normalized profiles as described in the Data Collection Reference section at the end of this document: One for all deployments with customers enrolled on dynamic rates, and one for all remaining deployments. Report these normalized profiles to CEC during each monthly call.

2. Calculate the average price ($/kWh) of electricity used for charging that month for each deployment. Any fixed monthly infrastructure charges, adders, or other fees not billed on a volumetric basis (by kWh) shall be noted but excluded from this reporting value. Report these average prices of electricity used for charging to CEC during each monthly call.
3. For each deployment with a customer enrolled on a dynamic rate, calculate the average price ($/kWh) of electricity for charging that would have been realized that month on an otherwise-applicable electricity rate. Projects shall select an otherwise-applicable electricity rate that can be reasonably viewed as the default time of use rate for a similar customer in the same utility territory. Report these otherwise-applicable prices of electricity used for charging to CEC during each monthly call.
4. Maintain a Customer Deployment Log as described in Data Collection Reference section at the end of this document. (A template is provided by CEC; applicants may provide alternate reporting formats). Report the most up to date Customer Deployment Log to CEC during each monthly call.

Products:

1. Customer deployment data collection and reporting plan.
2. Collection and storage of 15-minute charging data (see note above regarding frequency of data collection). 15-minute charging data should be made available upon CEC request and does not need to be regularly reported otherwise.
3. Two normalized profiles as described in the Data Collection Reference section at the end of this document, reported monthly to CEC: One for all deployments with customers enrolled on dynamic rates, and one for all remaining deployments.
4. One average $/kWh value of electricity used for charging that month for each deployment. These values shall be recorded and reported monthly to CEC in an aggregated spreadsheet.
5. One average price ($/kWh) of electricity for charging that would have been realized that month on an otherwise-applicable electricity rate for each deployment with a customer enrolled on a dynamic rate. These values shall be recorded and reported monthly to CEC in an aggregated spreadsheet.
6. Maintenance of an accurate and up to date Customer Deployment Log. Report monthly to CEC.

TASK 5 PHASE 2 CUSTOMER DEPLOYMENT

Note: Work for this task (i.e. Phase 2 activities) is not initially funded under this grant agreement. This grant agreement may be amended at a future date to include funding for Phase 2 activities. The Recipient shall not proceed with work for any Phase 2 activities until this grant agreement is amended per the Special Terms and Conditions. See GFO-22-609 and Special Terms and Conditions (Special Terms): CEC may fund Phase 2 project activities on a first-come, first-served basis if CEC, in its sole discretion, determines that performance metrics specified in the Special Terms have been met. Projects may only access funding for Phase 2 if CEC determines that the Recipient has met those performance metrics during Phase 1. Also, funding for Phase 2 is subject to future appropriations and is not guaranteed.

The goal of this task is to deploy the product developed under Task 2 to additional customers and meet the customer deployment minimum requirements outlined in Section II.B.5 of the solicitation manual.

If Phase 2 work is approved, the Recipient shall:

1. Deploy their product(s) to additional customers. The Recipient shall meet this requirement with the following planned deployments:

Table 2: Summary of Planned Phase 2 Deployments

Deployment Type	Number of Deployments	Calculated Deployment Credits
New unidirectional charging hardware/EVSE (less than or equal to 22 kW) *EVSE will be the Wallbox Pulsar Plus 40amp model or similar EVSE hardware*	426	426
New bidirectional charging hardware/EVSE (less than or equal to 22 kW) *A 10kW to 12kW split-phase 50amp bidirectional EVSE with CCS and/or NACS connector.*	100	250
New charging hardware/EVSE (greater than 22 kW, uni or bidirectional)	0	0
Existing EVSE connected to product (for charging station management systems and other EVSE based products)	0	0

Existing EV connected to product (for telematics aggregators and other EV based products)	575	575
Total	**1101**	**1251**

