California Energy Commission
August 14, 2024 Business Meeting
Backup Materials for Center for Transportation and the Environment, Inc.

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: 24-0814-XX

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Center for Transportation and the Environment, Inc.

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 ZVI-24-004 with Center for Transportation and the Environment, Inc. for a $504,650 grant. This agreement will install three Level 2 dual port EV depot chargers and one Level 3 single port EV depot charger to support a zero emission (ZE) dump truck, ZE excavator, ZE pick-up truck, and ZE wheel loader in Glendale. This agreement is in coordination with a CARB grant agreement for ZE vehicles; 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 August 14, 2024.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

_____
Kristine Banaag
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: ZVI-24-004

B. Division Information

1. Division Name: Fuels and Transportation
2. Agreement Manager: Kay Williams
3. MS-: Not Applicable
4. Phone Number: (916) 931-9425

C. Recipient's Information

1. Recipient's Legal Name: Center for Transportation and the Environment, Inc.
2. Federal ID Number: 58-2052891

D. Title of Project

Title of project: Glendale Municipal Green Zone Construction Work Crew

E. Term and Amount

1. Start Date: 08/14/2024
2. End Date: 5/31/2027
3. Amount: $504,650

F. Business Meeting Information

1. Are the ARFVTP agreements $75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 08/14/2024
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Ian Baird
5. Time Needed for Business Meeting: 5 minutes
6. The email subscription topic is: Clean Transportation Program

Agenda Item Subject and Description:

Center for Transportation and the Environment, Inc. Proposed resolution approving agreement ZVI-24-004 with Center for Transportation and the Environment, Inc. for a $504,650 grant, and adopting staff's determination that this action is exempt from CEQA. This agreement will install three Level 2 dual port electric vehicle (EV) depot chargers and one Level 3 single port EV depot charger to support a zero emission (ZE) dump truck, ZE excavator, ZE pick-up truck, and ZE wheel loader in Glendale. This agreement is in coordination with a California Air Resources Board grant agreement that is funding the ZE vehicles. (General Fund Funding) Contact: Ian Baird (Staff Presentation: 5 minutes)

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:

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, sec. 15301; Cal. Code Regs., tit. 14, sec. 15303; Cal. Code Regs. Tit. 14, sec. 15304.

Cal. Code Regs., tit. 14, sec. 15301 applies to projects that 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 not expansion of use beyond that existing at the time of the lead agency's determination, are categorically exempt from CEQA. The project involves installation of four EV chargers at the existing Public Works Corporation Yard in Glendale. The project will be installed under an existing fleet shed above an existing paved surface to support a zero emission (ZE) dump truck, ZE excavator, ZE pick-up truck, and ZE wheel loader for use by the City of Glendale. The project will result in only minor alteration of the existing structures and facilities at the site. Therefore, this project is exempt pursuant to section 15301 because it consists of minor alterations to existing structures and facilities which involve negligible or no expansion of use.

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 CEQA. This project will install four units of new charging equipment at an existing commercial facility in Glendale. The Level 2 chargers will be mounted on a canopy supporting structure and will essentially have no footprint. The Level 3 chargers will be pedestal-mounted chargers with a small footprint of approximately 4 square feet. For these reasons, the project falls within section 15303 and will not have a significant impact on the environment.

Cal. Code Regs., tit. 14, sec. 15304 provides that projects which consist of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes are categorically exempt from the provisions of CEQA. This project will not involve any trenching. Conduit and service panels will be mounted on the canopy structure, and any underground piping will be minimal.

Cal. Code Regs., tit. 14, sec. 15311 applies to projects that consist of the placement of a minor structure accessory to the existing commercial facility, which the State has determined to be a class of projects that will not have a significant effect on the environment. The project involves installation of four EV chargers under a fleet shed above a paved surface.

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.

For these reasons, the proposed work will not have any significant effect on the environment and falls under sections 15301, 15303, 15304, and 15311.

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.

Not applicable

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"?

