



STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

A) New Agreement # ZVI-21-012 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
Fuels and Transportation Division	Alex Wan	27	916-805-7477

C) Recipient's Legal Name	Federal ID #
Santa Clara Valley Transportation Authority	94-2186907

D) Title of Project
Cerone Zero Emission Bus Infrastructure & Microgrid

E) Term and Amount

Start Date	End Date	Amount
01 / 26 / 2022	11 / 03 / 2025	\$ 4,676,000

F) Business Meeting Information

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

Proposed Business Meeting Date 01 / 26 / 2022 ☐ Consent ☒ Discussion

Business Meeting Presenter Esther Odufuwa Time Needed: 5 minutes

Please select one list serve. Altfuels (AB118 – ARFVTP)

Agenda Item Subject and Description:

SANTA CLARA VALLEY TRANSPORTATION AUTHORITY. Proposed resolution approving Agreement ZVI-21-012 with the Santa Clara Valley Transportation Authority for a \$4,676,000 grant to demonstrate the viability and replicability of utilizing distributed energy microgrids to charge electric transit bus fleets, and adopting staff's determination that this action is exempt from CEQA. (General Fund funding). Contact: Esther Odufuwa (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":

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: 21080.25(b)(6)

☐ Categorical Exemption. List CCR section number:

☐ Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section:

As required by PRC 21080.25, this project would construct the infrastructure to charge zero-emission transit buses; the project would be carried out by VTA, which is a public transit agency that is subject to, and in compliance with, the State Air Resources Board's Innovative Clean Transit regulations (Article 4.3 (commencing with Section 2023) of Chapter 1 of Division 3 of Title 13 of the



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California Code of Regulations); and the project is located on property owned by a public transit agency.

- 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
Lehigh University (Match funding only)	\$ 166,000
Scale Microgrid Solutions Operating, LLC (Match funding only)	\$ 5,664,940
Proterra Operating Company, Inc.	\$ 965,651

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
General Fund	FY 21/22	601.129TBA	\$4,676,000
Funding Source			\$
Funding Source			\$
Funding Source			\$
Funding Source			\$

R&D Program Area: Select Program Area TOTAL: \$

Explanation for "Other" selection

Reimbursement Contract #:

Federal Agreement #:

K) Recipient's Contact Information**1. Recipient's Administrator/Officer**

Name: Adam Burger

Address: 3331 N. 1st Street

City, State, Zip: San Jose, CA
95134

Phone: (408) 546-7923

E-Mail: adam.burger@vta.org

2. Recipient's Project Manager

Name: Manjit Chopra

Address: 3331 N. 1st Street



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City, State, Zip: San Jose, CA
95134

CALIFORNIA ENERGY COMMISSION

Phone: (408) 321-7128

E-Mail: manjit.chopra@vta.org

L) Selection Process Used

- ☒ Competitive Solicitation Solicitation #: GFO-20-602
- ☐ First Come First Served Solicitation Solicitation #: - -

M) The following items should be attached to this GRF

- | | | | |
|---|-------------------------------------|-----|--|
| 1. Exhibit A, Scope of Work | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> Attached |
| 2. Exhibit B, Budget Detail | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> Attached |
| 3. CEC 105, Questionnaire for Identifying Conflicts | <input checked="" type="checkbox"/> | N/A | <input checked="" type="checkbox"/> Attached |
| 4. Recipient Resolution | <input checked="" type="checkbox"/> | N/A | <input type="checkbox"/> Attached |
| 5. CEQA Documentation | <input type="checkbox"/> | N/A | <input checked="" type="checkbox"/> Attached |

Agreement Manager

Date

Office Manager

Date

Deputy Director

Date

**Exhibit A
SCOPE OF WORK**

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2	X	Engineering and Design
3		Solar PV Procurement
4		Equipment Procurement
5		Construction (Pre-Delivery)
6		Construction (Post-Delivery)
7	X	Startup and Commissioning
8		Closeout
9		Data Collection and Analysis
10		Project Fact Sheet