2. Ensure:
    - All deployments are in California.
    - At least 50 percent of deployments are in a disadvantaged or low-income community based on the California Climate Investments Priority Populations 2022 CES 4.0 map.
    - At least 50 percent of deployments are with customers who enroll in a dynamic or transactive energy rate, and that all remaining deployments are with customers enrolled in a time varying rate, such as a time of use rate.
    - All deployments must be at existing structures or facilities and involve negligible or no expansion of the existing or former use.
3. Coordinate with project team partners to ensure successful and timely customer deployment. Recipient shall also coordinate with other relevant partners to ensure successful and timely customer deployment, such as with community based organizations, permitting authorities, local governments, electrical contractors, and so on.
    - **Auto OEMs** - Joint development of Phase 2 customer recruitment plan and marketing/other material.
    - **EVSE OEM** - Joint development of Phase 2 customer recruitment plan and marketing/other material. Ongoing coordination with EVSE installation partners to ensure necessary installation requirements / permits are adhered to.
    - **PG&E and other utilities** - ongoing coordination to integrate dynamic rates, data sharing processes, support in Phase 2 customer recruitment plan and marketing/other material.
    - **Sonoma Clean Power and other CCAs** - ongoing coordination to integrate dynamic rates, data sharing processes, support in Phase 2 customer recruitment plan and marketing/other material.
    - **Valley CAN** - ongoing support in customer recruitment and marketing/other materials.
    - **Redwood Energy** - ongoing support in customer recruitment plan and marketing/other materials.
4. Ensure all EVSE models installed are safety certified by a Nationally Recognized Test Laboratory and certified by the Open Charge Alliance.

5. Certify that the project has complied with all AB 841 (2020) requirements specified in the Agreement Terms and Conditions or describes why the AB 841 requirements do not apply to the project. CAM will provide certification form. The certification shall be signed by Recipient's authorized representative.
6. Submit EVITP Certification Numbers of each Electric Vehicle Infrastructure Training Program certified electrician that installed electric vehicle charging infrastructure or equipment. EVITP Certification Numbers are not required to be submitted if AB 841 requirements do not apply to the project.

Products:

1. Evidence of each completed customer deployment (such as a photo of the installation, a screenshot of the EV or EVSE uniquely identified in a management dashboard, or similar) compiled in a document or shared folder, available to CEC upon request.
2. Entry of deployment information in the Customer Deployment Log (see Task 4 and available template) for each completed customer deployment.
3. Evidence of coordination and recruitment plans with project team partners and other relevant partners.
    - Evidence of Phase 2 auto OEM coordination and planned joint Phase 2 recruitment plan
    - Evidence of Phase 2 EVSE OEM coordination and planned joint Phase 2 recruitment plan
    - Evidence of Phase 2 utility/CCA coordination / customer recruitment plan
    - Evidence of community organization Phase 2 coordination and planned joint Phase 2 customer recruitment plan
4. Datasheets for each EVSE model listed in the Customer Deployment Log indicating certification by a Nationally Recognized Test Laboratory and the Open Charge Alliance, or equivalent.
5. Completed and signed AB 841 certification.
6. Entry of EVITP Certification Numbers in the Customer Deployment Log of the electricians employed for each completed customer deployment with EVSE installation (use column O, "EVITP Cert Number(s)").

TASK 6 OPERATIONS AND RELIABILITY

This task applies to both Phase 1 and the possible Phase 2. Recipients shall comply with the following reliability performance standards, recordkeeping, reporting, and maintenance requirements (Requirements) in this Scope of Work (SOW) for electric vehicle chargers installed as part of this Agreement **excluding any charger used solely for private use at a single-family residence or a multifamily housing unit with four or fewer units.** In the event the CEC adopts regulations that include Requirements, for example as required by Assembly Bill 2061 (Ting, Chapter 345, Statutes of 2022) and/or Assembly Bill 126 (Reyes, Chapter 319, Statutes of 2023),

those Requirements shall supersede the Requirements contained in this SOW for this Agreement wherever, as determined by the CAM, they conflict or are redundant.

