**Attachment 1**

**Exhibit A**

**SCOPE OF WORK**

**TECHNICAL TASK LIST**

*<Insert the Task numbers and Task names for your Agreement. Applicants may leave the CPR column blank.>*

| **Task #** | **CPR** | **Task Name** |
| --- | --- | --- |
| 1 |  | Administration |
| 2 | X | Environmental Review and Engineering |
| 3 | X | Right-of-Way |
| 4 |  | Site Preparation and Equipment Procurement |
| 5 | X | Charging Station Construction and Commissioning |
| *<Etc.>* |  | <Insert Task Name> |
| *<Etc.>* |  | <Insert Task Name> |
| *<Third to Last Task>* | X | Operations and Reliability |
| *<Second to Last Task>* |  | Data Collection and Analysis |
| *<Last Task>* |  | Project Fact Sheet |

**GLOSSARY**

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

|  |  |
| --- | --- |
| **Term/ Acronym** | **Definition** |
| ADA | Americans with Disabilities Act |
| CAM | Commission Agreement Manager |
| Caltrans | California Department of Transportation |
| CAO | Commission Agreement Officer |
| CCS | Combined Charging System |
| CEC | California Energy Commission |
| CEQA | California Environmental Quality Act |
| CHAdeMO | A charging port standard for fast charging of electric vehicles |
| Charger | One component of the larger charging station which drivers will interact with. The charger is where the charging connectors are located and may include a display screen and the payment interface. |
| Charging Port | The system within a charger that charges one EV. A charging port may have multiple connectors, but it can only provide power to charge only one EV through one connector at a time. | |
| Charging Station | The area in the immediate vicinity of a group of 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. | |
| Connector | The device that attaches an EV to a charging port to transfer electricity. |
| CPR | Critical Project Review |
| CTP | Clean Transportation Program |
| DC | Direct Current |
| EV | Electric Vehicle |
| EVITP | Electric Vehicle Infrastructure Training Program |
| FHWA | Federal Highway Authority |
| FTD | Fuels and Transportation Division |
| kW | Kilowatt |
| kWh | Kilowatt-hour |
| OCPP | Open Charge Point Protocol |
| NEPA | National Environmental Policy Act |
| NEVI | National Electric Vehicle Infrastructure |
| Recipient | An applicant awarded a grant under a CEC solicitation |
| Solicitation | GFO-23-601 California’s National Electric Vehicle Infrastructure Formula Program |
|  | <Insert additional rows as needed.> |

*<Applicants* ***DO NOT*** *need to complete items listed under “Background.” This will be completed by the CAM during agreement development if proposal is recommended for funding.>*

**Background**

President Joseph R. Biden Jr. signed the Infrastructure Investment and Jobs Act into law in November 2021 (Public Law 117-58). The law authorizes hundreds of billions of dollars in new investments in a wide array of infrastructure categories, including roads and bridges, water infrastructure, passenger rail, energy, and broadband internet. Electric vehicle (EV) charging infrastructure will see significant new funding, with $5 billion to accelerate EV infrastructure deployment nationally under the National Electric Vehicle Infrastructure (NEVI) formula program. California’s share is expected to be $384 million, allocated over 5 years.

NEVI is an initiative to create a coast-to-coast network of EV chargers focused on major highways that support the majority of long-distance trips. This national network will give drivers confidence they can always find a place to charge, jump start private investment in charging infrastructure and EVs, and support President Biden’s goal of at least 50% of vehicle sales to be electric by 2030[[1]](#footnote-2).

The California Energy Commission (CEC) is collaborating with the California Department of Transportation (Caltrans) on charging infrastructure deployment and has entered into an agreement with Caltrans to implement and administer California’s NEVI formula program.

On [***insert date***], the CEC released a Grant Funding Opportunity (GFO) entitled “California’s National Electric Vehicle Infrastructure Formula Program.” This competitive grant solicitation aims to install high-powered direct current (DC) fast charging stations along California’s alternative fuel corridors which will help establish a coast-to-coast network of EV charging stations to support long-distance travel. In response to GFO-23-601, the Recipient submitted application #XX which was proposed for funding in the CEC’s Notice of Proposed Awards on [***insert date***]. GFO-23-601 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 CEC’s Award, CEC’s Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient’s Application, the terms of this Agreement shall control.