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	<p>Manjit Chopra, Project Manager/ Coordinator (Santa Clara Valley Transportation Authority (VTA))</p> <p>Bruce Abanathie, Grants Coordinator (VTA)</p> <p>Marc DeLong, Transportation Engineer (VTA)</p> <p>Christina Jaworski, Sr Environmental Planner (VTA)</p> <p>Adam Burger, Sr Transportation Planner (VTA)</p> <p>James Wilhelm, Manager, Bus Engineering (VTA)</p>		

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
2	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm	Lehigh University	
3	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm		
4	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm		
5	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm		
6	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm		
7	Manjit Chopra		

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	Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm		
8	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm	Lehigh University	
9	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm	Lehigh University Proterra Operating Company, Inc. Scale Microgrid Solutions	
10	Manjit Chopra Bruce Abanathie Marc DeLong Christina Jaworski Adam Burger James Wilhelm	Lehigh University Proterra Operating Company, Inc.	

GLOSSARY

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

Term/ Acronym	Definition
BESS	Battery Energy Storage System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission

Term/ Acronym	Definition
CTP	Clean Transportation Program
CPR	Critical Project Review
DAC	Disadvantaged Communities
EV	Electric Vehicle
FTD	Fuels and Transportation Division
GHG	Greenhouse Gas
MOU	Memorandum of Understanding
MW	Megawatts
PG&E	Pacific Gas & Electric
PV	Photovoltaic
SGIP	Self-Generation Incentive Program
SMS	Scale Microgrid Solutions
VTA	Santa Clara Valley Transportation Authority
ZEB	Zero-Emission Bus
ZEV	Zero-Emission Vehicle

Background

The Budget Act of 2021 (AB 128, Ting, Chapter 21, Statutes of 2021, as amended by Senate Bill (SB) 129, Skinner, Chapter 69, Statutes of 2021 and SB 170, Skinner, Chapter 240, Budget Act of 2021) appropriated \$785,000,000 from the General Fund to support infrastructure deployments and manufacturing projects for zero-emission light-duty and medium- and heavy-duty vehicles.

On July 22, 2020, the CEC released Grant Funding Opportunity, entitled “Zero-Emission Transit Fleet Infrastructure Deployment.” This competitive grant solicitation was to fund the electric vehicle (EV) charging or hydrogen-refueling infrastructure needed to support the large-scale conversion of transit bus fleets to zero-emission vehicles (ZEVs) at multiple transit agencies serving diverse geographic regions and populations. In response to GFO-20-602, the Recipient submitted application #10 which was proposed for funding in the CEC’s Notice of Proposed Awards on August 18, 2021. GFO-20-602 and the Recipient’s application are hereby incorporated by reference into this Agreement in their entirety.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient's Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient's Application and the terms of CEC's Award, CEC's Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient's Application, the terms of this Agreement shall control.

Problem Statement:

The integration of distributed energy microgrids and optimally sized electric vehicle charging equipment and infrastructure represents a compelling technological solution for charging electric transit bus fleets. Microgrids can deliver cost-effective, reliable, and sustainable electricity in the amounts required to charge large bus fleets. However, deployments of microgrids designed for electric fleet charging have been minimal to date. The primary barriers to widespread adoption of this solution have been:

- A shortage of sufficiently large electric fleets to demonstrate the technology in the field in a cost-effective manner.
- Availability of charging equipment and infrastructure optimally designed to charge large fleets.
- Fleet replacement and energy optimization tools that determine the lowest overall capital and energy use cost.
- Long-term fleet deployment plans that focus on procuring and operating electric vehicles, but do not address the infrastructure requirements of those future electric fleets.
- Underestimation of the complexities of delivering and managing the large amounts of electricity needed to reliably charge fleets.
- A lack of cohesive partnerships that comprehensively address the multifaceted challenges associated with fleet infrastructure (e.g., hardware, software, commercial, financial, regulatory).
- The significant resource requirements required to procure, install, and operate large-scale energy systems.

These barriers have not yet been addressed by the marketplace because of the nascency of transit fleet electrification. This project will demonstrate the viability and replicability of utilizing distributed energy microgrids to charge electric fleets and serve as a model infrastructure solution for transit agencies throughout California as they move from electric vehicle pilots into full-scale fleet deployments.