Task 6.1 Operations

The Recipient Shall:

- Operate the installed charging ports during the term of this agreement.
- Ensure that the charging port uptime for each charging port installed in the project is at least 97 percent of each year for six years after the beginning of operation.

Without limitation to other rights and remedies which the CEC may have, including but not limited to survival provisions specified in the Terms and Conditions of this agreement, this requirement to ensure operationality for six years after the beginning of operation shall survive the completion or termination date of this agreement. In addition to other requirements in the Terms and Conditions of this agreement, all CEC-reimbursable expenditures must be incurred within the agreement term.

Task 6.2 Recordkeeping

The goal of this task is to collect, maintain, and transmit records of charging port operation and reliability to the CEC.

For networked chargers, the Recipient shall collect and retain the maintenance records specified in this section. The Recipient shall retain the services of a charging network provider that meets the criteria in 1. through 4. to record, retain, and transmit the remote monitoring data for networked chargers specified in this section.

1. The charging network provider must have an API, approved by the CAM, to permit the charging network provider to transfer the data required in this section directly to the CEC or the CEC's designee within 60 minutes of the record's generation.
2. The charging network provider must have Subset Certification of the Charging Station Management System in the Open Charge Alliance OCPP Certification Program for OCPP version 2.0.1, published May 24, 2023, or a subsequent version of OCPP for Core, Advanced Security, and ISO 15118 Support functionalities.
3. **For networked chargers**, the charging network provider's central system must have connection to the chargers using OCPP version 2.0.1 or a subsequent version of OCPP. This does not preclude the additional use of other communication protocols.
4. **For networked chargers,** the charging network provider and chargers must transmit the following protocol data units between the Central Management System and the charger(s) as specified in OCPP version 2.0.1 or a subsequent version of OCPP:
    a. HeartbeatRequest shall be transmitted to the Central Management System by the charger on a set interval.

b. HeartbeatResponse shall be transmitted to the charger by the Central Management System in response to any received HeartbeatResponse.
c. StatusNotificationRequest shall be transmitted by the charger to the Central Management System any time the charger or an associated charging port's operative status changes.
d. BootNotificationRequest shall be transmitted by the charger to the Central Management System any time the charger is powered on.
e. BootNotificationResponse shall be transmitted by the Central Management System to the charger in response to any received BootNotificationRequest.

The Recipient Shall:

- **For networked chargers,** ensure the charging network provider collects and retains the Remote Monitoring data below from each charging port installed and operated as part of this Agreement.
- **For networked chargers,** ensure the charging network provider automatically transmits the Remote Monitoring data below to the CEC, via API, within 60 minutes of the Remote Monitoring data's generation.
- **For networked chargers,** ensure the charging network provider retains the Remote Monitoring data below for 2 years from the date of each record's generation. Provide *Remote Monitoring records* to the CEC within 10 business days of request.
    1. Provide digital records in a comma separated values (CSV) file unless another file format is approved by the CEC for the request.
    2. Provide a clear and understandable *data dictionary* that describes each data element and any associated units with all digital records.
- **For all chargers,** collect and retain the maintenance records specified below for each charging port installed and operated as part of this agreement for 6 years from the date the charging port begins operation. Provide *maintenance records* to the CEC within 10 business days of request.

    Remote Monitoring Data for Networked Chargers

    1. All instances of the following Protocol Data Units (PDUs), specified in OCPP 2.0.1, that are transmitted between the charger and the central system.
        a. HeartbeatResponse
        b. StatusNotificationRequest
        c. BootNotificationRequest
    2. The total number of charge attempts for the reporting period.
    3. The total number of successful charging sessions for the reporting period.
    4. The total number of failed charging sessions for the reporting period.
    5. The percentage of successful charging sessions for the reporting period relative to the total number of charge attempts for the reporting period.