**Problem Statement:**

*<see instructions>*

**Goals of the Agreement:**

The goal of this Agreement is to… <see instructions>

**Objectives of the Agreement:**

The objectives of this Agreement are to… <see instructions>

**TASK 1 ADMINISTRATION**

**Task 1.1 Attend Kick-off Meeting**

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

**The Recipient shall:**

* Attend a “Kick-Off” meeting with the CAM, the Commission Agreement Officer (CAO), and a representative of the CEC Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
* Provide a written statement of project activities that have occurred after the notice of proposed awards but prior to the execution of the agreement using match funds. If none, provide a statement that no work has been completed using match funds prior to the execution of the agreement. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.
* Discuss the following administrative and technical aspects of this Agreement:
* Agreement Terms and Conditions,
* Critical Project Review (Task 1.2),
* Match fund documentation (Task 1.7) No reimbursable work may be done until this documentation is in place,
* Permit documentation (Task 1.8),
* Subawards needed to carry out project (Task 1.9),
* The CAM’s expectations for accomplishing tasks described in the Scope of Work,
* An updated Schedule of Products and Due Dates,
* Monthly Calls (Task 1.4),
* Quarterly Progress Reports (Task 1.5),
* Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions), and
* Final Report (Task 1.6).

**Recipient Products:**

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

**Commission Agreement Manager Product:**

* Kick-Off Meeting Agenda

**Task 1.2 Critical Project Review (CPR) Meetings**

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

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

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

**The CAM shall:**

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

**The Recipient shall:**

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

**CAM Products:**

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

**Recipient Product:**

* CPR Report(s)

# Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

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

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

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

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

* What to do with any equipment purchased with NEVI 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,
* “Surviving” Agreement provisions, and
* Final invoicing and release of retention.
* Prepare a schedule for completing the closeout activities for this Agreement.

**Recipient Products:**

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

Task 1.4 Monthly Calls

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

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

**The CAM shall:**

* Schedule monthly calls.
* Provide questions to the Recipient prior to the monthly call.
* Provide call summary notes to Recipient of items discussed during call.

**The Recipient shall:**

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

**Product:**

* Email to CAM concurring with call summary notes

Task 1.5 Quarterly Progress Reports

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

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

**The Recipient shall:**

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

**Product:**

* Quarterly Progress Reports

Task 1.6 Final Report

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

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

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

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

The Recipient shall:

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

**Products:**

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

**Task 1.7 Identify and Obtain Matching Funds**

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

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

**The Recipient shall:**

* Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
  + Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied, and
  + Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
* Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant, a copy of the executed grant shall be submitted in place of a letter of commitment.
* Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
* Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
* Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

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

**Task 1.8 Identify and Obtain Required Permits**

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

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

**The Recipient shall:**

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

Products:

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

**Task 1.9 Obtain and Execute Subawards**

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

**The Recipient shall:**

* Manage and coordinate subrecipient activities.
* If requested by the CAM, submit a draft of each subaward required to conduct the work under this Agreement to the CAM for review.
* If requested by the CAM, submit a final copy of the executed subaward.
* If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM.

**Products:**

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

**TECHNICAL TASKS**

**TASK 2 ENVIRONMENTAL REVIEW AND ENGINEERING**

The goal of this task is to coordinate environmental review and charging station engineering among all project subrecipients and other project participants for each charging station.