Goals of the Agreement:

The goals of this Agreement are to:

- Support the full transition to zero-emission buses by 2040 by testing the viability and replicability of distributed energy microgrids to charge electric fleets. The microgrid will be used to support the placement into service of 34 new battery electric buses.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Design, procure, construct, and test infrastructure technology that would give the Recipient cost leverage in deploying ZEB's, including:
 - Deploying 4 MW of energy storage.
 - Deploying an incremental 1.5 MW of solar.
 - Deploying new Microgrid controller and supporting switch equipment.
- Install charging equipment needed to support at least 34 battery electric buses, and collect 12 months of data on no less than 34 battery electric buses, to support the Recipient's transition to zero-emission buses by 2040.
- Meet Recipient's stated GHG savings and producing a cleaner energy source.
- Advance the technology toward zero emission vehicle deployments.
- Support air quality improvements by prioritizing the replacement of diesel buses with ZEB's in those areas identified as disadvantaged communities (DAC), low-income communities within half of a mile of a DAC, and low-income areas. Incorporating more ZEB's into the fleet will reduce the use of more polluting engine buses throughout Santa Clara County.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

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

The Recipient shall:

- Attend a "Kick-Off" meeting with the CAM, the Commission Agreement Officer (CAO), and a representative of the California Energy Commission (CEC) Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.

- Provide a written statement of project activities that have occurred after the notice of proposed awards but prior to the execution of the agreement using match funds. If none, provide a statement that no work has been completed using match funds prior to the execution of the agreement. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.
- Discuss the following administrative and technical aspects of this Agreement:
 - Agreement Terms and Conditions
 - Critical Project Review (Task 1.2)
 - Match fund documentation (Task 1.7) No reimbursable work may be done until this documentation is in place.
 - Permit documentation (Task 1.8)
 - Subawards needed to carry out project (Task 1.9)
 - The CAM's expectations for accomplishing tasks described in the Scope of Work
 - An updated Schedule of Products and Due Dates
 - Monthly Calls (Task 1.4)
 - Quarterly Progress Reports (Task 1.5)
 - Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
 - Final Report (Task 1.6)

Recipient Products:

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

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

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

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

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

The CAM shall:

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

The Recipient shall:

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

CAM Products:

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

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

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

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

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

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

- What to do with any equipment purchased with CEC funds (Options)
- CEC request for specific “generated” data (not already provided in Agreement products)
- Need to document Recipient’s disclosure of “subject inventions” developed under the Agreement
- “Surviving” Agreement provisions
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

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

Task 1.4 Monthly Calls

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

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being

proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted, or the CAM determines that a monthly call is unnecessary.

The CAM shall:

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

The Recipient shall:

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

Product:

- Email to CAM concurring with call summary notes.

Task 1.5 Quarterly Progress Reports

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

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

The Recipient shall:

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

Product:

- Quarterly Progress Reports

Task 1.6 Final Report

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

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and

technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.

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

The Recipient shall:

- Prepare an Outline of the Final Report.
- Prepare a Final Report following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
- Submit one bound copy of the Final Report with the final invoice.

Products:

- Outline of the Final Report
- Draft Final Report
- Final Report

Task 1.7 Identify and Obtain Matching Funds

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

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

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.

- Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

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

Task 1.8 Identify and Obtain Required Permits

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

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

The Recipient shall:

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

Products:

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

Task 1.9 Obtain and Execute Subawards

The goal of this task is to ensure quality products and to procure subrecipients required to carry out the tasks under this Agreement consistent with the Agreement Terms and

Conditions and the Recipient's own procurement policies and procedures.

The Recipient shall:

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

Products:

- Letter describing the subawards needed, or stating that no subawards are required
- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 ENGINEERING AND DESIGN

The goal of this task is to complete the engineering and design of the charging and microgrid system to be deployed at the project site selected by Recipient and approved by the CAM.

