California Energy Commission
January 21, 2026 Business Meeting
Backup Materials for California Energy, Power, & Innovation Collaborative (Cal EPIC)

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: 26-0121-XX

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: California Energy, Power, & Innovation Collaborative (Cal EPIC)

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-25-012 with California Energy, Power, & Innovation Collaborative (Cal EPIC) for a $4,000,000 grant. This project will operate a charging interoperability and collaboration space at Cal EPIC's multi-purpose facility in Sacramento and will create a space for interoperability testing, standards conformance testing and verification, industry collaboration, and exploration of next-generation charging use cases across multiple types of EVs and EV chargers; 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 January 21, 2026.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Kim Todd
Secretariat

STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

CEC-270 (Revised 01/2024)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: ARV-25-012

B. Division Information

1. Division Name: Fuels & Transportation
2. Agreement Manager: Taylor Nguyen
3. MS-: 279-226-1152

C. Recipient's Information

1. Recipient's Legal Name: California Energy, Power, & Innovation Collaborative (Cal EPIC)
2. Federal ID Number: 84-3095746

D. Title of Project

Title of project: Capital Charge Yard

E. Term and Amount

1. Start Date: 2 February 2026
2. End Date: March 30, 2031
3. Amount: $4,000,000

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 01/21/2026
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Taylor Nguyen
5. Time Needed for Business Meeting: 5 minutes.
6. The email subscription topic is: Clean Transportation Program, Vehicle-Grid Integration, Developing Electric Vehicle Charging Payment and Network Communication Standards

Agenda Item Subject and Description:

California Energy, Power, & Innovation Collaborative. Proposed resolution approving agreement ARV-25-012 with California Energy, Power, & Innovation Collaborative (Cal EPIC) for a $4,000,000 grant and adopting staff's recommendation that this action is exempt from CEQA. This project will operate a charging interoperability and collaboration space at Cal EPIC's multi-purpose facility located in Sacramento, and will allow for interoperability testing, standards conformance testing and verification, industry collaboration, and exploration of next-generation charging use cases across multiple types of electric vehicles (EVs) and EV chargers.

G. California Environmental Quality Act (CEQA) Compliance

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

   If yes, skip to question 2.

   If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because: If Agreement is considered a "Project" under CEQA skip to question 2. Otherwise, provide explanation.

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: 14 CCR 15301 – Existing Facilities

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 use beyond that existing at the time of the lead agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act. This project involves semi-permanent installation of 12 electric vehicle supply equipment at an existing testing laboratory. The electric vehicle charging stations will be installed for testing purposes only, connected to existing electrical panels, and will involve negligible or no expansion of use. Permits will be obtained with Sacramento Municipal Utility District to upgrade existing electrical panels. Therefore, the project falls within section 15301 and will not have a significant effect on the environment.

This project does not involve impacts on any particularly sensitive environment; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project 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.

No
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. Is this project considered "Infrastructure"?

No

I. 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
Charging Interface Initiative North America (CharIN Inc.)	$152,950	**$65,550**
CharIN Academy	$545,100	**$1,245,300**
Korea Electrotechnology Research Institute (KERI)	$700,000	**$1,800,000**
Build Momentum	$420,000	**$180,000**

J. 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
TBD	**$360,000**	**$0**
TBD	**$300,000**	**$**0

K. 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
Charging Interface Initiative North America (CharIN Inc.)
Korea Electrotechnology Research Institute (KERI)
CharIN Academy
Build Momentum

L. 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
ARFVTP	FY 23/24	601.118P	$4,000,000

TOTAL Amount: $4,000,000

R&D Program Area: N/A

Explanation for "Other" selection N/A

Reimbursement Contract #: N/A

Federal Agreement #: N/A

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Orville Thomas

Address: 8351 Luzon Avenue

City, State, Zip: Sacramento, CA 95828

Phone: 209-607-9327

E-Mail: orville@calepic.com

2. Recipient's Project Manager

Name: Orville Thomas

Address: 8351 Luzon Avenue

City, State, Zip: Sacramento, CA 95828

Phone: 209-607-9327

E-Mail: orville@calepic.com

N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-24-609
First Come First Served Solicitation #	N/A
Other	N/A

