STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

A) New Agreement # EPC-20-046 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Elise Ersoy		916-776-0753

C) Recipient's Legal Name	Federal ID #
Sysco Riverside, Inc,	30-0570940

D) Title of Project
Distributed Resources for Diversified Renewable Energy Project

E) Term and Amount

Start Date	End Date	Amount
07/01/2021	03/30/2025	$ 4,000,000

F) Business Meeting Information

☐ ARFVTP agreements $75K and under delegated to Executive Director

Proposed Business Meeting Date 06 / 09 / 2021 ☐ Consent ☒ Discussion

Business Meeting Presenter Elise Ersoy Time Needed: 5 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)Select

Agenda Item Subject and Description:

Sysco Riverside, Inc. Proposed resolution approving Agreement EPC-20-046with Sysco Riverside, Inc. (Sysco) for a $4,000,000 grant to deploy a modular distributed energy resource system including onsite solar PV generation, a battery energy storage system, and an advanced energy management system, and adopting staff's determination that this action is exempt from CEQA. This project will power 40 new electric heavy-duty trucks and charging infrastructure at Sysco's Riverside distribution warehouse, helping accelerate market adoption.
(EPIC funding) Contact: Elise Ersoy.

G) California Environmental Quality Act (CEQA) Compliance

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

   ☒ Yes (skip to question 2)
   ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

   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:

   a) ☒ Agreement **IS** exempt.

   ☐ Statutory Exemption. List PRC and/or CCR section number:

   ☒ Categorical Exemption. List CCR section number: Cal. Code Regs., tit. 14, § 15301

   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section:
   Cal. Code Regs., tit. 14, Section 15301 provides that the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing structures, facilities, mechanical equipment or topographical features involving negligible or no expansion of use beyond that existing are categorically exempt from the provisions of CEQA. This project will install 1.54 MW of solar, battery

energy storage, and chargers for 40 eCascadia electric vehicles at the existing Sysco Riverside warehouse. Therefore, this project is exempt under California Code of Regulations, title 14, sections 15301.

b) ☐ Agreement **IS NOT** exempt. (consult with the legal office to determine next steps)

Check all that apply

- ☐ Initial Study
- ☐ Negative Declaration
- ☐ Mitigated Negative Declaration
- ☐ Environmental Impact Report
- ☐ Statement of Overriding Considerations

H) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	**Budget**
Power Electronics Applications Center	$ 1,705,413
Gladstein, Neandross & Associates, LLC	$ 711,562
EnterSolar, LLC	$ 1,424,000
Inland Empire Community Foundation	$ 159,025
Jobs for the Future, Inc.	$ 95,000

I) List all key partners: (attach additional sheets as necessary)

Legal Company Name:

J) Budget Information

Funding Source	**Funding Year of Appropriation**	**Budget List Number**	**Amount**
EPIC	19-20	301.001G	$4,000,000

R&D Program Area: EGRO: Renewables TOTAL: $4,000,000

Explanation for “Other” selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: Tracey Anderson

Address: 1390 Enclave Pkwy

City, State, Zip: Houston, TX 77077-2025

Phone: 281-574-1380

E-Mail: anderson.tracey@corp.sysco.com

2. Recipient’s Project Manager

Name: Tracey Anderson

Address: 1390 Enclave Pkwy

City, State, Zip: : Houston, TX 77077-2025

Phone: 281-574-1380

E-Mail: anderson.tracey@corp.sysco.com

STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-20-304

☐ First Come First Served Solicitation Solicitation #: - -

M) The following items should be attached to this GRF

1.	Exhibit A, Scope of Work		☒ Attached
2.	Exhibit B, Budget Detail		☒ Attached
3.	CEC 105, Questionnaire for Identifying Conflicts		☒ Attached
4.	Recipient Resolution	☒ N/A	☐ Attached
5.	CEQA Documentation	☐ N/A	☒ Attached

Agreement Manager **Date**

Office Manager **Date**

Deputy Director **Date**

Exhibit A
Scope of Work
Sysco Riverside, Inc.

