



STATE OF CALIFORNIA

# GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

## A) New Agreement # ZVI-21-004 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
600 Fuels and Transportation Division	Kyle Corrigan	6	916-776-7195

C) Recipient's Legal Name	Federal ID #
Andromeda Power, LLC	47-1468964

D) Title of Project
ELEVATE – ELectric Vehicle AdapTEr

## E) Term and Amount

Start Date	End Date	Amount
11 / 15 / 2021	06 / 30 / 2025	\$ 949,183

## F) Business Meeting Information

- ARFVTP agreements \$75K and under delegated to Executive Director  
 Proposed Business Meeting Date 11 / 10 / 2021  Consent  Discussion  
 Business Meeting Presenter Kyle Corrigan Time Needed: 5 minutes  
 Please select one list serve. Altfuels (AB118- ARFVTP)

## Agenda Item Subject and Description:

ANDROMEDA POWER, LLC. Proposed resolution approving Agreement ZVI-21-004 with Andromeda Power, LLC for a \$949,183 grant to design, manufacture, deploy, test, and collect data on 30 adapters capable of converting a non-networked electric vehicle charger to a networked charger, and develop plans to manufacture and deploy an additional commercial 1,000 adapters, and adopting staff's determination that this action is exempt from CEQA. (Clean Transportation Program funding) Contact: Kyle Corrigan. (Staff Presentation: 5 minutes)

## G) California Environmental Quality Act (CEQA) Compliance

- 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 .
- If Agreement is considered a "Project" under CEQA:
  - Agreement **IS** exempt.
    - Statutory Exemption. List PRC and/or CCR section number:
    - Categorical Exemption. List CCR section number: Cal. Code Regs, tit. 14, §15306
    - Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section: Cal. Code Regs, tit. 14, §15306, Information Collection, provides that projects that consist of basic data collection, research and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource are categorically exempt from the provisions of CEQA. This project



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consists of designing, manufacturing, deploying, and testing 30 adapters capable of converting a non-networked electric vehicle charger to a networked charger, and developing plans to manufacture and deploy an additional commercial 1,000 adapters. This project involves data collection, technology assessment, administrative coordination efforts, and similar activities. Therefore, the proposed project will have no significant effect on the environment and is categorically exempt under section 15306.

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
PalPilot International Corporation	\$ 24,000.00
TBD entity and location within MET Labs	\$ 12,500.00
TBD entity and location within UL Labs	\$ 63,000.00
Verdek, LLC (Match funds)	\$ 168,000
WattTime Corporation (Match funds)	\$ 140,000

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

Legal Company Name:

**J) Budget Information**

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
ARFVTP	21-22	601.129ZEV	\$949,183
Funding Source			\$

R&D Program Area: N/A TOTAL: \$

Explanation for "Other" selection

Reimbursement Contract #:

Federal Agreement #:

**K) Recipient's Contact Information**

**1. Recipient's Administrator/Officer**

Name: Luigi Giubbolini



STATE OF CALIFORNIA

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CEC-270 (Revised 12/2019)

Address: 2500 Mira Mar Ave  
City, State, Zip: Long Beach, CA 90815  
Phone: 949-307-7519  
E-Mail: luigi@andromedapower.com

CALIFORNIA ENERGY COMMISSION

Name: Luigi Giubbolini  
Address: 2500 Mira Mar Ave  
City, State, Zip: Long Beach, CA 90815  
Phone: 949-307-7519  
E-Mail: luigi@andromedapower.com

## 2. Recipient's Project Manager

### L) Selection Process Used

- Competitive Solicitation      Solicitation #: GFO-20-605
- 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"/> | Attached |
| 2. Exhibit B, Budget Detail                         | <input checked="" type="checkbox"/> | Attached |
| 3. CEC 105, Questionnaire for Identifying Conflicts | <input checked="" type="checkbox"/> | Attached |
| 4. Recipient Resolution                             | <input type="checkbox"/>            | N/A      |
| 5. CEQA Documentation                               | <input type="checkbox"/>            | N/A      |

\_\_\_\_\_  
**Agreement Manager**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Office Manager**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Deputy Director**

\_\_\_\_\_  
**Date**

**Exhibit A  
SCOPE OF WORK**

**TECHNICAL TASK LIST**

<b>Task #</b>	<b>CPR</b>	<b>Task Name</b>
1		ADMINISTRATION
2		MINIATURIZATION
3	X	MOLD TOOLING
4		PRODUCTION PROCESS
5		DEPLOYMENT AND DEMONSTRATION
6		PROJECT FACT SHEET
7		DATA COLLECTION AND ANALYSIS