O. 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: Taylor Nguyen

Approval Date: 08/21/2025

Office Manager: Jaron Weston

Approval Date: 10/16/2025

Deputy Director: Jennifer Kalafut

Approval Date: 12/12/2025

Exhibit A
SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Site Acquisition
3		Standardized Conformance Testing Protocols
4	X	Operations & Governance
5		Industry Collaboration Events
6		Annual Reports
7		Data Collection, Analysis, & Reporting
8		Project Fact Sheet

KEY NAME LIST

Task #	Key Personnel	Key Subrecipient(s)	Key Partner(s)
1	Orville Thomas, California Energy, Power, & Innovation Collaborative	Build Momentum	
2	Orville Thomas, California Energy, Power, & Innovation Collaborative	CharIN Inc.	
3	Orville Thomas, California Energy, Power, & Innovation Collaborative Erika Myers, CharIN Woohyun Seo, Korea Electrotechnology Research Institute	CharIN Inc. Korea Electrotechnology Research Institute CharIN Academy	
4	Orville Thomas, California Energy, Power, & Innovation Collaborative	Build Momentum CharIN Inc.	
5	Orville Thomas, California Energy, Power, & Innovation Collaborative	CharIN Inc. Korea Electrotechnology Research Institute	

Task #	Key Personnel	Key Subrecipient(s)	Key Partner(s)
	Erika Myers, CharIN Woohyun Seo, Korea Electrotechnology Research Institute	CharIN Academy	
6	Orville Thomas, California Energy, Power, & Innovation Collaborative	Build Momentum CharIN Inc.	
7	Orville Thomas, California Energy, Power, & Innovation Collaborative	Korea Electrotechnology Research Institute CharIN Inc.	
8	Orville Thomas, California Energy, Power, & Innovation Collaborative	Build Momentum CharIN Inc.	

GLOSSARY

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

Term/ Acronym	Definition
AB	Assembly Bill
AC Level 2	Alternating current Level 2. A charger that operates on a circuit from 208 volts to 240 volts and transfers AC electricity to a device in an electric vehicle (EV) that converts AC to direct current to charge an EV battery.
ADA	Americans with Disabilities Act
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.
Battery Energy Storage	Technology that stores electrical energy in batteries for later use, helping to stabilize the electric grid by balancing supply and demand, integrating renewable energy sources, and providing backup power during outages or peak demand periods.
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission

Term/ Acronym	Definition
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). This definition excludes any charger used solely for private use at a single-family residence or a multifamily dwelling with four or fewer dwelling units.
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.
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 OCPP.

Term/ Acronym	Definition
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 subcontractors, 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.
CharIN	Charging Interface Initiative
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
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.
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 <Fourth to Last>.4.
DSA	Data Sharing Agreement
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.
EVSE	Electric vehicle supply equipment. A charger as defined.
EVITP	Electric Vehicle Infrastructure Training Program. It provides training and certification for electricians installing electric vehicle supply equipment.
Failed charging session	Following a charge attempt, the criteria for a successful charging session were not met.
FTD	Fuels and Transportation Division
GFO	Grant Funding Opportunity

Term/ Acronym	Definition
Hardware	The machines, wiring, and other physical components of an electronic system including onboard computers and controllers.
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.
KERI	Korea Electrotechnology Research Institute
Maintenance	Any instance in which preventive or corrective maintenance is carried out on equipment.
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.
OCPP	Open Charge Point Protocol. An open-source communication protocol that specifies communication between chargers and the charging networks that remotely manage the chargers.
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.
Preventative maintenance	Maintenance that is performed on physical assets to reduce the chances of equipment failure and unplanned machine downtime.
Primary Vehicle Type	A vehicle type depending on the GVWR such as "light duty" or "LD" (GVWR <= 10,000), "medium duty" or "MD" (10,000 < GVWR <= 26,000), "heavy duty" or "HD" (GVWR > 26,000).

Term/ Acronym	Definition
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).
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	An applicant awarded a grant under a CEC solicitation.
RSA	Registered Service Agency. An entity that repairs a commercial device that is registered with the California Department of Food and Agriculture Division of Measurement Standards.
Resident EVSE	EVSE that will be semi-permanently installed on site.
SB	Senate Bill
SCAR	Successful Charge Attempt Rate
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.
Software	A set of instructions, data, or programs used to operate computers and execute specific tasks.
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.
V2X	Vehicle-to-Everything

Background

Assembly Bill (AB) 118 (Chapter 750, Statutes of 2007) created the Clean Transportation Program (CTP) to help achieve California's climate change policies and support projects that reduce greenhouse gas emissions from the transportation sector. AB 8 (Chapter 401, Statutes of 2013) extended the program through January 1, 2024, and AB 126 (Chapter 319, Statutes of 2023) extended the program through July 1, 2035 and focused the program on zero-emission transportation.