I. TASK AND ABBREVIATION/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Utility Work
3		Site Work
4	X	Hardware Installation & System Deployment
5		Launch, Community Engagement, and Public Education
6	X	Measurement, Verification, and Data Collection Plan
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Abbreviation/Term List

Acronym/Term	Meaning
BESS	Battery Energy Storage System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CMS	Charge Management System
CEC	California Energy Commission
CPR	Critical Project Review
DER	Distributed Energy Resource
EMS	Energy Management System
MDHD	medium- and heavy-duty
MW	Megawatt
MWh	Megawatt-hour
PEV	Plug-in Electric Vehicles
Recipient	Sysco Riverside, Inc.
ROI	Return on Investment
SCE	Southern California Edison
TAC	Technical Advisory Committee

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

Exhibit A
Scope of Work
Sysco Riverside, Inc.

II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

A. Purpose of Agreement

The purpose of this agreement is to fund technology demonstration and deployment (TD&D) of heavy-duty electric vehicle charging infrastructure that will enable and evaluate resilience, renewable integration, and cost management for Class 8 electric vehicles to be deployed at the Sysco Riverside, Inc. distribution facility in Riverside, CA. This project will advance hardware and/or software to integrate heavy duty electric vehicles and charging equipment with a behind-the-meter distributed energy resource (DER) package that includes distributed generation, stationary storage, and an energy management system. This project will serve as a beachhead for future DER controlled zero-emission charging infrastructure and help to further the CEC's goal of enabling and evaluating the resilience, renewable integration, and cost management use cases for heavy-duty plug-in electric vehicles (PEVs).

B. Problem/ Solution Statement

Problem

Adoption of heavy-duty PEVs into fleet operations can be challenging due in part to differences in vehicle characteristics (e.g., weight, range, and torque requirements), operational needs (e.g., schedule, route, and available downtime), and infrastructure requirements (e.g., available distribution capacity and locations of charging stations). Heavy-duty vehicles typically have large capacity batteries that need either high-power charging or long periods of down time to charge at low-power. High-power charging requires more expensive hardware, can lead to costly demand charges on site's electricity bills, and may necessitate upgrades to facility or distribution infrastructure. Fleet operators face further challenges achieving interoperability of sub-systems (e.g., fleet management, charger management, and building or site energy management); navigating interconnection processes; and ensuring secure communication of price, asset availability, and other signals among equipment, software, third party aggregators, and grid operators. Capital expenses including hardware, site engineering, and commissioning remain high, and demonstrations require significant site-specific customization. Furthermore, there is a lack of publicly available cost and performance data for customers to evaluate potential business cases.

Electrification of these large weight-class vehicles is challenging and costly due in part to their high-power charging needs and more demanding duty cycles as compared to light-duty vehicles.

Solution
Given the early stages in commercialization of heavy duty PEVs, adopting behind-the-meter DER charging infrastructure may alleviate some of these issues, and publicly available data resulting from projects is needed. This project will serve as a beachhead for further development of DER charging infrastructure in the area, showcasing a proven demonstration of the technology with an evaluation of cost efficiency. Critical to this project is the public education effort, which will greatly facilitate the advancement of fleets' knowledge about zero-emission charging infrastructure for heavy-duty PEVs. This knowledge transfer will allow fleets to overcome barriers towards adopting zero-emission charging infrastructure and heavy-duty PEVs, a vital step towards combatting climate change.

C. Goals and Objectives of the Agreement

Agreement Goals
The goals of this Agreement are to:

- Integrate DER packages tailored for medium- and heavy- duty (MDHD) fleet electrification, combining appropriate scaled charging, rooftop solar, battery storage, and an energy management system (EMS) to ensure cost savings, renewables integration, and resilience for multiple Class 8 tractor PEVs.
- Provide cost and performance data that can inform other MDHD PEV deployments. A detailed data collection and reporting plan will provide essential performance, cost, and operational data annually that other MDHD fleets can use in their return on investment (ROI) and system performance decisions.
- Advance commercial offerings that accelerate:
  - MDHD fleet electrification by showcasing advanced charge and load management, which has been demonstrated in very limited MDHD situations,
  - off-grid resiliency by a fleet, and
  - specific near-and early commercial technologies (e.g. Class 8 tractors, high powered charging unit).