Maintenance Records

1. **For all chargers,** reports of inoperative charging ports or charging port failures resulting in inability to charge, such as a customer complaint, internal diagnostics, or inspection.
2. **For all chargers,** records of any maintenance conducted on charging ports installed and operated as part of the agreement. Records should specify the following:
    a. Date and time of the maintenance event
    b. Whether maintenance was corrective or preventive in nature
    c. Whether and for how long the charging port was in an inoperative state prior to maintenance.
    d. Whether the charging port was in an operative state following maintenance

Products:

- Remote Monitoring Records
- Maintenance Records
- Data Dictionary

Task 6.3 Maintenance Requirements

The goal of this task is to increase reliability through timely and effective preventive and corrective maintenance. The Recipient shall conduct maintenance on each charger installed and operated as part of the Agreement as specified in this section.

The Recipient Shall:

- Conduct preventive maintenance, as specified by the charger manufacturer, on the charger hardware by a certified technician annually. The time interval between consecutive preventive maintenance visits to any charger shall be no more than 13 months.
- Complete corrective maintenance within 5 business days of the beginning of a time when the charger or charging port is inoperative or exhibiting failures that result in an inability to charge.
- *Report on preventive and corrective maintenance in each Quarterly Report on Charger and Charging Port Reliability and Maintenance* described in Task 6.4.

Products:

- Maintenance section of Quarterly Report on Charger and Charging Port Reliability and Maintenance described in Task 6.4

Task 6.4 Reliability and Maintenance Reporting

The goal of this task is to provide reports on charger reliability and maintenance.

The Recipient shall:

- Prepare and submit to the CEC *Quarterly Reports on Charger and Charging Port Reliability and Maintenance*. Each report shall include: A summary of charging port downtime, including total downtime and the number and frequency of downtime events, the minimum, median, mean, and maximum duration, and the causes of downtime events. Downtime shall be determined on a per charging port basis by summing the durations of all downtime events during the reporting period. The duration of a downtime event shall be the longest of the following periods:
    1. **For networked charging ports,** the time after the charger has transmitted a StatusNotificationRequest indicating that the charging port associated with that charger is in a "faulted" or "unavailable" state until a subsequent StatusNotificationRequest is transmitted by that charger indicating that the charging port has transitioned to an "available," "occupied," or "reserved" state. The timestamps in each StatusNotificationRequest shall be used to quantify downtime.
    2. **For networked chargers,** the time between a BootNotificationResponse transmitted by the Central Management System and the last HeartbeatResponse transmitted by the Central Management System prior to the BootNotificationResponse. The timestamps in the relevant BootNotificationResponse and HeartbeatResponse shall be used to quantify downtime.
    3. **For all charging ports,** the time between the earliest record that a charging port is not capable of successfully dispensing electricity or otherwise not functioning as designed and the time it is available to deliver a charge. First record that a charger is not capable of successfully dispensing electricity or otherwise not functioning as designed includes, but is not limited to, consumer notification, internal diagnostics, or inspection, whichever is earliest.

- Prepare a summary of Excluded Downtime, including total excluded downtime and the number and frequency of excluded downtime events, the minimum, median, mean, and maximum duration, and the causes of excluded downtime events and include in each Quarterly Report on Charger and Charging Port Reliability and Maintenance. 'Excluded Downtime' includes:
    1. **Before Initial Installation:** Downtime before the charging port was initially installed.
    2. **Grid Power Loss:** Downtime during which power supplied by a third-party provider is not supplied at levels required for minimum function of the charging port. This may include, but is not limited to, service outages due to utility equipment malfunction or public safety power shutoffs. This does not include power generation or storage equipment installed to serve the

charger(s) exclusively. Documentation from power provider detailing outage is required to claim this as excluded downtime.

