STATE OF CALIFORNIA
GRANT REQUEST FORM (GRF)
CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

A) New Agreement # EPC-20-042 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Rhetta deMesa	43	916-628-1640

C) Recipient's Legal Name	Federal ID Number
TA Operating LLC	34-1747077

D) Title of Project
TAking Charge: TravelCenters of America Ultra-Fast En-Route Charging

E) Term and Amount

Start Date	End Date	Amount
7/26/2021	3/31/2025	$ 4,000,000

F) Business Meeting Information

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

Proposed Business Meeting Date 6/9/2021 ☐ Consent ☒ Discussion

Business Meeting Presenter Rhetta deMesa Time Needed: 5 minutes

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

Agenda Item Subject and Description:

TA Operating LLC Proposed resolution approving Agreement EPC-20-042 with TA Operating LLC for a $4,000,000 grant to design, develop, and deploy an advanced charging solution for medium and heavy-duty vehicles, and adopting staff's determination that this action is exempt from CEQA. The project will integrate publicly accessible medium and heavy-duty fast chargers with battery storage, a hydrogen fuel cell, and solar PV to power opportunity and overnight charging for fleets at the TA Travel Center in Ontario, California. (EPIC funding) Contact: Rhetta deMesa. (Staff Presentation: 5 Minutes)

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":

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, sect. 15301 provides that projects which of operation, repair, maintenance, leasing, licensing, or minor alteration of existing structure, facilities, mechanical equipment, or topographical features, which involve negligible or no

expansion of use beyond that existing at the time of the lead agency's California Environmental Quality Act determination are categorically exempt from the provisions of the California Environmental Quality Act.

This project will install medium and heavy duty charging infrastructure, supporting electricity generation, and energy management equipment which will include construction and trenching. All activities will occur at an existing refueling site and are not anticipated to result in an expanded use of the facility.

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**
Build Momentum, Inc.	$ 400,000
Arup North America Ltd.	$ 254,583
Schneider Electric USA Inc.	$ 50,000
TBD - Design Contractor	$ 20,000
	$
	$
	$
	$
	$
	$

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

Legal Company Name:

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J) Budget Information

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	20-21	301.001H	$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: Brett Hecker

Address: 24601 Center Ridge Rd

City, State, Zip: Westlake, OH 44145-5634

Phone: 440-617-8957

E-Mail: bhecker@ta-petro.com

2. Recipient's Project Manager

Name: Brett Hecker

Address: 24601 Center Ridge Rd

City, State, Zip: Westlake, OH 44145-5634

Phone: 440-617-8957

E-Mail: bhecker@ta-petro.com

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-20-304

☐ First Come First Served Solicitation Solicitation #:

☐ Non-Competitive Bid Follow-on Funding (SB 115)

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
TA Operating LLC

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Integrated DER System Design
3	X	Site Layout, Design, and Engineering
4		Equipment & Vehicle Procurement
5	X	Installation and Commissioning
6		Workforce Training
7		Operations, Data Collection, and Measurement & Verification
8		Evaluation of Project Benefits
9		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
AB	Assembly Bill
API	Application Programming Interface
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
DER	Distributed Energy Resource
MDHD	Medium Duty and Heavy Duty
SB	Senate Bill
TAC	Technical Advisory Committee
ZEV	Zero Emission Vehicle

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the design and deployment of an integrated distributed energy resource (DER) solution to support medium and heavy duty (MDHD) zero emission vehicle (ZEV) fleets with publicly accessible high-capacity direct current fast chargers (DCFCs) for en-route charging in support of lower capacity depot charging. The installed public-access en-route fast chargers will also serve as depot chargers for TravelCenters of America's own ZEV fleet.

[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.

B. Problem/ Solution Statement

Problem

The trucking industry is a low-margin, high volume business where fleet managers that can efficiently deploy vehicles and deliver cargo are able to stay in business. The adoption of zero-emission technologies is faced with critical barriers, including the impact of charging to existing fleet management practices that rely on refueling in 30 to 45 minutes. To see MDHD ZEVs widely deployed, fleet managers will need reliable and cost-effective charging solutions at their own home site and throughout their routes to allow for opportunity charging or charging in the event of emergencies. For long-haul trucking, the need for overnight charging, away from a central home depot, will be critical to the ability to meet the scheduling demands of the job. Addressing range anxiety is one of the most critical needs within the industry.