Yes

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
City of Glendale	$260,650	$511,614

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
No vendors or sellers to report	$0	$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
City of Glendale

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
General Fund	2021-22	601.211EO	$504,650

TOTAL Amount: $504,650

R&D Program Area: Not applicable

Explanation for “Other” selection: Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: Daniel Dobbins

Address: 730 Peachtree St, Ste 4505

City, State, Zip: Atlanta, GA 30308

Phone: (678) 244-244-4150

E-Mail: dobbins@cte.tv

2. Recipient’s Project Manager

Name: Leslie Eudy

Address: P.O. Box 18285

City, State, Zip: Golden, CO 80402

Phone: (303) 912-4929

E-Mail: leslie@cte.tv

N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	SOL-2404-363
First Come First Served Solicitation #	Not applicable
Other	Not applicable

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

Item Number	Item Name	Attached
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: Kay Williams

Approval Date: 6-13-24

Office Manager: Elizabeth John

Approval Date: 6/28/2024

Deputy Director: Melanie Vail

Approval Date: 7/8/2024

SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Vehicle Procurement, Development, and Build (CARB Task)
3	x	Infrastructure Design, Procurement, Installation and Commission
4		Demonstration Readiness (CARB Task)
5		EV Demonstration and Data Collection (Match Funded Task)
6		EV Infrastructure Operations and Reliability
7		Semi-Annual Electric Vehicle Charger Inventory Reports
8	x	Data Collection and Analysis
9		Project Fact Sheet

GLOSSARY

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

Term/ Acronym	Definition
AB	Assembly Bill
A&E	Architecture and Engineering
AC Level 2	Alternating current. 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.
ATDPP	Advanced Technology Demonstration and Pilot Projects
CAM	Commission Agreement Manager

Term/ Acronym	Definition
CAO	Commission Agreement Officer
CARB	California Air Resources Board
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). 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.

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 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 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.
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 6.4.
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.
Excluded downtime	Downtime that is caused by events pursuant to Task 6.4.

Term/ Acronym	Definition
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
Green Zones	Zero-emission holistic projects that could be focused on almost any operations within a city, municipality, or group of cities that currently use combustion technologies in carrying out the duties of the municipality.
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.
KPI	Key Performance Indicator
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.

Term/ Acronym	Definition
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.
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).
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	Center for Transportation and the Environment, Inc.
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.
Uptime	The time that a charger is installed during a reporting period excluding downtime pursuant to Task 6.4.

Background

The Budget Act of 2022 (SB 154, Skinner, Chapter 43, Statutes of 2022, as amended by AB 178, Ting, Chapter 45, Statutes of 2022 and AB 179, Ting, Chapter 249, Statutes of 2022) and AB 211 (Committee on Budget, Chapter 574, Statutes of 2022) appropriated one-time funding to support infrastructure deployments, emerging opportunities, and

manufacturing projects for zero-emission light-duty and medium- and heavy-duty vehicles.

On July 14, 2023, the California Air Resources Board (CARB) released a solicitation entitled "Advanced Technology Demonstration and Pilot Projects". This competitive grant solicitation was to support a wide array of emerging opportunities including zero-emission off-road equipment, marine vessel, and Green Zone projects. The California Energy Commission (CEC) would provide funding to support the purchase and installation of infrastructure in support of the resulting CARB projects. In response to the Advanced Technology Demonstration and Pilot Projects (ATDPP) solicitation, Center for Transportation and the Environment, Inc. (Recipient) submitted application #23 which was proposed for funding in the CEC's Notice of Proposed Awards on March 29, 2024. The ATDPP solicitation 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.

NOTE: CEC is acting in coordination with CARB regarding the overall project, but CARB is not a party to this CEC grant agreement (Agreement). This Agreement is a companion agreement to the agreement between CARB and the Recipient. No work on this project can begin until CARB's agreement with the Recipient has been executed. Work under the agreement between CARB and the Recipient ("CARB agreement") is referenced in this Agreement as a "CARB Task" or a "CARB Sub-task;" these terms mean a task or sub-task for which (1) the CARB agreement governs; (2) where the Recipient's performance is due to CARB; and (3) where the Recipient's reimbursable costs will be funded by CARB.

Problem Statement:

To date, very few zero-emission heavy-duty electric construction vehicles have been fully demonstrated in municipal fleets and information on the performance is not readily available. The acceleration of the next generation of advanced technology vehicles, equipment, and emission controls, which are not yet commercialized, is needed to meet California's aggressive climate change goals.

Goals of the Agreement:

The goal of this Agreement is to acquire and install electric vehicle (EV) charging infrastructure to support four types of EVs that will be piloted to determine the usability of new and innovative EV technologies for a construction work crew. The City of Glendale will acquire and operate four EVs to constitute a construction work crew, including a dump truck, excavator, pick-up truck, and wheel loader.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Acquire and operate four EVs to constitute a construction work crew, including:
  - Dump truck
  - Excavator
  - Pick-up truck
  - Wheel loader
- Acquire and install supporting EV charging infrastructure, including three dual port depot chargers, and one Level 3 single port depot charger
- Validate vehicle performance compared to baseline vehicles
- Collect operational data on vehicles and infrastructure

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) in coordination with the CARB Project Liaison 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, the CARB Project Liaison, 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 in coordination with the CARB Project Liaison 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 and CARB Project Liaison's expectations for accomplishing tasks described in the respective Scopes of Work in this Agreement and the CARB agreement.
    - Schedule for Obtaining CARB Executive Order(s) (if necessary)
    - 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
- Updated Schedule for Obtaining CARB Executive Order(s) (if necessary)
- Written Statement of Match Share Activities

CAM 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 in coordination with the CARB Project Liaison, 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 in coordination with the CARB Project Liaison to provide support to the CEC and CARB.