The Recipient shall:

- Complete a *Detailed Engineering Study* and provide a copy to the CAM.
- Perform *Site Surveys* and provide copies to the CAM.
- Produce *30 percent Design Drawings* and provide copies to the CAM.
- Produce *100 percent Design Drawings* and provide copies to the CAM.
- Procure an *Environmental and/or Structural Study* of the site and provide a copy to the CAM.
- Develop optimization models and simulations of the Recipient transit bus fleet.
- Conduct outreach in disadvantaged communities, including but not limited to the following:
 - Develop content to be shared with the local community about the project, the merits of electrification and the implications of the charging infrastructure via Recipient's blog and social media feeds and during future town hall meetings that the Recipient hosts. Content may include, but is not limited to:
 - Short articles with images for blogs
 - Infographics for social media feeds
 - Presentation slides or short videos for town hallsCompile a copy for the CAM of all content for the local community into a readily accessible electronic file (e.g., ZIP file) entitled *Electronic files of content shared with the local community*.
 - Work with Local Emergency and Fire departments to evaluate Recipient's emergency management plans regarding electrification and the charging infrastructure and develop a *Summary of Emergency Management Plans* that summarizes both the Recipient's emergency management plans and their evaluation by local emergency and fire departments.
- Submit an *AB 841 Certification* that certifies the project has complied with all AB 841 (2020) requirements specified in Exhibit C or describes why the AB 841 requirements do not apply to the project. The certification shall be signed by Recipient's authorized representative.

- Submit *EVITP Certification* Numbers of each Electric Vehicle Infrastructure Training Program certified electrician that installed electric vehicle charging infrastructure or equipment. EVITP Certification Numbers are not required to be submitted if AB 841 requirements do not apply to the project.

Products:

- Detailed Engineering Study
- Site Surveys
- 30 percent Design Drawings
- 100 percent Design Drawings
- Electronic files of content shared with the local community
- Environmental/Structural Study
- Summary of Emergency Management Plans
- EVITP Certification and AB 841 Certification

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

TASK 3 SOLAR PV PROCUREMENT

The goal of this task is to procure equipment and any additional contracts with major Subcontractors to supply the equipment necessary for installation.

The Recipient shall:

- Obtain bids for the Solar PV System.
- Identify the vendors that provide the best fit proposal for this project.
- Procure and install Solar PV components.
- Prepare *Photographs of the Installed Solar PV System*

Products:

- Photographs of the Installed Solar PV System

TASK 4 EQUIPMENT PROCUREMENT

The goal of this task is to procure equipment and any additional contracts with major Subcontractors to supply the equipment necessary for installation.

The Recipient shall:

- Procure the battery energy storage system (BESS).
- Procure the Electric Switchgear and miscellaneous Electrical Infrastructure.

- Procure the Chargers and Charging Infrastructure.
- Procure Controls and Enclosure.
- Procure Construction Materials.
- Procure Ancillary Components.
- Provide a *Letter of Equipment Procurement Confirmation*, which details the equipment that was procured for Task 4 and includes photographs of the equipment.

Products:

- Letter of Equipment Procurement Confirmation

TASK 5 CONSTRUCTION (PRE-DELIVERY)

The goal of this task is to complete pre-construction paperwork and site preparation.

The Recipient shall:

- Prepare the site for construction.
- Perform all required trenching and excavation.
- Install all required conduits.
- Install all required concrete pads.
- Provide a *Letter of Pre-Construction Completion*, which details the construction performed for Task 5 and includes photographs of installed conduits and concrete pads.

Products:

- Letter of Pre-Construction Completion

TASK 6 CONSTRUCTION (POST-DELIVERY)

The goal of this task is to complete the installation of all equipment on the project site and tie into utility service.

The Recipient shall:

- Receive and install switchgear and transformers.
- Receive and install BESS System.
- Tie-in the site to the incoming electrical utility service.
- Perform the final inspection.
- Complete a *Final Inspection Report*, including photographs of installed equipment, and provide a copy to the CAM.

Products:

- Final Inspection Report

TASK 7 STARTUP AND COMMISSIONING

The goal of this task is to complete a thorough startup process and fully commission the battery energy storage system on site.

