

GRANTS/CONTINGENT AWARD REQUEST



To: Grants and Loans Office

Date: 09 / 24 / 2012

Project Manager: Aida Escala

Phone Number: (916) 654-4726 ext.

Office: EFTO

Division: FTD

MS- 27

Project Title: Ten RWE Level II Fleet Charging Outlets at UC San Diego

Type of Request: (check one)

[X] New Agreement: (include items A-F from below) Agreement Number: ARV-12-013
Program: Alternative and Renewable Fuel and Vehicle Technology Program
Solicitation Name and/or Number: PON 11-602
Legal Name of Recipient: Alternative Energy Systems Consulting, Inc.
Recipient's Full Mailing Address: 5927 Balfour Court, Suite 213, Carlsbad, CA 92008
Recipient's Project Officer: John Clint Phone Number: (858) 560-7182 ext. 107
Agreement Start Date: 12 / 15 / 2012 Agreement End Date: 12 / 30 / 2013

[] Amendment: (Check all that apply) Agreement Number: _____
[] Term Extension - New End Date: ____ / ____ / ____
[] Work Statement Revision (include Item A from below)
[] Budget Revision (include Item B from below)
[] Change of Scope (include Items A - F as applicable from below)
[] Other: (Specify) _____

ITEMS TO ATTACH WITH REQUEST:

- A. Work Statement
B. Budget
C. Recipient Resolution, if applicable. (Resolution may be requested in Special Conditions if not currently available.)
D. Special Conditions, if applicable.
E. CEQA Compliance Form
F. Other Documents as applicable
• Copy of Score Sheets
• Copy of Pre-Award Correspondence
• Copy of All Other Relevant Documents

California Environmental Quality Act (CEQA)

[X] CEC finds, based on recipient's documentation in compliance with CEQA:
[X] Project exempt: 15301 and 15304 NOE filed: 3 / 20 / 2012
[] Environmental Document prepared: _____ NOD filed: ____ / ____ / ____
[] Other: _____
[] CEC has made CEQA finding described in CEC-280, attached

Funding Information:

*Source #1: ARFVTP Amount: \$ 69,446 Statute: _____ FY: 11/12 Budget List #: _____
*Source #2: _____ Amount: \$ _____ Statute: _____ FY: _____ Budget List #: _____
*Source #3: _____ Amount: \$ 0.00 Statute: _____ FY: _____ Budget List #: _____

If federally funded, specify federal agreement number: _____

* Source Examples include ERPA, PIER-E, PIER-NG, FED, GRDA, ARFVT, OTHER.

Business Meeting Approval: (refer to Business Meeting Schedule)

Proposed Business Meeting Date: November / 14 / 2012 [] Consent [X] Discussion
Business Meeting Participant: Aida Escala Time Needed: (5 minutes)

Agenda Notice Statement: (state purpose in layperson terms)

Possible approval of a [X] Grant / [] Contingent Award to...
Alternative Energy Systems Consulting, Inc. for \$69,446 to install five (5) RWE Level 2 eStation Smart Systems, each consisting of two (2) charging outlets for a total of 10 charging outlets, in a UC San Diego fleet application. The project seeks to expand UCSD's electric charging network and reduce its fleet petroleum consumption and GHG emissions.



Award Number: AESC, Inc.

Date: 09 / 24 / 2012

Note: The Energy Commission Project Managers Manual includes detailed instructions on how to complete this section, with examples of grants that are “Projects” and are not “Projects”. When the Project Manager is completing this section, if questions arise as to the appropriate answers to the questions below, please consult with the Energy Commission attorney assigned to review grants or loans for your division.

1. Is grant/loan considered a “Project” under CEQA? Yes (skip to question #2) No (continue with question #1)

Please complete the following: [Public Resources Code (PRC) 21065 and 14 California Code of Regulations (CCR) 15378]:

Explain why the grant/loan is **not** considered a “Project”? The grant/loan will not cause a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because grant/loan involves:

2. If grant/loan is considered a “Project” under CEQA: (choose either **IS** or **IS NOT**)

Grant/loan **IS** exempt:

Statutory Exemption: (List PRC and/or CCR section numbers) _____

Categorical Exemption: (List CCR section number) Section 15301 Class 1 and 15304 Class 4

Common Sense Exemption. (14 CCR 15061(b)(3))

Explain reason why the grant/loan is exempt under the above section:

These sections- 15301 Class 1 Existing Facilities and 15304 Class 4 , Minor Alterations to Land, allow interior or exterior alterations involving such things as interior partitions, plumbing, and electrical conveyances and minor trenching and backfilling where the surface is restored. The project proposes to install Electric Vehicle Supply Equipment (EVSE) at various locations on the UC San Diego Campus. All power would be provided from the existing campus grid. Scope of work includes installation of charging stations, conduit, wiring, electrical connections and mounting equipment. Minor trenching would be required to bring power from local sources to proposed charging stations.