Ratepayer Benefits:[2] This Agreement will result in ratepayer benefits of greater electricity reliability, partial deferral of rate hikes and/or system network upgrades, and increased safety. The project will achieve this by way of attributes that maximize cost and load-reduction benefits to Southern California Edison (SCE) ratepayers with additional benefits from renewables integration and resilience. The project will provide an estimated:

[2] California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).

- $449,800 in estimated annual electricity cost savings versus unmanaged grid charging baseline;
- Reduce load by approximately 2,665 kW compared to an unmanaged, non-DER system;
- Produce approximately 2,596 MWh of distributed energy production per year; and
- Shift 7.5 hours (average) of daytime renewable energy production into the evening peak to offset higher emissions that would occur from nighttime charging;
- Reduce approximately 5 hours of daily peak demand reduction (average) through load-shifting to DER system / periods of low demand;
- Provide up to 6 hours of off grid "island" operation powering 40 trucks from battery electric storage system only; and
- Potentially extend "islanding" to multiple days with contribution from solar photovoltaic during outages (assumes full battery when outage occurs).

Benefits to ratepayers also include improved infrastructure reliability and resilience from the integration of charging, storage, and onsite renewable generation. The project will also demonstrate DER charging for MDHD vehicles at a warehouse site, similar to others that are capacity limited.

Technological Advancement and Breakthroughs:[3]
This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by the integration of onsite solar electricity generation, installation of a battery energy storage system (BESS), and deployment of an advanced EMS charging infrastructure. The project will include a modular design that may be replicated in various use cases and an integrated EMS and Charge Management System (CMS). The project will serve as a zero-emission transition replicable by thousands of others in California's disadvantaged communities and will achieve an estimated $15.1 million in cost-savings, off-grid resiliency, and renewables integration.

The project is designed for replicability, cost reduction, and grid/ratepayer benefits via the use of modular and scalable energy management platform. The design can be scaled up to multiple MW and accommodate numerous electric vehicles and EVSE specifications. Energy cost reductions will come from an estimated 2.43 GWh reduction in net energy consumption. The project provides grid and ratepayer benefits by avoiding an estimated 2.7 MW of load and shifting peak-charging that would be required in an unmanaged scenario to off-peak hours. Furthermore, a project of this scale will have a significant positive impact on grid stability from DER.

Agreement Objectives

The objectives of this Agreement are to:

- Demonstrate cost savings and positive ROI from the use of DER by electric MDHD fleets
- Integrate renewable electricity into and increase resilience of an electric MDHD fleet
- Reduce load and peak demand on the grid from use of onsite solar, battery, and EMS
- Demonstrate at a scale that is replicable at hundreds of MDHD fleet sites around California; and
- Advance charging, Class 8 PEV, and EMS technologies.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the Project Schedule (Part V). All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations. All technical tasks should include product(s). Products that require a draft version are indicated by marking "(draft and final)" after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, "days" means working days.

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.
- Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products

- Submit all data and documents required as products in accordance with the following:

Instructions for Submitting Electronic Files and Developing Software:

- Electronic File Format
  - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

  The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:
  - Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
  - Text documents will be in MS Word file format, version 2007 or later.
  - Project management documents will be in Microsoft Project file format, version 2007 or later.
- Software Application Development

  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:
  - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
  - Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
  - Visual Studio.NET (version 2008 and up). Recommend 2010.
  - C# Programming Language with Presentation (UI), Business Object and Data Layers.
  - SQL (Structured Query Language).
  - Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
  - Microsoft SQL Reporting Services. Recommend 2008 R2.
  - XML (external interfaces).

  Any exceptions to the Electronic File Format requirements above must be approved in writing by the CAM. The CAM will consult with the CEC's

Information Technology Services Branch to determine whether the exceptions are allowable.

MEETINGS

Subtask 1.2 Kick-off Meeting
The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Match fund documentation (subtask 1.7);
  - Permit documentation (subtask 1.8);
  - Subcontracts (subtask 1.9); and
  - Any other relevant topics.

  The technical portion of the meeting will include discussion of the following:
  - The CAM's expectations for accomplishing tasks described in the Scope of Work;
  - An updated Project Schedule;
  - Technical products (subtask 1.1);
  - Progress reports (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
  - Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy
- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

- Designate the date and location of the meeting.
- Send the Recipient a *Kick-off Meeting Agenda*.