**Site Changes:** The CAM must approve any requested site changes.

**[A CPR meeting is scheduled to be held during this task and additional CPR meetings may be scheduled if necessary.]**

**The Recipient shall:**

* Follow the Caltrans acquisitions process detailed in the Local Assistance Procedures Manual (LAPM) and Right of Way Manual as applicable.
* Finalize *Site Host Agreements* for each charging station.
* Submit to the CAM a copy of the Site Host Agreement for each charging station.
* Prepare and submit to the CAM a *Site Assessment* of charging station, for each charging station, which shall include, but not be limited to:
* Evaluating site electrical capacity, including utility interconnection, service drop, transformer sizing, service activation, and billing procedures,
* Confirming optimal positioning for best visibility, safety, and minimization of install costs,
* Assuring wireless communication suitability,
* Determining utility requirements and general arrangement of units for optimal usage convenience and safety, and
* As needed, perform a site survey to ensure that installation of charging equipment and associated infrastructure falls within the site host’s land boundaries and does not fall within rights-of-way or easements.
* Coordinate with CEC and Caltrans staff to complete all work necessary to complete the National Environmental Policy Act (NEPA) compliance. This includes but is not limited to submitting a completed PES Form/Exhibit 6-A in Caltrans’ LAPM.
* Coordinate with the local permitting agency to ensure compliance with the California Environmental Quality Act (CEQA).
* Submit to the CAM F*inal* *NEPA approvals* from Caltrans for Each Charging Station.
* Finalize and submit to the CAM an engineered and utility-approved *Site Drawing* for each charging station.
* Receive NEPA (from Caltrans) and CEQA (from local permitting jurisdiction) approvals prior to moving to right-of-way.

**Products:**

* Site Host Agreement for Each Charging Station
* Site Assessment for Each Charging Station
* Finalized Site Drawing for Each Charging Station
* Final NEPA Approvals for Each Charging Station

**TASK 3 RIGHT-OF-WAY**

The goal of this task is to conduct work to secure and finalize right-of-way easements and acquisitions as necessary for each charging station and to secure right-of-way certification from Caltrans for each charging station.

**[A CPR meeting is scheduled to be held during this task and additional CPR meetings may be scheduled if necessary.]**

**The Recipient shall:**

* Review right-of-way records and establish additional right-of-way along the entire alignment, if necessary, for each charging station.
* Identify the need for new right-of-way, permanent easements, and temporary construction easements, as needed, for each charging station.
* Coordinate with CEC, Caltrans, and other appropriate agencies to determine right-of-way impacts, such as utility right of way or relocation needs, for each charging station.
* Obtain necessary right-of-way certification required from Caltrans for each charging station.
* Prepare and submit to the CAM an *Easement Summary Report* which should include, but not be limited to, details on which easements are necessary for each charging station, the approver for each easement, and the anticipated timeline for finalizing each easement.
* Submit to the CAM the*Final Right-of-Way Certification* from Caltrans for each charging station.

**Products:**

* Easement Summary Report
* Final Right-of-Way Certification for Each Charging Station

**TASK 4 SITE PREPARATION AND EQUIPMENT PROCUREMENT**

The goal of this task is to prepare each charging station for construction.

**The Recipient shall:**

* Prepare and submit to the CAM an *Installation Plan* for each charging station, which shall include, but not be limited to:
  1. The site host business name,
  2. The site host address,
  3. The equipment being installed,
  4. The name of the project manager for the site, and
  5. The planned installation schedule.
* Procure all required equipment for installation.
* Procure all necessary materials for construction.
* Verify safety, shelter, access, ADA compliance, signage, and lighting requirements are met.
* Coordinate site project kick-off meeting with host, suppliers, subrecipients, contractors, and local authority having jurisdiction for each charging station.
* Meet with project partners to track and evaluate project progress, goals, barriers, and project approach.
* Prepare and submit to the CAM a *Written Notification of Readiness to Begin Installation* that declares each site is completed with preconstruction and engineering activities and ready to move forward with the installations.

**Products:**

* Installation Plan for Each Charging Station
* Written Notice of Readiness to Begin Installation for Each Charging Station

**TASK 5 CHARGING STATION CONSTRUCTION AND COMMISSIONING**

The goal of this task is to construct each charging station, ensure all equipment meets the solicitation and federal NEVI requirements, and commission each charging station for public use.