**KEY NAME LIST**

<b>Task #</b>	<b>Key Personnel</b>	<b>Key Subcontractor(s)</b>	<b>Key Partner(s)</b>
2, 6	Antonio Pizzardi - Andromeda Power	N/A	N/A
1, 2, 5	Luigi Giubbolini - Andromeda Power	N/A	N/A
5, 6	Guy Mannino - Verdek	N/A	N/A

**GLOSSARY**

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

<b>Term/ Acronym</b>	<b>Definition</b>
AER	Automated Emissions Reduction
AP	Andromeda Power, LLC
API	Application Programming Interface
Clean Transportation Program	Formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program
CAM	Commission Agreement Manager
CPR	Critical Project Review
ELEVATE	ELEctric Vehicle AdapTEr
EV	Electric Vehicle
FTD	Fuels and Transportation Division
IoT	Internet of Things
ORCA	On Road Charger Andromeda

<b>Term/ Acronym</b>	<b>Definition</b>
ORCA-NET	On Road Charger Andromeda – NETwork
Recipient	Andromeda Power, LLC
VGI	Vehicle-Grid Integration
VEN	Virtual End Node
VTN	Virtual Top Node

### **Background**

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change, clean air, and alternative energy policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the Clean Transportation Program through January 1, 2024. The Clean Transportation Program has an annual budget of approximately \$100 million and provides financial support for projects that:

- Reduce California’s use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

On August 7, 2020, the CEC released a Grant Solicitation and Application Package entitled “BESTFIT Innovative Charging Solutions” under the Clean Transportation Program. This competitive grant solicitation was an offer to fund projects that demonstrate transformative technology solutions and to accelerate the successful commercial deployment of electric vehicle (EV) charging for both light-duty (LD) and medium- and heavy-duty (MD/HD) applications. In response to GFO-20-605, the Recipient submitted application #2 which was proposed for funding in the CEC’s Notice of Proposed Awards on September 8, 2021. GFO-20-605 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 substantial additional electrical load (40 GW assuming 10kW load per charger) of the charging infrastructure needed to serve 5M EVs by 2030 could be disruptive to the grid. One way to mitigate these potential disruptions is with "Demand Response" (DR) capability.

EVs are charged at power demands comparable to that of major household appliances. Flexible demand appliance standards will promote DR technologies that are able to schedule, shift, and curtail appliance operations to facilitate grid reliability, benefit consumers, and reduce greenhouse gas emissions associated with electricity generation.

Currently, there are two basic options. The EV charger can be connected to a local or central backend Energy Management System (EMS) - a networked or "smart" charger. Or the charger could be not networked, meaning that it cannot participate in DR Programs. Smart chargers are capable of DR and are expensive, while those without this capability can be purchased in stores or online at lower cost. The price of a non-networked charger may be one fifth that of a smart charger because they are manufactured in larger quantities for the wider global market.

This project will provide the ELEVATE adapter capable of converting a non-networked charger to a networked charger. The proposed ELEVATE project will miniaturize the ELEVATE adapter and engineer the product for widespread deployment in California. The ELEVATE adapter is an internet-connected device that is plugged between the J1772 connector of any EV charger and the EV inlet. The adapter communicates with a local or remote energy management system to implement demand response and, at the same time, can measure and control the energy and power delivered to the EV. Power utilities will be capable of communicating with ELEVATE devices. With this capability (and depending on user settings) EVs can be charged at times when energy is cleanest. An energy management system (local or remote) will be able to communicate with ELEVATE devices, schedule charging sessions, and control the charging power of the connected EVs.

**Goals of the Agreement:**

The goal of this Agreement is to demonstrate 30 ELEVATE units and develop the ability to manufacture 1,000 ELEVATE units.

**Objectives of the Agreement:**

The objectives of this Agreement are: (1) miniaturize and integrate the ELEVATE prototype into a product that can be performance tested; (2) produce 30 units for field testing in order to verify performance under operating conditions; (3) create the capability to manufacture 1,000 ELEVATE units; and (4) collect data on the performance of the product for at least 12 months.

**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 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.

- Discuss the following administrative and technical aspects of this Agreement:
  - Agreement Terms and Conditions
  - Critical Project Review (Task 1.2)
  - Match fund documentation (Task 1.6) No reimbursable work may be done until this documentation is in place.
  - Permit documentation (Task 1.7)
  - Subcontracts needed to carry out project (Task 1.8)
  - The CAM's expectations for accomplishing tasks described in the Scope of Work
  - An updated Schedule of Products and Due Dates
  - Quarterly Progress Reports (Task 1.4)
  - Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
  - Final Report (Task 1.5)

**Recipient Products:**

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits

**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 Energy Commission 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 Commission Agreement Officer, the Fuels and Transportation Division (FTD) program lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

**The CAM shall:**

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.