The CTP has an annual budget of approximately $100 million and provides financial support for projects that, among other goals:

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

On March 14, 2025, the CEC released a Grant Funding Opportunity (GFO) entitled "Charging Interoperability and Collaboration Yard," hereafter referred to as Charge Yard GFO. This competitive grant solicitation was to provide an open and neutral space for industry collaboration, knowledge sharing, interoperability testing, and conformance testing for electric vehicle charging. In response to GFO-24-609, the Recipient submitted application #7 which was proposed for funding in the CEC's Notice of Proposed Awards on September 9, 2025. GFO-24-609 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:

As charging standards for EVs continue to rapidly evolve, EV drivers frequently encounter challenges in the process of charging. A pivotal factor in advancing market penetration of EVs is achieving seamless interoperability, where any EV can be charged at any charging station and with any manufacturer's charger. Presently, the predominant method for assessing interoperability is through field test events that involve pairing an actual EV with a charger. However, these combination tests using real-world EVs and chargers in less-controlled field environments make it challenging to verify true interoperability.

While field tests can determine whether a charging session is successful, they fall short when it comes to providing a qualitative and quantitative evaluation of how well the combination conforms to established standards. When an interoperability link narrowly passes, there is a heightened risk that it might not work dependably in other combination settings. In response to this market need and given the limited interoperability testing options currently available to the industry, staff has introduced the Charge Yard GFO as a strategic solution to prepare California for the continuously changing EV landscape and to meet the interoperability goals set by the CEC.

Goal of the Agreement:

The goal of this Agreement is to establish the first industry-recognized, third-party-operated labs in California, and one of the first in the nation, focusing on conducting interoperability testing of EVSEs and EVs in order to achieve broad interoperability and enabling the implementation and demonstration of related beneficial and innovative use cases and technologies.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Identify and develop a space for interoperability testing, standards conformance testing and verification, industry collaboration, and exploration of next-generation charging use cases.
- Support the interoperability ecosystem across all links as outlined by CEC's Statement on Charging Interoperability.
- Provide conformance and certification testing services for EV hardware.
- Provide testing capabilities for advanced use cases such as bidirectional charging.
- Collect an extensive dataset of test results to inform on the state of interoperability and the feasibility of advanced use cases.
- Foster industry collaboration and accelerate the development and deployment of charging technologies.

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 CAM shall:

- Send the Recipient the *kick-off meeting agenda*.

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 match share 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.
    - The statement should include the following project activities: key milestone dates, site specific charger information and any other equipment to be included at the site(s).
- Provide an *updated Schedule of Products, updated list of match funds, and updated list of permits*.
- 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)

CAM Product:

- Kick-Off Meeting Agenda

Recipient Products:

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

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 *CPR meeting 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:

- CPR meeting 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
- Provide *written documentation of meeting agreements*.
- 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.
- Send an *email to CAM concurring with call summary notes*.

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 Identify and Obtain Match 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, including but not limited to, a *letter of new match fund commitment* to the CAM if during the course of the Agreement additional match funds are received.
- Provide the CAM *written notification* 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 fund commitment (if applicable)
- Written notification that match funds were reduced (if applicable)

Task 1.7 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 actions available to the CEC under this Agreement, such as an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each final 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)

Task 1.8 Obtain and Execute Subawards and Agreements with Site Hosts

The goal of this task is to ensure quality products and to execute subrecipient and site host agreements, as applicable, required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement and contracting policies and procedures.

The Recipient shall:

- Execute and manage subawards and coordinate subrecipient activities.
- Execute and manage site host agreements and ensure the right to use the project site throughout the term of the Agreement, as applicable. A site host agreement is not required if the Recipient is the site host.
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the project site cannot be acquired or can no longer be used for the project.

- Submit a *letter* to the CAM describing the subawards and any site host agreements needed or stating that no subawards or site host agreements are required.
- If requested by the CAM, submit a *draft of each subaward and any site host agreement* 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 and any site host agreement*.
- If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM.