3. **Vehicle Fault:** Any failure to charge or failure to meet the EV charging customer's expectation for power delivery due to the fault of the vehicle.
4. **Outage for Preventative Maintenance or Upgrade:** Downtime caused by any preventative maintenance or upgrade work that takes the charging port offline. This must be scheduled at least two weeks in advance of the charger being placed in an inoperative state. The maximum downtime that can be excluded for preventative maintenance or upgrade work is 24 hours for any 12-month period.
5. **Vandalism or Theft:** Downtime caused by any physical damage to the charger or station committed by a third party. This may include, but is not limited to, theft of charging cables, damage to connectors from mishandling, or damage to screens. A maximum of 5 days may be claimed as excluded downtime for each Vandalism or Theft event. A police report or similar third-party documentation is required to claim this as excluded time.
6. **Natural Disasters:** Downtime caused by any disruption of the charging port due to a natural event such as a flood, earthquake, or wildfire that causes great damage. Third party documentation such as news reporting must be provided along with a narrative of the direct impacts to the chargers(s) to claim this as excluded downtime.
7. **Communication Network Outages:** Downtime caused by loss of communication due to cellular or internet service provider system outages. A Communication Network Outage can be claimed as excluded downtime provided the chargers default to a free charge state during communication losses. A free charge state is when the charger is operational and dispenses energy free of charge to any consumer.
8. **Operating Hours:** Hours in which the charging port is in an operative state but that are outside of the identified hours of operation of the charging station.

- **For all charging ports** (see Glossary for exceptions)**,** prepare a summary and calculation of uptime and include in each Quarterly Report on Charger and Charging Port Reliability and Maintenance. Each report shall include the uptime percentage of each charging port (Uptime) installed and operated as part of this Agreement for the reporting period. Charging port uptime shall be calculated as:

$$\boldsymbol{U = \frac{T - D + E}{T} * 100\%}$$

U = Charging Port Uptime
T =

1. Q1 reporting period = 129,600 minutes, except for a leap year, which is 131,040 minutes.
2. Q2 reporting period = 131,040 minutes.
3. Q3 and Q4 reporting periods = 132,480 minutes.

D = Total charging port downtime for the reporting period, in minutes.
E = Total charging port excluded downtime in the reporting period, in minutes.

- **For networked charging ports**, prepare a summary of charge data and include in each Quarterly Report on Charger and Charging Port Reliability. The data will include:
    a. Total number of charge attempts in the reporting period
    b. Total number of successful charge attempts in the reporting period
    c. Total number of failed charges in the reporting period
    d. The percentage of successful charging sessions for the reporting period relative to the total number of charge attempts for the reporting period
    e. A description of steps taken to reduce the number of failed charge attempts, and the success rate of those steps
- **For all chargers,** prepare a summary of the total number of maintenance dispatch events that occurred since the last report, the number of days to complete each maintenance event reported, and a narrative description of significant maintenance issues. Include details of all excluded downtime and a narrative description of events that caused the excluded downtime. Include the summary in each Quarterly Report on Charger and Charging Port Reliability.

Products:

- Quarterly Report on Charger and Charging Port Reliability and Maintenance, submitted in a manner specified by the CEC

TASK 7 SEMI-ANNUAL ELECTRIC VEHICLE CHARGER INVENTORY REPORTS

This task applies to both Phase 1 and the possible Phase 2. The goal of this task is to provide information on the number of chargers in the Recipient's charging network in California, including both public and shared private, serving all vehicle sectors (light-, medium-, and heavy duty) **excluding any charger used solely for private use at a single-family residence or a multifamily housing unit with four or fewer units.** In the event the CEC adopts regulations that include Requirements, for example as required by Assembly Bill 2061 (Ting, Chapter 345, Statutes of 2022) and/or Assembly Bill 126 (Reyes, Chapter 319, Statutes of 2023), those Requirements shall supersede the Requirements contained in this SOW for this Agreement wherever, as determined by the CAM, they conflict or are redundant.