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

This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the Commission Agreement Manager. 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 Commission Agreement Manager.

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 Commission Agreement Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Agreement Manager and the Grants Officer about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)
  - Energy Commission's request for specific "generated" data (not already provided in Agreement products)
  - Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
  - "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 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. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.

- In the first Quarterly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

**Product:**

- Quarterly Progress Reports

**Task 1.5 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 Energy Commission 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, if requested by the CAM.
- 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, if requested
- Draft Final Report
- Final Report

**Task 1.6 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 Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. 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 Commission Agreement Manager at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the Energy Commission 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 Energy Commission 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 Commission Agreement Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Agreement Manager 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 1.7 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 Energy Commission budget for this task will be zero dollars, the Recipient shall 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 Commission Agreement Manager 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 Commission Agreement Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Agreement Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Agreement Manager 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 1.8 Obtain and Execute Subcontracts**

The goal of this task is to ensure quality products and to procure subcontractors 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. It will also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

#### **The Recipient shall:**

- Manage and coordinate subcontractor activities.
- Submit a draft of each subcontract required to conduct the work under this Agreement to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.
- If Recipient decides to add new subcontractors, then the Recipient shall notify the CAM.

#### **Products:**

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

## **TECHNICAL TASKS**

### **TASK 2 MINIATURIZATION**

The goal of this task is to redesign the ELEVATE prototype electronics. The redesigned electronics will be integrated into two product enclosures and tested.

#### **The Recipient shall:**

- Design the ELEVATE electronics to fit into two product enclosures (product enclosures manufactured under Task 3).
  - Determine appropriate product enclosures.
  - Reduce size using Internet of Things (IoT) components.
  - Integrate the ELEVATE electronics into the manufactured product enclosures.

- Translate and compile the ELEVATE prototype software on the electronics processors.
- Test and validate that the software is operating correctly on the electronics processors.
- Add code to On Road Charger Andromeda – Network (ORCA-NET) to integrate and test the Automated Emissions Reduction (AER) Application Programming Interface (API).
- Test and collect data in lab.
- Prepare *ELEVATE Miniaturization Report* which includes, but is not limited to:
  - General schematic, assembly diagrams, and materials list
  - Production process flow charts
  - Assembly description
  - Software flow chart
  - Test procedures
  - Engineering changes required
  - Data collection methodology and results
- Submit the *ELEVATE Miniaturization Report* to the CAM.

**Products:**

- ELEVATE Miniaturization Report

**TASK 3 MOLD TOOLING**

The goal of this task is to design and fabricate the plastic molding tooling for production of the ELEVATE housings.

**The Recipient shall:**

- Design the two ELEVATE enclosures.
- Manufacture two pre-production units of enclosures.
  - Evaluate the integration of electronics into the two pre-production units (Task 2).
  - Conduct any changes necessary to design of two units.
- Design and manufacture the plastic molding tooling for mass production.
- Prepare *ELEVATE Mold Tooling Report* which includes, but is not limited to:
  - Information and pictures on 3D rendering process and pre-production, and summary of materials
  - Schematics for mold tooling and pictures
  - Production process flow charts
  - Assembly instructions and documentation of the assembly process
  - Test procedures and any fixtures/equipment used

- Changes made to the engineering
- Test Results
- Submit the *ELEVATE Mold Tooling Report* to the CAM.

**Products:**

- ELEVATE Mold Tooling Report

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

**TASK 4 PRODUCTION PROCESS**

The goal of this task is to conduct the production and assembly of the demonstration products, obtain UL certification, and obtain any qualifications of the product required by power utilities

**The Recipient shall:**

- Manufacture 30 enclosures for ELEVATE electronics and assemble.
  - Assemble electronics within enclosures.
  - Conduct tests on assembled units to ensure performance.
- Submit all information required for UL certification.
- Determine utility qualifications required and submit information to appropriate power utilities.
- Prepare *ELEVATE Production Process Report* which includes, but is not limited to:
  - List of materials
  - Production process flow charts
  - Assembly documentation and instructions
  - Test procedures
  - Any Engineering changes required
  - Data collection results
- Submit the *ELEVATE Production Process Report* to the CAM.

**Products:**

- ELEVATE Production Process Report

**TASK 5 DEPLOYMENT AND DEMONSTRATION**

The goal of this task is to prepare the Commercialization Plan. This task will define the process to introduce the product into the market.

**The Recipient shall:**

- Identify the sites for field testing and submit addresses to the CAM for review and approval prior to the deployment of the 30 ELEVATE units.