Recipient Products:

- Kick-off Meeting Presentation
- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

- Prepare and submit a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.

- Send the Recipient a *CPR Agenda* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:
- CPR Report(s)

CAM Products:
- CPR Agenda
- Progress Determination

Subtask 1.4 Final Meeting
The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:
- Meet with CEC staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
  - The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
  - The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any procured equipment.
    - The CEC's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.

  - "Surviving" Agreement provisions such as repayment provisions and confidential products.
  - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:
- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Final Products

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices
The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:
- Submit a monthly *Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.

Products:
- Progress Reports
- Invoices

Subtask 1.6 Final Report
The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this

Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Energy Commission Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (required)
    - Credits page on the reverse side of cover with legal disclaimer (required)
    - Acknowledgements page (optional)
    - Preface (required)
    - Abstract, keywords, and citation page (required)
    - Table of Contents (required, followed by List of Figures and List of Tables, if needed)
    - Executive summary (required)
    - Body of the report (required)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* received on the Executive Summary. For each comment received, the Recipient will identify in the summary the following:

  - Comments the Recipient proposes to incorporate.
  - Comments the Recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:
- Summary of TAC Comments
- Draft Final Report
- Written Responses to Comments *(if applicable)*
- Final Report

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds
The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of CEC funds. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. 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 this 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 cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the 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 must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:
- Match Funds Status Letter
- Supplemental Match Funds Notification Letter *(if applicable)*
- Match Funds Reduction Notification Letter *(if applicable)*

Subtask 1.8 Permits
The goal of this subtask 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, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then

state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
  - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
  - The schedule the Recipient will follow in applying for and obtaining the permits.

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project 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 progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:
- Permit Status Letter
- Updated List of Permits *(if applicable)*
- Updated Schedule for Acquiring Permits *(if applicable)*
- Copy of Each Approved Permit *(if applicable)*

Subtask 1.9 Subcontracts

The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:
- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required CEC flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.
- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of each executed subcontract.

- Notify and receive written approval from the CAM prior to adding any new subcontractors (see the discussion of subcontractor additions in the terms and conditions).

Products:

- Subcontracts *(draft if required by the CAM)*

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.

The TAC may be composed of qualified professionals spanning the following types of disciplines:

- Researchers knowledgeable about the project subject matter;

- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

Subtask 1.11 TAC Meetings

The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Recipient shall:

- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a *TAC Meeting Schedule* that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a *TAC Meeting Agenda* and *TAC Meeting Back-up Materials* for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule. Changes to the schedule must be pre-approved in writing by the CAM.

- Prepare *TAC Meeting Summaries* that include any recommended resolutions of major TAC issues.

The TAC shall:

- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.
- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:

- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

Subtask 1.12 Project Performance Metrics

The goal of this subtask is to identify key performance targets for the project. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

The Recipient shall:

- Complete and submit the draft *Project Performance Metrics Questionnaire* to the CAM prior to the Kick-off Meeting.
- Present the draft *Project Performance Metrics Questionnaire* at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
  - TAC comments the Recipient proposes to incorporate into the final *Project Performance Metrics Questionnaire*.
  - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Submit a final *Project Performance Metrics Questionnaire* with incorporated TAC

feedback.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the final *Project Performance Metrics Questionnaire*.
- Discuss the final *Project Performance Metrics Questionnaire* and *Project Performance Metrics Results* at the Final Meeting.

Products:
- Project Performance Metrics Questionnaire (draft and final)
- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2 UTILITY WORK
The goal of this task is to complete all necessary construction and preparation to accommodate utility service for charging infrastructure.

The Recipient shall:
- Begin SCE new grid service and interconnection process including SCE Charge Ready Transport program and deliver a C*opy of SCE Grid Service Request.*
- Procure transformer and related infrastructure resources as needed and deliver a *Copy of Order for Transformer Station and Infrastructure Resources.*
- Commence and photograph utility construction and associated construction work. Deliver *Photographs of Utility Construction Work.*
- Confirm utility service, begin service, and deliver *System Deployment & Commissioning Report*, to include at least a narrative of the steps taken and timing of the interconnection process (including system validation and testing), equipment ordering process, and construction of system.