Please attach draft Notice of Exemption (NOE). Consult with the Energy Commission attorney assigned to your division for instructions on how to complete the NOE.

Grant/loan **IS NOT** exempt. The Project Manager needs to consult with the Energy Commission attorney assigned to your division and the Siting Office regarding a possible initial study.

Exhibit A Scope of Work

TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Agreement Management
2	X	Equipment Installation
3		Data Collection and Performance Assessment

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	John Clint	RWE	UC San Diego
2	John Clint	RWE	UC San Diego
3	John Clint	RWE	UC San Diego

GLOSSARY

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

Acronym	Definition
CPR	Critical Project Review
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
ARFVT	Alternative and Renewable Fuel and Vehicle Technology
FTD	Fuels and Transportation Division
GHG	Greenhouse Gas
UL	Underwriters Laboratories, Inc.
EVSE	Electric Vehicle Supply Equipment
UCSD	University of California, San Diego
CNG	Compressed natural gas

Background:

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by AB 109 (Núñez), Chapter 313, Statutes of 2008), authorizes the Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies.

The Energy Commission has an annual program budget of approximately \$100 million and provides financial support for projects that:

- Develop and improve alternative and renewable low-carbon fuels;
- Optimize alternative and renewable fuels for existing and developing engine technologies;
- Produce alternative and renewable low-carbon fuels in California;
- Decrease, on a full fuel cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increase sustainability;
- Expand fuel infrastructure, fueling stations, and equipment;
- Improve light-, medium-, and heavy-duty vehicle technologies;
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets;
- Expand infrastructure connected with existing fleets, public transit, and transportation corridors; and
- Establish workforce training programs, conduct public education and promotion, and create technology centers.

The California Energy Commission issued solicitation PON-11-602 to provide funding opportunities under the ARFVT Program for projects which develop infrastructure necessary to store, distribute, and dispense electricity, E-85, propane, diesel substitutes, and natural gas. To be eligible for funding under PON-11-602, the projects must also be consistent with the Energy Commission's ARFVT Investment Plan updated annually. In response to PON-11-602, the Recipient submitted application number 185, which was proposed for funding in the Energy Commission's Notice of Proposed Awards dated August 16, 2012, and is incorporated by reference to this Agreement in its entirety.

Problem Statement:

Alternative Energy Systems Consulting, Inc. (AESC), a California small business enterprise, will install and demonstrate five (5) RWE Level 2 eStation Smart systems at University of California, San Diego (UCSD) to expand charging infrastructure for UCSD-owned or leased electric vehicles. The charging stations will also serve UCSD students and the public.

UCSD operates more than 800 campus vehicles, including five (5) Nissan Leafs and more than 50 hybrid-electric vehicles. It has converted more than 40% of the campus fleet to near zero-emission vehicles, phased out diesel fuel in place of ultra-low sulfur B-20 biodiesel, and converted a significant number of buses, street sweepers, cars, and trucks to CNG.

At present, there is inadequate statewide operational experience at the fleet level with innovative electrical charging systems. Aside from the need to expand electrical charging infrastructure in UCSD, there is also a need to deepen California's knowledge base to maximize the benefits from these systems.

Goals of the Agreement

The goal of this project is the installation, commissioning, data collection, and performance assessment of five (5) UL listed RWE Level 2 eStation Smart systems in a UC San Diego fleet application. Each system would have two (2) charging outlets. The project will demonstrate the feasibility of electric charging at the fleet level in order to achieve substantial reductions in GHG emissions through electrification of the transportation sector.

Objectives of the Agreement:

The objectives of this project are to:

1. Expand the network of electric charging infrastructure at the UC San Diego campus by installing and operating at six (6) specified campus parking structures five (5) RWE Level 2 eStation Smart systems each consisting of two (2) charging outlets for a total of 10 charging outlets.
2. Provide improved Level 2 charging access for UCSD electric vehicles in order to gain added operational experience at the fleet level with innovative EV charging systems. A charging network is vital to the acceptance of electric vehicles by the public.
3. Reduce UCSD's fleet petroleum consumption and GHG emissions, and measure results. Fueling vehicles with electricity rather than petroleum offers results in decreased criteria pollutants, reduced petroleum consumption, less GHG emissions, and increased energy security.