Solution

The deployment of cost-effective charging solutions within a depot and at public-access locations will be critical to ensuring the availability of electric transportation fuel. To be cost-effective, a blend of lower-capacity and higher-capacity charging will be needed. Depot charging—where ZEVs have more time to charge—is appropriate for lower capacity equipment. En-route ultrafast charging is appropriate when vehicles must continue along an existing route while facing strict driver time limits. To be cost effective, charging stations need high levels of utilization and to avoid costly utility upgrades. Integrating MDHD ZEV charging solutions with DERs will help manage load while strategically placing ultra-fast chargers in public-access locations where they can be used by many vehicles to drive down the costs of reliable electric vehicle adoption.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Deploy a replicable and scalable DER-integrated MDHD charging solution.
- Support TravelCenters of America's fleet partners in the adoption of ZEVs by providing readily accessible ZEV charging in critical freight hub corridors.
- Gather vehicle and infrastructure cost and performance data to inform a widespread rollout of MDHD ZEV charging infrastructure across TravelCenters of America's travel center network.
- Assess DER marketability within the Medium- and Heavy-Duty vehicle charging industry

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefits of greater reliability by integrating onsite renewable generation with battery storage to cost-effectively produce electricity and make it publicly available to vehicles at any time of day. This project will lower costs by deploying high-cost high-capacity chargers in public-access locations so they can be used by multiple fleets and vehicles. It will also assess the potential for providing grid services to the local utility network via the onsite DERs.

[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).

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. TravelCenters and its partners will deploy some of the first public-access high-capacity fast chargers and develop a replicable approach to integrating MDHD charging stations with DERs including PV,integrated with storage, and fuel cell technology to help manage load. TravelCenters believes the resulting design will be replicated across its more than 250 travel centers as both hydrogen and electric ZEVs are adopted by fleets.

Agreement Objectives

The objectives of this Agreement are to:

- Install MDHD charging capabilities to manage up to eight simultaneous vehicles for overnight charging or up to four simultaneous vehicles for the fastest levels of charging.
- Install PV integrated with energy storage and hydrogen fuel cell generating capacity to generate onsite renewable electricity for vehicle charging.
- Establish system controls to allow for islandable operations to ensure charger availability in the event of grid outage.
- Demonstrate business case for siting ultrafast charging stations integrated with DERs at public-access stations in support of MDHD fleet managers
- Evaluate how to best utilize DER capabilities to support reliable grid operations
- Validate a replicable and scalable approach to developing MDHD charging infrastructure, including evaluation of economies of scale with shared hydrogen delivery system assets.

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 Technical Advisory Committee (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.

Exhibit A
Scope of Work
TA Operating LLC

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 Energy Commission 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)*

Exhibit A
Scope of Work
TA Operating LLC

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 INTEGRATED DER SYSTEM DESIGN
The goal of this task is to complete the system design for the integrated DER system, including the specifications of the onsite renewable generation assets and the battery energy storage system(s) to service the selected MDHD chargers.

Subtask 2.1 Integrated DER System Specifications

The Recipient shall:
- Confirm the MDHD charging specifications.
- Identify three use cases based on a low-, medium-, and high-utilization scenarios