**[A CPR meeting is scheduled to be held during this task and additional CPR meetings may be scheduled if necessary.]**

**The Recipient shall:**

* + Utilize the *Site Assessments*, *Final Site Drawing*, and *Installation Plans* (Task 2) to prepare each charging station for installation work.
  + Inform Caltrans of installation schedule to initiate preparation of highway signage.
  + Install at each charging station charging equipment that meets the following specifications:
    - At least four (4) charging ports that can simultaneously supply at least 150 kW each to a vehicle, **(IF PROPOSED FOR AN AWARD, THE CAM WILL UPDATE THIS BULLET TO DETAIL THE TOTAL NUMBER OF CHARGING PORTS THIS AGREEMENT MUST INSTALL ALONG EACH CORRIDOR SEGMENT)**
    - Each charging port must support output voltages between 250 volts direct current (DC) and 920 volts DC,
    - Each charger deployed must be Energy Star certified. Chargers over 350 kilowatts (kW) are not required to be Energy Star certified,
    - Each charging port must have at least one permanently attached CCS connector. Additional connector types such as CHAdeMO and NACS are allowed to be installed if the previous requirement is still met,
    - Each charging port must be capable of at least 375 Amps.
    - The chargers must conform to ISO 15118-3, and hardware must be capable of implementing both ISO 15118-2 and ISO 15118-20,
    - The chargers must include all necessary software and hardware to perform Plug-and-Charge using ISO 15118-2,
    - Conformance testing for charger software and hardware should follow ISO 15118-4 and 15118-5, respectively,
    - The chargers must conform to OCPP 2.0.1 or later. Manufacturers must attest that the charger conforms to OCPP 2.0.1 or later by detailing it on a publicly available charger specification sheet,
    - The charger’s networking software must connect to a central management system using OCPP 2.0.1 for the purposes of charger management and data reporting, including for reliability data reporting requirements,
    - The chargers must be designed to securely switch network providers without any changes in hardware,
    - The chargers must be networked and must include the following three abilities:
      1. Have network connectivity with one of the following:
         * IEEE 802.11n for high-bandwidth wireless networking, or
         * IEEE 802.3 for Ethernet for local- or wide-area network applications
      2. Be able to receive remote software updates, real-time protocol translation, encryption, and decryption, including:
         * Internet Protocol (IP)-based processor which must support multiple protocols, and
         * Compliance with Transmission Control Protocol (TCP)/IP and IPv6.
      3. Be able to connect to a network’s back-end software
    - An Occupational Safety and Health Administration Nationally Recognized Testing Laboratory must have certified the charging equipment.
* Submit to the CAM 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 Recipient’s authorized representative shall sign the certification.
* Submit to the CAM *Electric Vehicle Infrastructure Training Program (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.
  + Purchase a networking agreement for each charging port installed. The term of the networking agreement must cover at least five (5) years of operations.
  + Prepare and submit to the CAM a *Build America, Buy America Compliance Report* which must document compliance with the Federal NEVI Build America, Buy America requirement.
  + Assure each charging station and their associated chargers are accessible to the public 24/7/365.
  + Coordinate utility interconnection, service drop, transformer sizing, service activation, and billing.
  + Create and submit a *Signage Report* which may include, but is not limited:
    - Trailblazer signage that clearly identifies the route from the freeway to the station(s),
    - Which jurisdiction(s) and/or agency(ies) the Recipient must coordinate with to deploy the trailblazer signage for each charging station,
    - Signage that clearly identifies the charging site location to an approaching driver from any ingress,
    - Signage that identifies parking is for EVs only,
    - Signage that states non-EVs may be towed (if applicable),
    - Signage that that informs drivers of price per unit of measure,
    - Signage required for EV driver accessibility, and
    - Any additional signage that may be required by federal, state, or local laws, regulations, and ordinances.
  + Send a copy of the *Signage Report* to each local jurisdiction identified in the Report.
  + Make an effort to install signage in accordance with the *Signage Report*, local jurisdictions’ requirements, and Caltrans requirements.
  + Create and submit to the CAM *Written Training Materials* for the charging station equipment at each charging station. These materials may include, but are not limited to, how to operate the equipment, how to troubleshoot the equipment, who to contact for specific questions or issues, and site host requirements may be detailed in the site license agreement. Site host requirements may include, but not be limited to, restroom availability and cleanliness, 24/7/365 access to the charging station, keeping the charging station well-lit and clean.
  + Deliver *Written Training Materials* for the charging station to each charging station site host, who should always keep the Written Training Materials at the charging station.
  + Provide training to site hosts based on the *Written Training Materials*.
  + Perform final inspections and make corrections if necessary.
  + Commission each charging station by verifying each installation was completed in accordance with its Site Drawings and Installation Plan completed in Task 4, the Federal NEVI requirements, and overall requirements of this Solicitation.
  + Submit each charging station’s information to the Alternative Fuels and Data Center, at a minimum. The Recipient may provide the additional charging station location programs as seen fit.
  + Prepare and submit to the CAM, the *Written Notification of Intent to Operate* for each charging station that declares installation for the site has been completed, the final inspection card has been received, the site has been commissioned, and is available to the public for use.