The Recipient shall:

- Prepare an *Electric Vehicle Charger Inventory Report,* in a template provided by the CAM, that includes:
    - For chargers serving light-duty electric vehicles:
        - Number of public AC charging ports aggregated at the county level by charging network provider

        - Number of shared private AC charging ports aggregated at the county level by charging network provider
        - Number of public DC fast charging ports aggregated at the county level by charging network provider
        - Number of shared private DC fast charging ports aggregated at the county level by charging network provider
    - For chargers serving medium- and/or heavy-duty vehicles:
        - Number of public AC charging ports aggregated at the county level by charging network provider
        - Number of shared private AC charging ports aggregated at the county level by charging network provider
        - Number of public DC fast charging ports aggregated at the county level by charging network provider
        - Number of shared private DC fast charging ports aggregated at the county level by charging network provider
        - Number of other publicly available charging ports at the county level by charging network provider
        - Number of other depot charging ports by power output (less than 50 kilowatts (kW), between 50 – 150 kW, 150 kW – 350 kW, 350 kW and above) at the county level by charging network provider (if applicable)
- Submit the *Electric Vehicle Charger Inventory Report* to the CAM, no later than 30 calendar days after the Agreement is executed and then each calendar half-year thereafter. Reports are due at the end of July and end of January.

Recipient Product:

- Electric Vehicle Charger Inventory Report

TASK 8 OTHER DATA COLLECTION AND ANALYSIS

This task applies to both Phase 1 and the possible Phase 2. The goal of this task is to collect operational data from the project and to analyze that data for economic and environmental impacts.

The Recipient shall:

1. For all electric vehicle chargers and charging stations installed on or after January 1, 2024:
    - Comply with recordkeeping and reporting standards as described in CEC's regulations. These requirements are not applicable to those electric vehicle chargers and charging stations installed at residential real property containing four or fewer dwelling units.
    - Comply with all industry best practices and charger technology capabilities that are demonstrated to increase reliability, as described in CEC's regulations.

  - Without limitation to other requirements in this Agreement, Recipient shall comply with any other regulatory requirements, including but not limited to uptime requirements and operation and maintenance requirements. Such regulatory requirements may, but will not necessarily, be enacted after execution of this Agreement. Once regulations are final, they will apply to work under this Agreement irrespective of when finalized. Any updates to regulations may also be applicable to work under this Agreement.
  - If the Recipient is an electric vehicle service provider or other third-party entity that is not the site host, the electric vehicle service provider or third-party entity shall provide a disclosure to the site host about the site host's right to designate the service provider or third-party as the entity to report the data on behalf of the site host. The Recipient shall verify receipt by signing the disclosure.

- Collect and provide 12 months of throughput, usage, and operations data from the project including, but not limited to:
  - Peak power delivered (kW)
  - Duration of active charging, hourly
  - Duration of charging session, hourly (e.g., vehicle parked but not actively charging)
  - Energy delivered (kWh)
  - Types of vehicles using the charging equipment
  - Applicable price for charging, including but not limited to: electric utility tariff, EVSP service contract, or public charger price.
  - Payment method for public charging
  - Energy delivered back to grid or facility if a bidirectional charging use case (kWh)
  - Maximum capacity of the new fueling system
  - Normal operating hours, up time, downtime, and explanations of variations
  - Gallons of gasoline and/or diesel fuel displaced (with associated mileage information)
  - Expected air emissions reduction, for example:
    - Non-methane hydrocarbons
    - Oxides of nitrogen
    - Particulate Matter
    - Formaldehyde

- Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions

2. Identify any current and planned use of renewable energy at the facility.
3. Identify the source of the alternative fuel.
4. Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
5. Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
6. Provide a quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions.
7. Compare any project performance and expectations provided in the proposal to CEC with actual project performance and accomplishments.
8. Provide a *Data Collection and Information Analysis Report* that lists and analyzes all the data and information described above.

Products:

1. Evidence of compliance with all applicable regulatory requirements for recordkeeping and reporting standards, including but not limited to uptime requirements and operation and maintenance requirements.
2. Data Collection and Information Analysis Report

TASK 9 PROJECT FACT SHEET

This task applies to both Phase 1 and the possible Phase 2. The goal of this task is to develop an initial and final project fact sheet that describes the CEC-funded project and the benefits resulting from the project for the public and key decision makers.