- Facilitate a Use Case Workshop with key stakeholders to describe potential microgrid functionality and services, including but not limited to cost reductions, renewable integration/GHG reductions, and resiliency, and identify methods to evaluate the benefits and tradeoffs to the project of each as well as describing the functional requirements of the integrated DERs.
- Produce a *Use Case Workshop Memorandum* summarizing:
    - Workshop attendees
    - Workshop agenda
    - Functional requirements agreed upon
- Model the use cases to determine the battery and renewable generation specifications necessary to provide system reliability and islanding capabilities.
- Select system capabilities for integrated DER solution design.
- Produce a *Use Case Design Findings Report* documenting the use cases identified, methodology of analyzing utilization, and outcomes.
- Specify battery storage and onsite renewable generation capabilities necessary to support the selected use case.
- Evaluate viability of on-site solar PV by completing a *Flight Path Glare Analysis* in line with Federal Aviation Administration guidelines to understand the mitigate impact of solar glare impacted flight paths.
- Identify technology vendors that can supply the equipment necessary for the integrated system.
- Develop *Bid Package(s)* for distribution to qualified vendors (see Task 4 for Equipment Procurement).
- Document site design (Task 3) constraints and final DER design configuration in an *Integrated DER Design Memo*.

Products:

- Use Case Workshop Memorandum
- Flight Path Glare Analysis
- Use Case Design Findings Report
- Bid Package(s)
- Integrated DER Design Memo

Subtask 2.2 Microgrid Control Design

The Recipient shall:

- Develop microgrid control code to govern energy management based on the selected use case identified in the Use Case Design Finding Report.
- Develop a detailed *Microgrid Equipment List* for the components necessary to perform the designed microgrid control functions.
- Incorporate findings into the Integrated DER Design Memo

Products:

- Microgrid Equipment List

TASK 3 SITE LAYOUT, DESIGN, AND ENGINEERING
The goal of this task is to complete the site design, layout, and engineering of the integrated DER system (Task 2) to complete permitting and prepare for construction.

The Recipient shall:

- Complete a Power System Study to confirm settings and interconnectability of the various new DERs being integrated into the project. This will be delivered in the form of a report, *Power System Study Report*, and used to inform the construction and commissioning process.
- Facilitate interconnection discussions with the local utility company (SCE) leading to the development of an interconnection agreement for approval by the utility company and allowing the project to interact with the utility grid, the *Utility Company Interconnection Agreement*.
- Complete *90% Design Permit Package* for construction review and permit applications based on the *Integrated DER Design Memo* (Task 2).
- Submit drawings for applicable permits.
- Secure permits and update drawings as necessary.
- Complete *100% Construction Package*.
- Submit a *Basis of Design Report* identifying:
    - Major site layout considerations
    - Risk mitigation strategies
    - Lessons learned
    - Overview of the site design (non-confidential information)

Products:

- Power System Study Report
- Utility Company Interconnection Agreement
- 90% Design Permit Package
- 100% Construction Package
- Basis of Design Report

TASK 4 EQUIPMENT AND VEHICLE PROCUREMENT
The goal of this task is to select vendors and procure all necessary equipment and Class 8 vehicles

The Recipient shall:

- Develop and submit a *Procurement Plan* to identify the approach for identifying equipment vendors, including:
    - Identification of equipment that will go to bid, along with target vendors
    - Description of the bid process
    - Identification of sole source procurement and justification for sole source determinations
- Implement the *Procurement Plan* to acquire all necessary equipment and vehicles including:
    - Developing bid specifications for:
        - Hydrogen fuel cells
        - 500 kW fast chargers

    - Class 8 ZEV
    - Solar PV (if found viable through glare analysis)
  - Releasing the bid package to qualified vendors
  - Receiving bid documentation
  - Evaluating bid responses
  - Selecting equipment and vehicle vendors
  - Finalize specifications
  - Establish delivery timelines and purchase contracts
- Assess and evaluate options for renewable hydrogen procurement to support the hydrogen fuel cell
- Develop and submit a *Procurement Report* to summarize the results of the procurement activities including:
  - Technologies selected and equipment specifications (non-confidential components)
  - Outcome of the bid process for those items that were bid
  - Schedule for delivery
- Include *Photographs of Delivered Equipment* to demonstrate equipment has been procured in monthly progress reports.

Products:
- Procurement Plan
- Procurement Report
- Photographs of Delivered Equipment to be included in monthly progress reports.

TASK 5 INSTALLATION AND COMMISSIONING
The goal of this task is to install the proposed system, commission the equipment, and prepare the system for commercial operations.