**Products:**

* + Signage Report
  + Written Training Materials
  + Written Notification of Intent to Operate for Each Charging Station
  + AB 841 Certification
  + EVITP Certification Numbers
  + Build America, Buy America Compliance Report

**TASK X***<insert task name using ALL CAPS>*

The goal of this task is ... *<Complete the sentence with a brief description of the goal(s)*. *Please be brief,* *two to three sentences maximum*. *See instructions.>*

**The Recipient shall:**

* *<Insert verb in active tense ... complete the sentence.>*
* *<Insert verb in active tense ... complete the sentence.>*
* *<Etc. See instructions>*

**Products:**

*<Products incorporate the knowledge and understanding gained by performing the activities, and are* ***submitted to the CEC*** *for review, comment and approval. Products include, but are not limited to, written reports that describe methods, test plans, results of testing, analysis of data, conclusions, and recommendations for future study, workshop agendas and summaries, description and photographs of equipment/product developed, summaries of advisory group meetings, computer software with written instructions for data input and use of the software, if intended for public or CEC use, and production prototypes. For each product there must be a bullet under “The Recipient Shall:” explaining it in more detail.>*

* *<Insert 1st product (name only) and include draft and final versions as necessary>*
* *<Insert 2nd product (name only) and include draft and final versions as necessary>*
* *<Etc. See instructions>*

**<Add the appropriate number of tasks for the Agreement>**

**TASK *<Third to Last>* OPERATIONS AND RELIABILITY**

**[A CPR meeting is scheduled to be held during this task and additional CPR meetings may be scheduled if necessary.]**

**Task *<Third to Last>*.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 greater than 97 percent of each year for six (6) 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 (6) 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 *<Third to Last>*.2 Recordkeeping**

The goal of this task is to collect and maintain records of charging port operation and reliability. The Recipient shall collect and retain the remote monitoring and maintenance records specified in this section. The Recipient shall collect and retain records for each charging port installed and operated as part of this agreement. The Recipient shall retain records for each charging port for six (6) years from the date the charging port begins operation.

**The Recipient Shall:**

Collect and retain the Remote Monitoring and Maintenance data below from each charging port installed and operated as part of this Agreement.

Retain the data below for six (6) years from the date the charging port begins operation. Provide records provided to the CEC within 10 business days of request.

Provide digital records in a comma separated values file unless another file format is approved by the CEC for the request.

Provide a clear and understandable data dictionary that describes each data element and any associated units with all digital records.

**Remote Monitoring Data**

All instances of the following Protocol Data Units (PDUs), specified in OCPP 2.0.1, that are transmitted between the charger and the central system. The PDU transmittal may be initiated by either the central system to the charger or the charger to the central system.

HeartbeatResponse

StatusNotificationRequest

BootNotificationRequest

NotifyEventRequest

A record of each customer attempt to initiate a charge including charging port identification number, transaction identification number, and date-time stamp.

A record of each failed attempt to charge including charging port identification number, transaction identification number, and date-time stamps and reason for failure.

**Maintenance Data**

Reports of inoperative charging ports or charging port failures resulting in inability to charge, such as a customer complaint, internal diagnostics, or inspection.

Records of any maintenance conducted on charging ports installed and operated as part of the agreement. Records should specify the following:

Date and time of the maintenance event.