- Deploy and demonstrate 30 ELEVATE units in charging connectors
  - Submit descriptive location information to CAM on chargers receiving ELEVATE units, including but not limited to: type of facilities, description of parking area, type of business, and type of Electric Vehicle Supply Equipment.
    - Information on locations must not include any Personal Identifiable Information.
    - Any information on the deployment of the 30 charger connectors receiving ELEVATE units must be able to be disseminated to the public.
  - Provide customer and power utility support as required. Ensure operability of units.
  - Evaluate performance based on developed operational specifications.
- Based on demonstration, create product presentation material.
- Analyze positioning and the target market.
- Create marketing strategies and tools.
  - Branding
  - Proposed pricing, reimbursement, and warranties
  - Training, sales, and communication tools.
  - Develop plan to manufacture and deploy 1,000 commercial ELEVATE units in California's non-networked charging connectors.
- Prepare *ELEVATE Deployment and Commercialization Plan Report* that includes, but is not limited to the following:
  - Process of choosing deployment locations for demonstration chargers.
  - Installation process, including pictures.
  - Examples of information transmitted to cloud and utility demand response.
    - Presentation material including datasheets and flyers with product description and indications for use.
    - Positioning and target market for the product line.
    - Branding strategy, instructions for use, and proposed labeling and packaging.
    - Proposed pricing and reimbursement policy, including warranties.
    - Sales tools and promotional materials used for the 1000 units, including website case studies.
    - Training plan including installer training plan, customer service, contracts, marketing communications, sales training, on-line modules.
- Submit the *ELEVATE Commercialization Plan Report* to the CAM.
- Submit an AB 841 Certification that certifies the project has complied with all AB 841 (Ting, Chapter 372, Statutes of 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. Although AB 841 becomes effective January 1, 2022, as a policy matter the CEC is applying the EVITP

certification requirements to project work funded under this Agreement, regardless of whether it might be performed prior to January 1, 2022, unless an exception applies.

- Submit Electric Vehicle Infrastructure Training Program (EVITP) Certification Numbers of each EVITP-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:**

- List of sites for the field testing of the ELEVATE units
- List of descriptive location information
- ELEVATE Commercialization Plan Report
- AB 841 Certification signed by Recipient's authorized representative
- EVITP Certification Numbers of each EVITP certified electrician

**TASK 6 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) from the project.

**Products:**

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

**TASK 7 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 regular progress reports and the Final Report.

**The Recipient shall:**

- Develop data collection test plan for charging equipment deployed under Task 5.
- Troubleshoot any issues identified.
- Collect and provide the following data:

- Number, type, date and location of chargers or hydrogen refueling stations installed.
- Nameplate capacity of the installed equipment, in kW for chargers and kg/day for hydrogen.
- Number and type of outlets per charger.
- Location type, such as street, parking lot, hotel, restaurant or multi-unit housing.
- Total cost per charger or refueling station, the subsidy from the CEC per charger or refueling station, federal subsidy per charger or refueling station, utility subsidy per charger or refueling station, and privately funded share per charger or refueling station.
- Collect a minimum of 12 months of data on charging events for the deployed infrastructure including, but not limited to:
  - Number of charging or refueling sessions
  - Average charger or refueling station downtime
  - Charge and session duration
  - Average session duration
  - Energy delivered (kWh)
  - Average kWh or kg dispensed
  - Peak power delivered (kW)
  - Applicable price for charging, including but not limited to: electric utility tariff, EVSP service contract, or public charger price
  - Payment method
  - Types of vehicles using the charging equipment
  - Number of unique vehicles and frequency of “repeat vehicles”
  - Energy delivered back to grid or facility if a bidirectional charging use case (kWh)
- Submit the data described above electronically in a quarterly progress report throughout the duration of the data collection period.
- Develop a plan to provide other relevant data and information throughout the duration of the funding agreement including, but not limited to:
  - Lessons learned
  - Best practices (e.g., permitting and installation processes)
  - Job creation
  - Economic development
  - Increased state revenue
- Submit the data described above electronically in a quarterly progress report throughout the duration of the agreement.
- Identify any planned use of renewable energy in the project.
- Compare any project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments.
- Collect data, information, and analysis described above and include in the Final Report.

**Products:**

- Data collection on charging events will be submitted electronically in a quarterly progress report.
- Data collection on other relevant data and information described above will be submitted electronically in a quarterly progress report.
- Data collection information and analysis will be included in the Final Report.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: ANDROMEDA POWER, 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 ZVI-21-004 with Andromeda Power, LLC for a \$949,183 grant to design, manufacture, deploy, test, and collect data on 30 adapters capable of converting a nonnetworked electric vehicle charger to a networked charger, and develop plans to manufacture and deploy an additional commercial 1,000 adapters; 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 November 15, 2021.

AYE:

NAY:

ABSENT:

ABSTAIN:

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Liza Lopez  
Secretariat