The Recipient shall:

- Provide *Build out plans* for testing of all major components.
- Perform BESS System Testing.
- Perform Control Panel Testing.
- Perform Communications Testing.
- Perform Charging Infrastructure Testing.
- Complete a *System Commissioning Report* that summarizes the BESS System Testing, Control Panel Testing, Communications Testing, and Charging Infrastructure Testing and details the results of the testing.
- Provide Training to relevant on-site workers.
- Provide a copy of *Training Manuals/Documentation* to the CAM, which must include support manuals/documentation for all major equipment.

Products:

- Build out plans for testing major components.
- System Commissioning Report
- Training Manuals/Documentation

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

TASK 8 CLOSEOUT

The goal of this task is to perform final checks of the installation of the microgrid system.

The Recipient shall:

- Collect and work through the *Closeout Punch List* and provide a copy to the CAM.
- Provide the *Certification of Completion* to the CAM.
- Share information about *Best Practices and Lessons Learned* with other transit operators and provide a copy in PowerPoint or Word format to the CAM.

Products:

- Completed Punch List
- Certificate of Completion
- Best Practices and Lessons Learned

TASK 9 DATA COLLECTION AND ANALYSIS

The goal of this task is to collect operational data from the project, to analyze that data for economic and environmental impacts, and to include the data and analysis in the Final Report.

The Recipient shall:

- Collect and provide the following data:
 - Number, type, date and location of chargers installed.
 - Nameplate capacity of the installed equipment, in kW for chargers.
 - Number and type of outlets per charger.
 - Location type, such as street, parking lot, hotel, restaurant or multi-unit housing.
 - Total cost per charger, the subsidy from the CEC per charger, federal subsidy per charger, utility subsidy per charger, and privately funded share per charger.
- Collect 12 months of throughput for the 34 battery-electric buses, usage, and operations data from the project including, but not limited to:
 - Number of charging sessions
 - Average charger downtime
 - Peak power delivered (kW)
 - Duration of active charging, hourly
 - Duration of charging session, hourly (e.g., vehicle parked but not actively charging)
 - Average session duration
 - Energy delivered (kWh)
 - Average kWh
 - Types of vehicles using the charging equipment
 - Applicable price for charging, including but not limited to: electric utility tariff, EVSP service contract, or public charger price.
 - Payment method for public charging

- Energy delivered back to grid or facility if a bidirectional charging use case (kWh)
- Maximum capacity of the new system
- Normal operating hours, up time, downtime, and explanations of variations
- Gallons of gasoline and/or diesel fuel displaced (with associated mileage information)
- Expected air emissions reduction, for example:
 - Non-methane hydrocarbons
 - Oxides of nitrogen
 - Particulate Matter
 - Formaldehyde
- Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions
- Identify any current and planned use of renewable energy at the facility.
- Identify the source of the alternative fuel.
- Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
- Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Provide a quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions.
- Compare any project performance and expectations provided in the proposal to CEC with actual project performance and accomplishments.

Products:

- Data Collection Information and Analysis will be included in the Final Report

TASK 10 PROJECT FACT SHEET

The goal of this task is to develop an initial and final project fact sheet that describes the CEC-funded project and the benefits resulting from the project for the public and key decision makers.

The Recipient shall:

- Prepare an Initial Project Fact Sheet at start of the project that describes the project and the expected benefits. Use the format provided by the CAM.
- Prepare a Final Project Fact Sheet at the project's conclusion that describes the project, the actual benefits resulting from the project, and lessons learned from implementing the project. Use the format provided by the CAM.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

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

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: SANTA CLARA VALLEY TRANSPORTATION AUTHORITY

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

RESOLVED, that the CEC approves Agreement ZVI-21-012 with the Santa Clara Valley Transportation Authority for a \$4,676,000 grant to demonstrate the viability and replicability of utilizing distributed energy microgrids to charge electric transit bus fleets; and

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

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the CEC held on January 26, 2022.

AYE:

NAY:

ABSENT:

ABSTAIN:

Liza Lopez
Secretariat