Whether the maintenance was corrective or preventive in nature.

Whether and for how long the charging port was in an inoperative state prior to maintenance.

Whether the charging port was in an operative state following maintenance.

**Products:**

Remote Monitoring Records

Maintenance Records

Data Dictionary

**Task *<Third to Last>*.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 10 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 reliability report described in Task XX.4.

**Products:**

Maintenance section of quarterly report described in Task XX.4

**Task *<Third to Last>*.4 Reporting**

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

**The Recipient shall:**

Write 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. Downtimeevents include:

In the event that a StatusNotification is sent indicating the charger is inoperative, the time between that StatusNotification and a subsequent StatusNotification indicating that the charger has transitioned to an operative state shall be considered downtime. In the event that a BootNotification is sent, the time between the BootNotification and the last Heartbeat PDU sent prior to the BootNotification shall be considered downtime. The timestamps contained within the relevant PDUs shall be used to calculate downtime.

b. A charging port is in an inoperative state or failing to deliver charge, which may be known by consumer notification, internal diagnostics, inspection, or other methods.

c. In the event there is a conflict between the sections (a) and (b), the operative state of the charging port shall be determined by (b).

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. ‘Excluded Downtime’ includes:

**Electric Utility Service Interruptions:** Power supplied by third-party provider is not supplied at levels required to for minimum function of chargers. This may include, but is not limited to, service outages due to utility equipment malfunction or public safety power shut-offs. This does not include power generation or storage equipment installed to serve the station exclusively. Documentation from power provider detailing outage is required to claim this as excluded time.

**Vandalism:** Any physical damage to the charger and / or station committed by a third-party. This may include, but is not limited to, theft of charging cables, damage to connectors from mishandling, damage to screens, etc. A maximum of 5 calendar days may be claimed as excluded downtime for each event. The CAM may authorize additional excluded downtime for extenuating circumstances on a case-by-case basis. A police report or similar third-party documentation is required to claim this as excluded time.

**Scheduled Maintenance:** Any planned maintenance or upgrade work that takes the charger offline. This must be scheduled in advance of the charger being placed in an inoperative state. The maximum downtime that can be excluded for planned maintenance and/or upgrade is 24 hours for any 12-month period.

**Natural Disasters:** Any disruption of the chargers operation due to a natural event such 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) must be included to claim this as excluded downtime.

**Operating Hours:** Hours in which the charging port is in an operative state but are outside of the identified hours of operation of the charging station.

**Vehicle Fault**:Any failure to charge or failure to meet the EV charging customer’s expectation for power delivery due to fault of the vehicle.

A summary and calculation of uptime. Each report shall include, for the 12 months preceding the report, the monthly uptime percentage of each charging port (Uptime) installed and operated as part of this agreement. Charging port uptime shall be calculated as:

|  |
| --- |
| U­­c = Charging Port Uptime  Tc = 525,600 minutes  Dc = Total charging port downtime for the reporting period, in minutes.  Ec = Total charging port excluded downtime in the reporting period, in minutes. |

A summary of charge data, including:

Total number of attempts to charge

Total number of failed attempts to charge

Failed attempts to charge by the following categories:

Number of charge attempts that failed due to payment system failures

Number of charge attempts that failed due to interoperability failures

Number of charge attempts that failed due to charger hardware or software failures

Number of charge attempts that failed due to other reasons

A summary and explanation of “other reasons” for charge attempt failures

A description of steps taken to reduce the number of failed charge attempts, and the success rate of those steps

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. Details ofall excluded downtime and a narrative description of events that caused the excluded downtime.

**Products:**

Quarterly Report on Charger Reliability and Maintenance, delivered with each Quarterly Progress Report, described in Task 1.5.