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 in coordination with the CARB Project Liaison conclude 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, the CAM, and the CARB Project Liaison. 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 in coordination with the CARB Project Liaison.

  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's 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 the CAM, CARB Project Liaison, 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 or CARB 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 in coordination with the CARB Project Liaison. 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 the call.

The Recipient shall:

- Review the questions provided by CAM in coordination with the CARB Project Liaison prior to the monthly call.

- Provide verbal answers to the CAM in coordination with the CARB Project Liaison 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 and the CARB Project Liaison on 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; 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; and the terms of the grant agreement between Recipient and CARB, G21-ATDP-05 (the "CARB Agreement").

The Recipient shall:

- Prepare an *Outline of the Final Report*.
- 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 in coordination with the CARB Project Liaison 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 and CARB Liaison.

Products:

- Outline of the Final Report
- 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 and the CARB Project Liaison 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 and CARB Project Liaison if during the course of the Agreement additional match funds are received.
- Notify the CAM and CARB Project Liaison 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 and CARB Project Liaison 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 and CARB Project Liaison.
- As permits are obtained, send a copy of each approved permit to the CAM and CARB Project Liaison.

- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM and CARB Project Liaison 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 and CARB Project Liaison describing the subawards needed or stating that no subawards are required.
- If requested by the CAM and CARB Project Liaison, submit a *draft of each subaward* required to conduct the work under this Agreement to the CAM and CARB Project Liaison for review.
- If requested by the CAM in coordination with the CARB Project Liaison, submit a *final copy of the executed subaward*.
- If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM and CARB Project Liaison.

Products:

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

TECHNICAL TASKS

TASK 2 VEHICLE PROCUREMENT, DEVELOPMENT, AND BUILD (CARB-funded Task)

The goal of this task is to establish how each EV will be used by the City of Glendale, develop requirements for each EV and the supporting EV charging infrastructure, procure the EVs, develop the validation plan, and train on-site staff. Recipient shall abide by the terms of the CARB Agreement which includes terms regarding the tasks in this section. Note that products required under CARB-funded tasks will also be sent to the CEC CAM.

Task 2.1 Requirements for EVs

The Recipient shall:

- Collect data on how the current conventionally-fueled vehicles are used in coordination with the City of Glendale. This will involve data collection on a pick-up truck, wheel loader, excavator, and dump truck.
- Use this data to develop the requirements as set forth in the CARB Agreement for each EV type.
- Provide a copy of the *Requirements for the four EV types* to the CAM and CARB Project Liaison.

Product:

- Requirements for the four EV types

Task 2.2 EV Procurement

The Recipient shall:

- Procure four EV types: a dump truck, excavator, pick-up truck, and wheel loader
- Provide a copy of *Purchase Orders for each EV* to the CAM and CARB Project Liaison.

Product:

- Copy of Purchase Orders for the four EVs

Task 2.3 Complete EV Validation Plan

The Recipient shall:

- Develop a validation plan for each type of EV as set forth in the CARB Agreement.
- Validate testing once the EVs are delivered.
- Provide a copy of the *Validation Plan* to the CAM and CARB Project Liaison.

Product:

- Validation Plan

Task 2.4 Shipping & Acceptance

The Recipient shall:

- Accept the four EVs and prepare them for the demonstration as set forth in the CARB Agreement.
- Provide *Photos of delivered and accepted EVs* to the CAM and CARB Project Liaison.

Product:

- Photos of delivered and accepted EVs

- **Task 2.5 Training**

The Recipient shall:

- Work with the original equipment manufacturers (OEMs) to ensure that manuals are developed for operation and maintenance of the EVs and that training programs for City of Glendale staff are complete. Training will include programs for each EV type and for the EV charging infrastructure.
- Provide a copy of *Training Material and Completed Training Roster for each EV Type* and *Training Material and Completed Training Roster for EV Charging Infrastructure* to the CAM and CARB Project Liaison.
- Work with the City of Glendale to evaluate its workforce and the gaps in knowledge needed to incorporate EVs and EV chargers into its fleet.
- Develop a *Workforce Development Plan* as set forth in the CARB Agreement.
- Provide a copy of the City of Glendale *Workforce Development Plan* to the CAM and CARB Project Liaison.