Products:

- Letter describing the subawards and any site host agreements needed, or stating that no subawards or site host agreements are required
- Draft subaward (if requested)
- Final subaward (if requested)
- Draft site host agreement (if requested)
- Final site host agreement (if requested)

Task 1.9 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives, providing products specified in this Scope of Work, 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 calendar 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

TECHNICAL TASKS

TASK 2 SITE ACQUISITION

The goal of this task is to establish a dedicated testing facility in California that supports the advancement of electric vehicle charging infrastructure through interoperability, standards conformance, and industry collaboration.

The Recipient shall:

- Identify and secure a suitable physical space in California that meets all the specified requirements for the Charge Yard per the Solicitation Manual.
- Develop and submit *Scaled Facility Diagrams* illustrating the proposed positioning of EVSE and vehicles within the facility. This includes:
    - Designing and implementing the layout of Charge Yard, including the placement of at least 12 large semi-permanent EVSE (referred to as “resident” EVSE) and four EVs, considering both indoor and outdoor testing areas.
        - At least five EVSE must be AC.
        - At least six EVSE must be DC.
        - At least seven different EVSE manufacturers must be represented.
        - Across all EVSE, at least two V2G Root Certificate Authorities (Public Key Infrastructures) used to enable Plug and Charge must be represented.
    - Ensuring that all resident EVSE:
        - Must be certified for OCPP 2.0.1 or later before being made available for testing at Charge Yard.
        - Must be certified for CharIN CCS Extended or demonstrate ISO 15118 conformance through a comparable conformance test before being made available for testing at Charge Yard.

        - May be loaned by EVSE manufacturers.
    - Procuring and commissioning on-site test tools, including but not limited to charger/vehicle emulators and grid emulators. Charge Yard must include test tools that, at minimum, support ISO 15118 testing for products using the J1772/CCS or J3400/NACS connector. The test bed must be capable of simultaneously testing multiple ports for multi-port EVSE. The facility may optionally offer ISO 15118 conformance and certification services using these tools.
    - Ensuring the selected space has adequate power capacity to support the operation of at least one 150 kW charger.
    - Ensuring the indoor testing space can accommodate at least six large EVSE, one large vehicle of 85”H x 90”W, and EVSE dispensers sized at minimum 25” x 20” x 100”.
        - The indoor testing space must be sized to accommodate the largest light-duty EV available as of the date of the execution of this agreement.
    - Providing a suitable entrance for large electric vehicles into the indoor testing space, such as a roll-up door with a minimum size of 85”H x 90”W.
    - Implementing appropriate weather protection for any outdoor testing areas to allow for testing during inclement weather.
    - Providing dedicated spaces within the Charge Yard for multi-party testing and indoor meetings.

- Develop and submit a Utility Interconnection plan. This includes:
    - Detailing a planned approach for interconnecting the bidirectional charging infrastructure to the grid. This shall include consideration of options such as Rule 21 interconnection, special arrangements with utilities, microgrid configurations, or other relevant pathways.
    - Demonstrating collaboration and support from the relevant utility(ies). Recipients must outline their plans for engaging with utilities and obtaining necessary approvals, permits, and letters of support
- Submit an AB 841 Certification that certifies the project has complied with all AB 841 (2020) requirements specified in Exhibit C or describes why the AB 841 requirements do not apply to the project. The certification shall be signed by Recipient’s authorized representative.
- 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.
- Ensure all applicable electric vehicle supply equipment (EVSE) installed for commercial use has a type approval certificate issued through the California Type Evaluation Program (CTEP) administered by the California Department of Food and Agriculture Division of Measurement Standards or Certificate of Conformance issued by the National Type Evaluation Program (NTEP)

administered through the National Conference on Weights and Measures. California accepts NTEP certificates so long as the device also meets CCR Title 4, Section 4002.11.

- Unless otherwise updated by the CDFA DMS, ensure installation, repair, and/or maintenance on applicable commercial EVSE is performed by a Registered Service Agency (RSA) and after the device is placed in service, the RSA must report this information to the county within 24 hours. Device owners are responsible for registering their device with the county.

Products:

- *AB 841 Certification, as applicable*
- *EVITP Certification Numbers, as applicable*
- *Scaled Utility Diagrams*
- Submit a *Utility Interconnection Plan*

TASK 3 Standardized Conformance Testing Protocols

The goal of this task is to develop standardized test cases and methods for ISO 15118 and Open Charge Point Interface.