**Task *<Second to Last>* 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 EV chargers and charging stations installed on or after January 1, 2024:
  + Comply with recordkeeping and reporting standards as described in CEC’s regulations. These requirements are not applicable to those electric vehicle chargers and charging stations installed at residential real property containing four or fewer dwelling units.
  + Comply with all industry best practices and charger technology capabilities that are demonstrated to increase reliability, as described in CEC’s regulations.
  + Without limitation to other requirements in this grant 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 grant agreement. Once regulations are final, they will apply to work under this grant agreement irrespective of when finalized. Any updates to regulations may also be applicable to work under this grant 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.
* Submit the following data on a quarterly basis in a manner prescribed by FHWA:
  + Charging station identifier that the following data can be associated with. This must be the same charging station name or identifier used to identify the charging station in data made available to third-parties in § 680.116(c)(1);
  + Charging port identifier. This must be the same charging port identifier used to identify the charging port in data made available to third-parties in § 680.116(c)(8)(ii);
  + Charging session start time, end time, and any error codes associated with an unsuccessful charging session by charging port;
  + Energy (kWh) dispensed to EVs per charging session by charging port;
  + Peak session power (kW) by port;
  + Payment method associated with each charging session;
  + Charging station port uptime, T\_outage, and T\_excluded calculated in accordance with the equation in § 680.116(b) for each of the previous 3 months;
  + Duration (minutes) of each outage.
* Submit the following data on an annual basis beginning March 1, 2024, in a manner prescribed by FHWA:
  + Maintenance and repair cost per charging station for the previous year.
  + For private entities identified in paragraph (c)(1) of this section, identification of and participation in any State or local business opportunity certification programs including but not limited to minority-owned businesses, Veteran-owned businesses, woman-owned businesses, and businesses owned by economically disadvantaged individuals.
* Submit the following data one-time in a manner prescribed by FHWA:
  + The name and address of the private entity(ies) involved in the operation and maintenance of chargers.
  + Distributed energy resource installed capacity, in kW or kWh as appropriate, of asset by type (e.g., stationary battery, solar, etc.) per charging station.
  + Charging station real property acquisition cost, charging equipment acquisition and installation cost, and distributed energy resource acquisition and installation cost.
  + Aggregate grid connection and upgrade costs paid to the electric utility as part of the project, separated into:
    - Total distribution and system costs, such as extensions to overhead/underground lines, and upgrades from single-phase to three-phase lines.
    - Total service costs, such as the cost of including poles, transformers, meters, and on-service connection equipment.
* Collect and provide the following data:
  + Nameplate capacity of the installed equipment, in kW.
  + Number and type of connectors per charging port.
  + Number, type, date, and location of chargers installed.
  + Location type, such as street, parking lot, hotel, restaurant or shopping center, etc.
  + Total cost per deployed charging port and charging station. This should include all costs incurred.
  + The subsidy from the CEC funding per charging port and, federal subsidy per charger, utility subsidy per charger, and privately funded share per charger
* Collect at least 60 months of throughput, usage, and operations data for each charging port and charger deployed from the project including, but not limited to:
  + Number of charging sessions
  + Average downtime per charging port and per charging station
  + 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 used to initiate charging sessions
  + 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
* Include a *Charging Session Utilization Data Appendix in the Final Report* (Task 1.6) which shall include, but is not limited to, at least 12 months of charging session utilization data and analysis for every charging port, charger, and charging station funded and deployed as part of this agreement.
* 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.
* Utilize all collected data to create and submit to the CAM a Data Collection and Information Analysis Report.
* Provide *Charging Session Utilization Data* identified in this agreement, for each charging port, charger, and charging station to the CEC upon request for up to five (5) years from the date of commissioning.

**Products:**

* Charging Session Utilization Data Appendix in the Final Report
* Data Collection and Information Analysis Report
* Charging Session Utilization Data, Provided Upon Request

**TASK *<Last>*PROJECT FACT SHEET**

The goal of this task is to create 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

1. (FACT SHEET: Biden-Harris Administration Announces New Standards and Major Progress for a Made-in-America National Network of Electric Vehicle Chargers, 2023) <https://www.whitehouse.gov/briefing-room/statements-releases/2023/02/15/fact-sheet-biden-harris-administration-announces-new-standards-and-major-progress-for-a-made-in-america-national-network-of-electric-vehicle-chargers/> [↑](#footnote-ref-2)