Products:

- Training Material and Completed Training Roster for each EV Type
- Training Material and Completed Training Roster for EV Charging Infrastructure
- Workforce Development Plan

TASK 3 INFRASTRUCTURE DESIGN, PROCUREMENT, INSTALLATION AND COMMISSION

The goal of this task is to complete site design and procure, install, and commission 3 dual port EV chargers and 1 single port Level 3 EV charger required to charge the four EVs procured in Task 2.

The Recipient shall:

- Develop site design.
- Provide a copy of the *Final Site Design Drawings* to the CAM and CARB Project Liaison.
- Work with the City of Glendale to examine fleet duty cycles and daily schedule for each vehicle type.
- Develop *EV Charger and Site Requirements,* which shall include, but not be limited to: projected charge power requirement for each vehicle identified for electrification, daily schedule, site layout constraints, recommendations for electric vehicle supply equipment (EVSE) type and power for the fleet, overall site power, and general layout for the EVSEs.
- Provide a copy of *EV Charger and Site Requirements* to the CAM and CARB Project Liaison.
- Develop and execute a *Procurement Plan*. This plan will include, but is not limited to:
    - Complete list of procurements necessary for the CEC-funded portion of the project
    - Procedures, steps, and timelines that will be followed to acquire them for the CEC-funded portion of the project
- Provide a copy of the *Procurement Plan* to the CAM. CAM written approval to proceed with procurement is required.
- Upon CAM written approval to proceed, procure chargers and charging equipment. Provide a copy of *Purchase Orders* to the CAM and CARB Project Liaison.
- Procure construction services and provide a copy of *Construction Site Plan* to the CAM and CARB Project Liaison.
- Oversee site construction.
- Send a copy of *Final Inspection Documents* to the CAM and CARB Project Liaison.
- Verify commissioned chargers.

- Send *Photos of Four Commissioned Chargers*, including photos with serial numbers of each charger, and a copy of *Proof of Payment* to the CAM and CARB Project Liaison.
- 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.

Products:

- Final Site Design Drawings
- EV Charger and Site Requirements
- Procurement Plan
- Purchase Orders
- Construction Site Plan
- Final Inspection Documents
- Photos of the Four Commissioned Chargers
- Proof of Payment
- AB 841 Certification
- EVITP Certification Numbers

[CPR WILL BE HELD IN THIS TASK. See Task 1.2 for details]

TASK 4 DEMONSTRATION READINESS (CARB-funded Task)

The goal of this task is for the Recipient to assist the City of Glendale in developing a maintenance support plan for each vehicle type and the EV charging infrastructure. The Recipient and the City of Glendale will conduct validation testing on the delivered EVs to ensure performance meets requirements and syncs with the installed charging infrastructure. Note that products required under CARB funded tasks will also be sent to CEC CAM.

Task 4.1 Develop Maintenance Support Plan

The Recipient shall:

- Develop a comprehensive *Vehicle Maintenance Support Plan* and a *Charger Maintenance Support Plan* for the duration of the project and afterwards to ensure maximum system uptime and performance. The support plans will establish roles, communications, and expectations for each vehicle type and charging station maintenance.
- Provide a copy of the *Vehicle Maintenance Support Plan* and the *Charger Maintenance Support Plan* to the CAM and CARB Project Liaison.

Products:

- Vehicle Maintenance Support Plan
- Charger Maintenance Support Plan

Task 4.2 On-Site Validation and System Shakedown

The Recipient shall:

- Conduct shakedown testing on the four EVs procured in Task 2 and validate data collection and performance in coordination with the City of Glendale.
- Provide a copy of the *Validation Test Results* to the CAM and CARB Project Liaison.

Product:

- Validation Test Results

Task 4.3 Develop System Safety Plan

The Recipient shall:

- Develop a safety plan that addresses any differences in procedures for the four EVs and EV charging infrastructure compared to conventionally fueled vehicles.
- Provide a copy of *System Safety Plan* to the CAM and CARB Project Liaison.

Product:

- System Safety Plan

TASK 5 EV DEMONSTRATION AND DATA COLLECTION (MATCH FUNDED TASK)

The goal of this task is for the City of Glendale to operate the EVs in construction activities around the city and collect data on this operation and use to develop Key Performance Indicators (KPIs) to validate performance of zero-emission vehicles against other non-ZEVs in the City's fleet. These KPIs will allow the City of Glendale to fully understand operational metrics to determine if the projected benefits, including impact on emissions, reductions in fuel consumption and cost, and reductions in maintenance and costs, have been realized from the deployment of the EVs. By tracking and analyzing these KPIs, the City of Glendale will be more informed regarding the overall impact of the EVs.