Products:
- Copy of SCE Grid Service Request
- Copy of Order for Transformer Station and Infrastructure Resources
- Photographs of Utility Construction Work
- System Deployment & Commissioning Report

TASK 3 SITE WORK
The goal of this task is to complete all site development tasks necessary to complete site work to prepare for charging infrastructure installation in accordance with all safety and regulatory specifications.

The Recipient shall:

- Start permitting process, verify all necessary permits are received, and deliver *Copy(ies of Permit(s).*
- Finalize contract(s) with construction company(ies), and deliver *Copy(ies) of Contract(s) with Construction Compan(ies).*
- Complete all ground and electrical work.
- Install all charging infrastructure hardware and photograph.
- Deliver *Photographs of Installed Hardware.*

Products:

- Copy(ies) of Permit(s)
- Copy(ies) of Contract(s) with Construction Company(ies)
- Photographs of Installed Hardware

TASK 4 HARDWARE INSTALLATION & SYSTEM DEPLOYMENT

The goal of this task is to complete all construction tasks necessary to install and integrate energy management software, charge management software, and charging infrastructure hardware in accordance with all safety and regulatory specifications.

The Recipient shall:

- Procure charging hardware, solar photovoltaics, and battery storage resources.
- Install charging hardware, solar photovoltaic and battery storage resources.
- Install enabling hardware for Daimler CMS and Power Electronics EMS.
- Commission CMS and EMS and ensure that they are both fully operational, integrated, and ready for data recording.
- Deliver *Hardware Installation Report* including a copy of the professional engineer-stamped line drawing(s) of system configuration; photographs of charging hardware, photovoltaics, and battery storage; description of modular design; and charge management system and energy management system operation confirmation.
- Prepare and deliver *CMS/EMS Integration Report* which must discuss the approach, challenges, benefits, and results.
- Participate in CPR per Subtask 1.3 and prepare *CPR Report #1*.

Products:

- Hardware Installation Report
- CMS/EMS Integration Report
- CPR Report #1

TASK 5 LAUNCH, COMMUNITY ENGAGEMENT, AND PUBLIC EDUCATION

The goal of this task is to coordinate project launch activities and public education resources to be made available through the completion of this project.

The Recipient shall:

- Begin construction and employee recruitment.
- Distribute job postings for construction phase of the project; Participate in job fairs and community outreach to community colleges, and universities for local recruitment.
- Deliver *Copies of Construction Employee Recruitment Materials.*
- Coordinate public groundbreaking event.
  - Present to area businesses via local events hosted by the Riverside Clean Cities and secure local and industry media coverage.
  - Deliver *Photographs of Public Groundbreaking.*
- Begin charging & vehicle operator recruitment.
  - Distribute job postings for operation phase of the project; Participate in job fairs and community outreach to community colleges, and universities for local recruitment.
  - Deliver *Summary of Recruitment Activities (Draft)* which will include a list of all organizations involved, and a narrative of effort and outcomes.
- Coordinate public ribbon cutting event.
  - Present to area businesses via local events hosted by the Riverside Clean Cities and secure local and industry media coverage.
  - Notify CAM of ribbon cutting date at least six weeks prior to invite CEC Staff and Commissioners.
  - Photograph and deliver *Photographs of Ribbon Cutting.*
- Conduct ongoing recruitment activities.
  - Develop and distribute community-facing education material on the project and its community benefits. Translate all outreach materials into Spanish.
  - Deliver *Summary of Recruitment Activities (Final)* to include materials used in outreach, results thus far, and ongoing recruitment activities.

Products:

- Copies of Construction Employee Recruitment Materials
- Photographs of Public Groundbreaking
- Summary of Recruitment Activities (Draft & Final)
- Photographs of Public Ribbon Cutting

TASK 6 MEASUREMENT, VERIFICATION, AND DATA COLLECTION

The goal of this task is to conduct independent measurement and verification for a 12-month post installation period for the renewable integration and charging system, to verify that it is meeting the performance targets and delivering the expected benefits.