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 Recipient shall:

- Attend a "Kick-Off" meeting with the Commission Agreement Manager, the Commission Agreement Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Agreement Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior

to the kick-off meeting, the Commission Agreement Manager will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include a discussion of the following:

- The terms and conditions of the Agreement
- Critical Project Review (Task 1.2)
- Match fund documentation (Task 1.6). No 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 technical portion of the meeting shall include a discussion of the following:

- The Commission Agreement Manager's expectations for accomplishing tasks described in the Scope of Work
- An updated Schedule of Products
- Progress Reports (Task 1.4)
- Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Final Report (Task 1.5)

The Commission Agreement Manager shall designate the date and location of this meeting.

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

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.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Agreement Manager and as shown in the Technical Task List above. However, the Commission Agreement Manager may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the Commission Agreement Manager and the Recipient, and may include the Commission Agreement Officer, the Fuels and Transportation Division (FTD) team lead, other Energy Commission staff and Management as well as other individuals selected by the Commission Agreement Manager to provide support to the Energy Commission.

The Commission Agreement Manager 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. One of the outcomes of this meeting will be 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 (see the Terms and Conditions, Section 8). If the Commission Agreement Manager concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation activities 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 every CPR. The report shall discuss 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 Commission Agreement Manager 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.

Commission Agreement Manager 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 Agreement 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 Commission Agreement 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)
- "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 Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the research 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 Monthly 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 the Terms and Conditions of this Agreement.

Product:

- Monthly Progress Reports

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving its 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.
- Prepare a Final Report following the approved outline and the latest version of the Final Report guidelines which will be provided by the Commission Agreement Manager. The Commission Agreement Manager 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:

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

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)

Task 1.8 Obtain and Execute Subcontracts

The goal of this task is for Recipients to identify any subcontracts required to carry out the tasks under this Agreement and to procure them consistent with the terms and conditions of this Agreement 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:

- Prepare a letter documenting the subcontracts 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 subcontracts required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that subcontracts will be required during the course of the Agreement, provide in the letter:

- A list of the subcontracts that describes the anticipated maximum budget and general scope of work for each,
- A description of the procurement process to be used, and
- The schedule the Recipient will follow in applying for and obtaining these subcontracts
- Submit a draft of the subcontract that will include a budget with the information required in the budget details to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.

Products:

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

TECHNICAL TASKS

Task 2- Equipment Installation

The goal of this task is to install and make operational the Level 2 electric charging stations at the following six (6) UCSD locations: (1) Gilman Parking Structure; (2) Hopkins Parking Structure; (3) Pangea Parking Structure; (4) East Campus Parking Structure; (5) Scripps Institution of Oceanography Parking Lot; and (6) East Campus Utility Plant.

The Recipient shall:

- Install all necessary electrical conduit, wiring, service panels, and support hardware.
- Install five (5) RWE Level 2 eStation Smart Systems in UC San Diego, each consisting of two (2) charging outlets for a total of 10 charging outlets.
- Photograph installation of equipment and submit to Commission Agreement Manager

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

Products:

- Photographs showing installation completion.

Task 3- Data Collection and Performance Assessment

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

The Recipient shall:

3.1 Operate and maintain equipment and provide relevant charge and microgrid data to UCSD and the California Energy Commission.

3.2 Develop data collection test plan.

3.3 Troubleshoot any issues identified.

3.4 Collect six (6) months of throughput, usage, operations data from the project including, but not limited to:

- Number of vehicles fueled per day per station.
- Number of vehicles fueled per year per station.
- Average charging time per vehicle.
- Maximum capacity of the new fueling system.
- Gallons of gasoline and/or diesel fuel displaced by using electricity (with associated mileage information).
- Expected air emissions reduction, for example:
 - Non-methane hydrocarbons
 - Oxides of nitrogen
 - Non-methane hydrocarbons plus oxides of nitrogen
 - Particulate Matter
 - Formaldehyde
- Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions.

3.5 Collect metrics from the project including, but not limited to:

- Specific jobs and economic development metrics resulting from this project.
- Current and planned use of renewable energy at the facility.
- Source of the alternative fuel.
- Energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code of Regulations.
- Potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions.
- Projected performance provided in the Energy Commission grant application vs. actual.

Products:

- Data collection and analysis report.
- Said report shall be included in the Final Report (see Task 1.5).