The Recipient shall:

1. Prepare an *Initial Project Fact Sheet* at start of the project that describes the project and the expected benefits. Use the format provided by the CAM.
2. Prepare a *Final Project Fact Sheet* at the project's conclusion that describes the project, the actual benefits resulting from the project, and lessons learned from implementing the project. Use the format provided by the CAM.
3. Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

1. Initial Project Fact Sheet
2. Final Project Fact Sheet

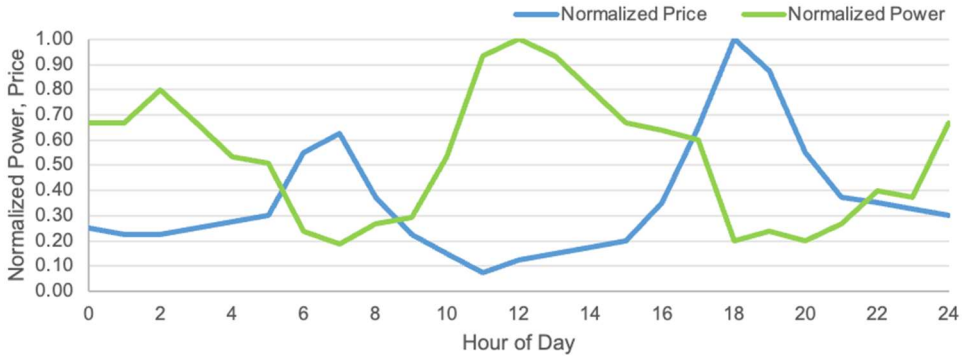
3. High Quality Digital Photographs

Performance Data Collection Reference (Minimum Data Collection and Reporting Requirements)

Copied from Section II.B.3 of the solicitation manual.

The project must collect data for at least 12 months on all funded deployments. Minimum data collection and reporting requirements are described below:

3-1	Sub-hourly Charging Data: For all deployments, record charging power in kilowatts (kW), connector status, and real-time electricity price (in $/kWh) at 15-minute intervals or more frequently. For deployments with bidirectional charging, charging power values must indicate when the vehicle is charging (positive) or discharging (negative). Connector status should indicate, at a minimum: connected and charging, connected and not charging, and not connected. Sub-hourly charging data should be made available upon CEC request **and does not need to be regularly reported** otherwise.
3-2	Monthly Median Normalized 24-Hour Charging Power and Price Profile (hereinafter “normalized profile”): Calculate, record, and plot two normalized profiles for each month: One for all deployments with customers enrolled on dynamic rates, and one for all other deployments. To normalize a particular deployment’s charging power profile, scale the peak charge power to a dimensionless 1 and retain 0 kW at 0. To normalize a particular deployment’s electricity price profile, scale the peak electricity price to a dimensionless 1 and retain $0/kWh at 0. For all normalized profiles, the y-axis shall show normalized charging power (that is, power delivered from the grid to the vehicle) and electricity price ranging from zero to one. (Bidirectional charging or negative electricity prices may require shifting the axis downward to accommodate negative values; adjust as appropriate.) The x-axis shall show a single 24-hour period ranging 0 to 24. An example plot is shown below. Follow the below order of operations to calculate the normalized profiles: 1. For each deployment with a customer on a dynamic rate, calculate the median 24-hour charging power and electricity price profiles for the entire month using data from 3-1 (sub-hourly charging data). For this step, the y-axis of the plots should show real values in kW and $/kWh. 2. Normalize the profiles calculated in the prior step by scaling the monthly peak charge power and peak electricity price to a dimensionless 1. 3. Using the profiles calculated in the prior step (one for each customer on a dynamic rate), calculate the median normalized 24-hour charging power and electricity price profiles across all dynamic rate customers. Record,