The Recipient shall:

- Develop a *Draft Measurement and Verification Plan* to quantify the benefits. Metrics designated in this plan are subject to CAM approval and will include at a minimum:

  - The calculation or reference for the baseline for each designated metric (use Attachment 13 provided by the CEC where applicable).
  - Instrumentation and equipment required to collect verification data during the one-year M&V period, such as meters and other monitoring equipment.
  - Data acquisition criteria such as inputs, outputs, sampling rate, and accuracy.
  - An installation plan for any equipment that must be installed during construction.
  - The calculations necessary to quantify each of the designated metrics from the verification data for the use cases described in the project narrative. These use cases are resiliency (via off-grid structure of the EV circuit), renewable integration (via optimized energy management systems), and cost-efficiency (via optimized charging management systems).
  - Any other metrics or measurements that are scientifically significant or worthy of calculation. This may include calculated values such as the average driven miles of the vehicles, and other informative analyses such as a modeled comparison to an AC-coupled system with equivalent renewable integration.
  - Finalize and deliver *Measurement and Verification Plan* incorporating CAM feedback on *Draft Measurement and Verification Plan.*
- Conduct Measurement & Verification of the Site.
  - Execute the Measurement and Verification Plan for one year post-deployment.
  - Prepare and deliver a *System Performance Report* to document assessment results.
    - Analyze, summarize, and deliver narrative on actual performance as compared to expected performance and targeted metrics (e.g. avoided greenhouse gas emissions, cost savings, peak load reduction).
  - Analysis of System Performance to define optimization of when and how the equipment is used to maximize resiliency, cost efficiency, and utilization of renewables.
  - Develop and deliver an *Operational and Maintenance Guide* for site operator training with instructions to optimize for resiliency, renewable integration, and cost-efficiency use cases.
- Collect, clean, and deliver performance *System Performance Data Set.*
  - Collect data, ensure it has been cleaned, and deliver to CAM in CEC approved format (e.g. .csv).
- Participate in CPR per Subtask 1.3 and prepare *CPR Report #2*

Products:

- Measurement & Verification Plan (Draft)
- Measurement & Verification Plan (Final)
- System Performance Report
- Operational and Maintenance Guide
- System Performance Data Set
- CPR Report #2

TASK 7 EVALUATION OF PROJECT BENEFITS

The goal of this task is to report the benefits resulting from this project.

The Recipient shall:

- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:

    - For Product Development Projects and Project Demonstrations:
        - Published documents, including date, title, and periodical name.
        - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
        - Greenhouse gas and criteria emissions reductions.
        - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
        - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.
        - A discussion of project product downloads from websites, and publications in technical journals.
        - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
    - Additional Information for Product Development Projects:
        - Outcome of product development efforts, such copyrights and license agreements.
        - Units sold or projected to be sold in California and outside of California.
        - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
        - Investment dollars/follow-on private funding as a result of CEC funding.
        - Patent numbers and applications, along with dates and brief descriptions.
    - Additional Information for Product Demonstrations:
        - Outcome of demonstrations and status of technology.
        - Number of similar installations.
        - Jobs created/retained as a result of the Agreement.

- For Information/Tools and Other Research Studies:
  - Outcome of project.
  - Published documents, including date, title, and periodical name.
  - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
  - The number of website downloads.
  - An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
  - An estimate of energy and non-energy benefits.
  - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
  - A discussion of project product downloads from websites, and publications in technical journals.
  - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

The CEC may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

Products:

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire
-

TASK 8 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the demonstration(s) is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

The Recipient Shall:

- Develop and submit a *Project Case Study Plan (Draft/Final)* that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The *Project Case Study Plan* should include:
  - An outline of the objectives, goals, and activities of the case study.
  - The organization that will be conducting the case study and the plan for conducting it.
  - A list of professions and practitioners involved in the technology's deployment.

  - Specific activities the Recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
  - Presentations/webinars/training events to disseminate the results of the case study.
- Present the *Draft Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the *Draft Project Case Study Plan*. This document will identify:
  - TAC comments the Recipient proposes to incorporate into the *Final Technology Transfer Plan*.
  - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Submit the *Final Project Case Study Plan* to the CAM for approval.
- Execute the *Final Project Case Study Plan* and develop and submit a *Project Case Study (Draft/Final)*
- When directed by the CAM, develop presentation materials for an CEC-sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California CEC.
- 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:

- Project Case Study Plan (Draft/Final)
- Summary of TAC Comments
- Project Case Study (Draft/Final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.