Task 5.1 Develop Data Monitoring Portal

The Recipient shall:

- Define the various data parameters to measure operational performance and realized benefits (e.g. actual energy savings, cost savings, and greenhouse gas emissions reductions) resulting from deployment of EVs into service.

    - Data logging hardware and data access services shall be included in the vehicle build costs with integration concurrence from the OEM and charging equipment vendor and implemented prior to vehicle delivery to ensure that critical data are collected to support evaluation and management of EV operations.
- Develop an online portal to track the operational performance of each EV during the demonstration. This portal will allow CTE and the City of Glendale to monitor performance and compare the data analysis results.
- Provide a demonstration on the use of the online portal and give *Access to the Online Portal* to the CAM and CARB Project Liaison.

Product:

- Access to the Online Portal

Tasks 5.2 Vehicle Operations and Support

The Recipient shall:

- Coordinate with the EV OEMs to ensure data logging equipment are installed that can track the EVs in real time, provide data on the position of the vehicles, including when they are in operation in a priority population, as well as collect data on vehicle operation.
- Collect and analyze data for one year and submit four quarterly reports that detail the operational performance and analysis results. The data should include but not be limited to the following:
    - Various data parameters to measure operational performance and realized benefits (e.g. actual energy savings, cost savings, and greenhouse gas emissions reductions) resulting from deployment of EVs into service
    - Vehicle specifications and operations data (duty-cycle, miles, speed, load weight, trip duration, idle time)
    - Vehicle performance data such as energy used/charged, distance traveled, charging time, availability, service calls, and range
- Develop KPIs to validate performance of EVs against other vehicles in the City's fleet. KPIs may include but are not limited to: availability, reliability, energy efficiency, fuel costs, maintenance costs, and emissions reductions.

Product:

- All required vehicle operations and maintenance data included in the final report and four quarterly reports

TASK 6 EV INFRASTRUCTURE OPERATIONS AND RELIABILITY

Recipients shall comply with the reliability performance standards, recordkeeping, reporting, and maintenance requirements (Requirements) for EV chargers installed as part of this Agreement. In the event the CEC adopts regulations that include Requirements, for example as required by AB 2061 (Ting, Chapter 345, Statutes of 2022) and/or AB 126 (Reyes, Chapter 319, Statutes of 2023), those Requirements shall supersede the Requirements contained in this Scope of Work 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 of the CEC's choosing 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 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, 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 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,** 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 and Maintenance. 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 and Mainteance.

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

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.

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 DATA COLLECTION AND ANALYSIS

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:

- 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 EV 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 report to the CEC:

- For an EV charging station, the availability of operational charging plugs, whether the station was energized, the volume of electricity in kilowatt-hours used to charge by vehicles, the number of vehicles charged by a station, and any other data deemed necessary by the CEC to monitor reliability and accessibility of the charging infrastructure. This data shall be measured no less frequently than on a daily basis and reported electronically to the CEC no less frequently than quarterly in *AB 126 Data Reports* submitted with the quarterly reports described in Task 1.5.
- For an EV charging station, the source and greenhouse gas emissions intensity, on an annual basis, of the electricity used and dispensed by the EV charging station(s) at the meter, consistent with the disclosure methodology set forth in Article 14 (commencing with Section 398.1) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code. Data must be reported to the CEC annually in a *AB 126 Data Report* specified by the CAM.

- Collect and provide the following data:
  - Number, type, date, and location of chargers installed.
  - Nameplate capacity of the installed equipment, in kW for chargers.
  - Number and type of outlets per charger.
  - Location type, such as street, parking lot, hotel, restaurant, or multi-unit housing.
  - Total cost per charger, the subsidy from the CEC per charger, federal subsidy per charger, utility subsidy per charger, and privately funded share per charger.
- Collect and provide 12 months of throughput, usage, and operations data from the project including, but not limited to:
  - Number of charging sessions
  - Average charger downtime
  - Peak power delivered (kW)
  - Duration of active charging, hourly
  - Duration of charging session, hourly (e.g., vehicle parked but not actively charging)
  - Average session duration
  - Energy delivered (kWh)

- Average kWh dispensed
- 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

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

Products:

- AB 126 Data Reports
- Data Collection and Information Analysis Report

[CPR WILL BE HELD IN THIS TASK. See Task 1.2 for details]

TASK 9 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