The Recipient shall develop:

- A standard set of test cases for ISO 15118-2 that validate a product's ISO 15118-2 implementation. Test cases shall include those validating Plug and Charge, and scheduled charging.
- A standard set of test cases for ISO 15118-20 that validate a product's ISO 15118-20 implementation. Test cases shall include those validating Plug and Charge, scheduled charging, and bidirectional charging.
- A standard set of test cases for OCPI 2.2.1 or subsequent versions. Test cases shall include those validating bilateral and hub-based roaming agreements.
- A standardized method, tool, certification, and/or program with which to run the above test cases. This deliverable could be a standardized test program offered at third-party test labs, an open-source specification for a test tool used for first-party testing, or other similar programs or tools.

Test cases and methods must be circulated and reviewed by Charge Yard's advisory committee.

Products:

- Test cases for ISO 15118-2.
- Test cases for ISO 15118-20.
- Test cases for OCPI 2.2.1+.
- Evidence of standardized method, tool, certification and/or program to run the above test cases.

TASK 4 OPERATIONS & GOVERNANCE

The goal of this task is to develop and implement a comprehensive plan for establishing and operating Charge Yard.

The Recipient shall, subject to CAM approval:

- Provide a *Technical Support Plan* describing:
  - All on-site technical support services, including staffing and their roles and responsibilities.
- Develop an *Annual Interoperability Test Plan and Schedule* outlining:
  - The list of EVs and EVSEs to be tested in the following 12 months, including testing configuration (testing equipment, backend system(s), driver application, PKI, and any other relevant information), and associated schedule.
  - The list and description of bidirectional tests planned in the following 12 months.
  - Any additional testing activity planned in the following 12 months (e.g., wireless charging, load controllers, etc.).
  - Plans to support testing of automated load management (ALM) solutions using multiple EVSE and EV combinations.
- Develop a comprehensive *Financial Sustainability Plan* including cost recovery plan outlining:
  - Expected fees, if applicable, for various testing services (e.g., per-use fees, subscription fees, event fees, certification services).
  - A detailed financial model projecting revenue and expenses over the project term (5 years).
  - A roadmap for achieving long-term financial sustainability (10 years of operation).
- Establish an Advisory Committee:
  - Establish an advisory committee with at least two representatives from each of the specified entity types (EV manufacturers, EVSE manufacturers, charging station operators, public key infrastructure providers, utilities).
  - Define the committee's role in informing Charge Yard operations, including meeting frequency (at least monthly) and procedures for receiving updates.
  - Develop an *Advisory Committee Composition Plan*, including:
    - Identification of potential committee members.
    - Definition of roles and responsibilities for each member and any subgroups/task forces.
    - Outline procedures for documenting committee activities (minutes of meetings, presentation materials).

Products:

- Technical Support Plan

- Annual Interoperability Test Plan and Schedule
- Advisory Committee Composition Plan
- Financial Sustainability Plan

TASK 5 INDUSTRY COLLABORATION EVENTS

The goal of this task is to foster industry collaboration and accelerate the development and deployment of charging technologies.

The Recipient shall:

- Host at least three on-site interoperability testing events per year.
    - At least one must be a V2X testing event.
- Host or co-host at least two on-site events per year that do not include testing. These events may include workshops, conferences, or discussion sessions to further develop standards, advance bidirectional charging implementation, share reports and learnings, disseminate best practices, demonstrate technical findings, and discuss other priority topics.

Products:

The recipient shall submit to the CAM:

- Detailed plans and schedule for each on-site interoperability testing event for approval six months in advance that details:
    - Objectives and scope of each testing event.
    - List of participating entities (e.g., manufacturers, researchers, utilities).
    - Timeline for each event.
- Detailed plans and schedule for each on-site V2X testing event to CEC CAM for approval in advance that details:
    - Objectives and scope of each testing event.
    - List of participating entities (e.g., manufacturers, researchers, utilities).
    - Timeline for each event.
- Reports summarizing each completed on-site non-testing event.

TASK 6 Performance Criteria

The goal of this task is to assess and improve interoperability of light-duty EVs and EVSEs in California through annual testing and reporting, while also evaluating the state of bidirectional charging and identifying barriers to its widespread adoption.