	plot, and report this profile to CEC each month during the monthly project call. 4. Repeat the above steps for the remaining deployments (with customers not enrolled on a dynamic rate). An example normalized charging profile is shown below:  ➔ This data reporting requirement will yield **two normalized profiles per month** (one for dynamic rate customers, one for all remaining customers), totaling at least 24 normalized charging profiles during the project term. Normalized profiles shall be reported to CEC during monthly project updates.
3-3	Average Electricity Price By Month: For all deployments, calculate the average price ($/kWh) of electricity used for charging that month. Any fixed monthly infrastructure charges, adders, or other fees *not* billed on a volumetric basis (by kWh) shall be noted but excluded from this reporting value. Calculating this value may require using data from 3-1 above. ➔ This data reporting requirement will yield one $/kWh value per month for each deployment and shall be reported to CEC during monthly project updates in an aggregated spreadsheet.
3-4	Otherwise-Applicable Average Electricity Price By Month: For all deployments with a customer enrolled on a dynamic rate, calculate the average price ($/kWh) of electricity for charging that would have been realized that month on an otherwise-applicable electricity rate. Projects shall select an otherwise-applicable electricity rate that can be reasonably viewed as the default time of use rate for a similar customer in the same utility territory. The goal of this reporting requirement is to determine whether customers are realizing additional savings on their dynamic rate. This data collection requirement **does not apply to deployments with customers enrolled on non-dynamic rates.** ➔ This data reporting requirement will yield one $/kWh value per month for each dynamic rate deployment and shall be reported to CEC during monthly project updates in the aggregated spreadsheet.
3-5	Customer Deployment Log:

	Record the below information for each deployment as the product is deployed to individual customers. Maintain a single spreadsheet for all customer deployments and add to the spreadsheet as the product is deployed to additional customers. A CEC template is available, and grant recipients may use their own reporting template if preferred. 1. Date of deployment 2. Address of deployment 3. Site type (single-family home, multi-family home, restaurant, and so on) 4. Whether site is in a disadvantaged or low-income community (or both) based on the California Climate Investments Priority Populations 2022 CES 4.0 map. 5. Electric utility provider and enrolled electricity rate 6. Whether the enrolled electricity rate is a dynamic rate 7. Whether the deployment is enrolled in the SCE Dynamic Rates pilot 8. Deployment type (for example, new EVSE, existing EVSE, vehicle telematics connection, and so on) 9. Associated manufacturer and model number of the deployment 10. Number of deployments at the site/address 11. If deploying new EVSE, record: a. Number of EVSE installed at deployment site b. Connector type(s) c. Nameplate charging power (for bidirectional EVSE, also note nameplate discharge power) d. EVITP Certification Number(s) *Items e-i may not apply depending on the funding source used. CEC will provide clarification during agreement development.* e. Total cost f. Total subsidy from the CEC g. Total federal subsidy h. Total utility subsidy i. Total privately funded share of cost ➔ The Customer Deployment Log shall be regularly maintained and reported to CEC during monthly project updates.
3-6	Other Applicable Recordkeeping and Reporting: In addition to the other requirements set forth in this application manual and the law, electric vehicle chargers and charging stations installed on or after January 1, 2024, must comply with recordkeeping and reporting standards which CEC is currently in the process of developing. As background, AB 2061 and Cal. Pub. Resources Code sect. 25231.5 require the CEC, in consultation with the CPUC, to develop recordkeeping and reporting standards for EV chargers and charging stations. CEC is working to develop regulations in compliance with AB 2061. Other requirements, including but not limited to uptime and operation and maintenance requirements, may also be adopted by regulation. Once these regulations are finalized, chargers which are installed on or after January 1,

	2024, including chargers installed under agreements resulting from this solicitation, will need to comply with the new regulations. Applicants to this solicitation must be prepared to comply with any new or updated regulations, even if the regulations are not in existence at the time of application to this solicitation.