The Recipient shall:
- Prepare the site for equipment arrival.
- Complete site preparation for construction and installation.
- Prepare *Installation Timeline* to track progress throughout the project.
- Install equipment and complete site work
- Prepare *Notification of Installation Completion* to indicate the integrated DER system is ready for commissioning.
- Conduct pre-startup safety review
- Perform cold commissioning, which will include:
  - Completion and system check out
  - Confirmation of operational readiness
- Perform hot commissioning, which will include:
  - Performance testing of new systems
  - Performance testing of integration with existing energy management and control systems
  - Performance test run of new system
  - Optimize system performance in response to testing in order to meet stated performance specification

- Provide an *Equipment Installation Memo* that includes, but not be limited to:
    - Summary of the equipment installation requirements for each demonstration site;
    - Identification of barriers involved during installation and discuss the steps taken to overcome those barriers;
    - Discuss results of equipment start-up and commissioning at each site with respect to whether the equipment as installed meets the stated performance specifications.

Products:

- Installation Timeline
- Notification of Installation Completion
- Equipment Installation Memo

TASK 6 WORKFORCE TRAINING

The goal of this task is to develop a training protocol and implement training so that personnel responsible for operations and maintenance of the equipment can perform necessary functions.

The Recipient shall:

- Work with technology vendors to understand equipment care and maintenance.
- Work with the local community college to identify how they may support training efforts and explore partnership opportunities.
- Develop a training protocol to educate relevant staff and contractors.
- Identify job roles that need to be trained.
- Implement training to all necessary personnel.
- Develop and submit a *Workforce Training Report* identifying:
    - The skills taught
    - The job roles that participated
    - Lessons learned

Products:

- Workforce Training Report

TASK 7 OPERATIONS, DATA COLLECTION, AND MEASUREMENT & VERIFICATION

The goal of this task is to commercially operate the ZEVs, integrated DER system, collect data on utilization, and report the benefits resulting from this project by performing measurement and verification (M&V) of charger utilization, onsite renewable energy generations, and greenhouse gas (GHG) reductions.

The Recipient shall:

- Prepare and provide a detailed *M&V Plan* that includes:
    - A description of the monitoring equipment and instrumentation which will be used for vehicles and equipment.
    - A description of the key input parameters and output metrics which will be measured, including:
        - Time step of data (e.g. one minute, ten minute, hourly); charge session duration and location; energy delivered to vehicle (kWh) and power level (kW); cost of electricity during charging session ($/kWh); PEV battery

degradation over time; and energy delivered to facility circuits, the grid, or other end loads (kWh) and power level (kW).
    - A description of the M&V protocol and analysis methods to be employed.
    - A description of the equipment to be used for data collection
    - A description of the independent, third-party M&V services to be employed, if applicable.
- Operate the integrated DER system for at least 12 months and collect data, consistent with the *M&V Plan*.
- Prepare and provide an *M&V Findings Report* for that includes M&V protocol, measurements (and calculations), analysis, and results.
    - Provide all key assumptions used to estimate and determine energy and GHG reductions (and additions, if applicable).
    - 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.

Products:
- M&V Plan
- M&V Findings Report

TASK 8 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:

    - <u>For Product Development Projects and Project Demonstrations:</u>
        - 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 Energy Commission 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 9 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.

Exhibit A
Scope of Work
TA Operating LLC

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.

RESOLUTION NO: 21-06-09-15a

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: TA OPERATING LLC

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

RESOLVED, that the CEC approves Agreement EPC-20-042 with TA Operating LLC for a $4,000,000 grant to design, develop, and deploy an advanced charging solution for medium and heavy-duty vehicles. The project will integrate publicly accessible medium and heavy -duty fast chargers with battery storage, a hydrogen fuel cell, and solar PV to power opportunity and overnight charging for fleets at the TA Travel Center in Ontario, California; and

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

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the CEC held on June 9, 2021.

AYE:
NAY:
ABSENT:
ABSTAIN:

_____
Patricia Carlos
Secretariat