Annually, the Recipient shall, subject to CAM approval:

- Prepare and submit an *Annual Interoperability Testing Report* including findings on at least the top 10 light-duty EVs sold in the State of California with a minimum of 10 EVSE. This report must conform to a format approved by the CEC and must include:

- The list of all EVs tested in the previous 12 months as well as the EVSEs they have been testing with, and the related testing configuration(s).
    - The CAM shall review and approve the proposed lists of EVs and EVSE.
- Interoperability test results for each EV – EVSE combination tested.
- Bidirectional charging test results, if applicable.
- For each EV, provide:
    - Identification: the vehicle make, model year, VIN, a picture of the vehicle.
    - Specifications: battery capacity, onboard charger specifications, firmware version, charging plug (e.g. J3400, CCS), charging protocols and version supported (e.g. ISO 15118-20), support for bidirectional charging.
    - Funding: if the vehicle was procured by the Recipient (purchased, rented, loaned by OEM or other testing party) or brought in by a testing party for the duration of tests.
- For each EVSE, provide:
    - Identification: the charger make and model, serial number, a picture of the charger.
    - Specifications: type (e.g., AC or DCFC), nameplate capacity (kW), bidirectional capability, number of ports, UL listing and NRTL, Energy Star listing, CTEP listing or alternatively metering accuracy, networking interfaces supported, communications protocol and versions supported (e.g., ISO 15118-20, OCCP 2.0.1)
    - Funding: if the charger was procured by the Recipient (purchased, rented, loaned by manufacturer or other testing party) or brought in by a testing party for the duration of the tests.
- For each EV – EVSE combination:
    - Date of testing
    - Testing configuration (e.g., which protocols and versions, including OCPP backend, PKI configuration, etc.).
    - Interoperability testing protocol (e.g., which test suite was used, e.g., SAE J2953/3 or any conformance testing standard developed and/or followed by the recipient under this Agreement).
    - Test result (Pass/Fail) and if applicable, number and severity of failures.

- Provide an annual report informed by Charge Yard testing data on the state of interoperability, analyze test results, evaluate progress, and develop suggestions and recommendations for improvement.
- Provide an annual report informed by Charge Yard activities on the state of bidirectional charging, analyze test results, evaluate barriers and progress, and develop suggestions and recommendations for improvement.

Products:

The recipient shall submit in a manner specified by the CEC:

- A list of proposed EVs and EVSE tested in the interoperability report for CAM approval.
- *Annual Interoperability Testing Report*
  State of Interoperability Testing Report, State of Bidirectional Charging Report

TASK 7 DATA COLLECTION, ANALYSIS, & REPORTING

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:

- Maintain a publicly available and Internet-accessible dashboard to track the number of vehicle and EVSE models tested in Charge Yard (do not specify brand/model) and the protocols and use cases tested.
    - Data collected by onsite test tools (such as emulators and sniffers) and EVSE shall be made available to the CEC upon request.
- Submit all test results and industry collaboration event data in a format approved by the CEC and in a manner specified by the CEC.
- Collect anonymized and aggregate data on all testing with on-site test tools and resident EVSE. Use this data to identify and track common implementation errors, misunderstandings, and other non-conformities.
    - Publish *Data Collection Report* that contains:
        - Protocol version used,
        - Interoperability test suite used, if applicable,
        - Transport layer security version used (if any),
        - Failure cause or message for failed charging sessions,
        - Success and failure rate by test case (for tests involving standardized test cases),
        - Number of vehicle and EVSE models tested
        - Whether the device underwent formal communication protocol conformance testing (specify which ones if applicable)
        - Note: this list is not exhaustive and is subject to refinement prior to agreement execution.
    - The *Data Collection Report* shall be published twice a year and made publicly available and Internet-accessible.
- Publish anonymized and aggregated data for industry collaboration events (referenced under Task 4), including all on-site interoperability testing events and V2X testing events. Use this data to identify and track common implementation errors, misunderstandings, and other non-conformities.
    - Publish *Industry Collaboration Event Report* that contains:
        - Interoperability pass/fail test results.
        - Specific test cases used.
        - Summary of key topics covered.
        - Number of registrations and breakdown by industry sector.

- The *Industry Collaboration Event Report* shall be published within four months of each industry collaboration event and made publicly available and Internet-accessible.
- Report anonymized and non-aggregated data to the CEC when requested.

Products:

The recipient shall submit to the CAM for approval:

- Publicly available and Internet-accessible dashboard
- All test results and industry collaboration event data in a format approved by the CEC and in a manner specified by the CEC.
- Proposed template of Data Collection Report
- Proposed template of Industry Collaboration Report

TASK 8 PROJECT FACT SHEET

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:

- 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.
- 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.
- 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:

- Initial Project Fact Sheet
- Final Project Fact Sheet
- High Quality Digital Photographs