

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 02/13)

CALIFORNIA ENERGY COMMISSION

New Agreement ARV-13-010 (To be completed by CGL Office)

Division	Agreement Manager:	MS-	Phone
600 Fuels and Transportation Division	Brian Fauble/Jennifer Allen	27	916-653-0291

Recipient's Legal Name	Federal ID Number
Motiv Power Systems Incorporated	27-1308892

Title of Project
Walk-In Van Repower Demonstration

Term and Amount	Start Date	End Date	Amount
	04 / 01 / 2014	08 / 30 / 2017	\$ 1,655,594

Business Meeting Information
 ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	03 / 12 / 2014	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Jennifer Allen	Time Needed:	10 minutes

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

Agenda Item Subject and Description

Possible adoption of a resolution approving Agreement ARV-13-010 with Motiv Power Systems Incorporated for a \$1,655,594 grant to repower United Parcel Service and United States Postal Service medium-duty pre-EPA 2010 walk-in vans with Motiv's electric powertrain. The goal of this project is to move truck fleets into electric repower mass adoption by providing them with economic, performance, and reliability data collected in field operation for 24 months. (ARFVTP funding) Contact: Jennifer Allen. (10 minutes)

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 the vehicle demonstrations to convert up to 7 gasoline and diesel vehicles to all-electric drive will reduce vehicle emissions.
2. If Agreement is considered a "Project" under CEQA:
 a) Agreement **IS** exempt. (Attach draft NOE)
 Statutory Exemption. List PRC and/or CCR section number: _____
 Categorical Exemption. List CCR section number: _____
 Common Sense Exemption. 14 CCR 15061 (b) (3)
 Explain reason why Agreement is exempt under the above section: _____
- b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
 Check all that apply
 Initial Study Environmental Impact Report
 Negative Declaration Statement of Overriding Considerations
 Mitigated Negative Declaration

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

Legal Company Name:	Budget
FIAMM	\$ 519,400
	\$ 0
	\$ 0

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

Legal Company Name:
United Parcel Service
United States Postal Service

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CALIFORNIA ENERGY COMMISSION



Budget Information			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
ARFVTF	12/13	601.118E	\$1,655,594
Funding Source			\$
R&D Program Area:	Select Program Area	TOTAL:	\$1,655,594
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Recipient's Administrator/ Officer				Recipient's Project Manager			
Name:	Jim Castelaz			Name:	Jim Castelaz		
Address:	1165 Chess Drive, Suite E			Address:	1165 Chess Drive, Suite E		
City, State, Zip:	Foster City, CA 94404			City, State, Zip:	Foster City, CA 94404		
Phone:	650-458-4829	Fax:	650-350-4284	Phone:	650-458-4829	Fax:	650-350-4284
E-Mail:	jim@motivps.com			E-Mail:	jim@motivps.com		

Selection Process Used	
<input checked="" type="checkbox"/> Competitive Solicitation	Solicitation #: PON-13-602
<input type="checkbox"/> First Come First Served Solicitation	

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 checked="" type="checkbox"/> N/A	<input type="checkbox"/> Attached
5. CEQA Documentation	<input checked="" type="checkbox"/> N/A	<input 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	Vehicle Repower
3		Field Operation, Data Collection, and Analysis

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Jim Castelaz, Linda Silva	None	None
2	Jim Castelaz, John Knudtson, Wayne Logan, Matthew Jane, Will Treichler	None	None
3	Jim Castelaz, John Knudtson, Justin Tomlin	None	UPS, USPS

GLOSSARY

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

Term/ Acronym	Definition
ARFVTP	Alternative and Renewable Fuel and Vehicle Technology Program
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
Energy Commission	California Energy Commission
FTD	Fuels and Transportation Division
Recipient	Motiv Power Systems

BACKGROUND

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology (ARFVT) Program. The statute, subsequently amended by AB 109 (Núñez Chapter 313, Statutes of 2008) and AB 8 (Perea, Chapter 401, Statutes of 2013), 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-13-602 to provide funding opportunities under the ARFVT Program for demonstration projects that convert used medium-duty gasoline and diesel vehicles to all-electric drive. Medium-duty vehicles have a Gross Vehicle Weight Rating (GVWR) of 10,001 pounds to 26,000 pounds. To be eligible for funding under PON-13-602, the projects must also be consistent with the Energy Commission's ARFVT Investment Plan updated annually. In response to PON-13-602, the Recipient submitted application number 2, which was proposed for funding in the Energy Commission's Notice of Proposed Awards on October 17, 2013, and is incorporated by reference to this Agreement in its 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. 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:

This project seeks to overcome the market and cost hurdles associated with widespread all-electric repower of medium-duty on-road walk-in-van type delivery vehicles. Many large fleets have considered or piloted all-electric repowers but have failed to see a compelling total cost of ownership or a compelling record of reliability in the field.

Repowering vehicles requires a flexible electric powertrain design that is capable of adapting to the particular performance needs of the repowered vehicle. In past repowers, much of the electric powertrain had to be custom-designed for the chassis, which led to a vehicle that was not reliable or economical.

Goals of the Agreement:

The goal of this Agreement is to move large truck fleets beyond electric repower pilots and into electric repower mass adoption by providing them with compelling economic, performance, and reliability data collected from seven all-electric repowered walk-in vans that these same fleets use in field operation.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Repower seven medium-duty walk-in vans to be all-electric

- Run these vehicles in the field for 24 months
- Demonstrate the vehicles to have 100 miles range in typical field use
- Demonstrate maintenance costs that are less than half of what they would be for these vehicles if they were not repowered
- Demonstrate gradability, acceleration, handling that are comparable to or better than pre-repowered vehicles
- Eliminate the tailpipe emission of 9,600 lbs NO_x and hydrocarbons and 236 lbs particulate matter into California air
- Eliminate the net emission of 160 tons of CO₂ into the atmosphere (based on CA GREET model)

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 Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated 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
 - Monthly 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

CAM 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 CAO, the Fuels and Transportation Division (FTD) natural gas fuel 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 CAO, 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 and the CAO 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.

Recipient 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 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 CAM 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 Monthly 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:

- Monthly 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 Match 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 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 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 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 1.7 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 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)

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 CAM 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:

- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS**TASK 2 VEHICLE REPOWER**

The goal of this task is to repower a minimum of five and up to seven vehicles and ensure they are ready to be placed in service.

The Recipient shall:

- Identify a minimum of five up to seven chassis within partner fleets and photograph them before repower.
- Develop a repower kit, including bill of materials.
- Perform packaging study and document with in-process photographs.
- Repower the first chassis and document its completion with photographs.
- Test the first chassis for performance and make necessary modifications to that chassis, the repower kit and the repower packaging.
- Prepare a Vehicle Performance Test Report for the first chassis.
- Repower the second chassis and document its completion with photographs.
- Test the second chassis to ensure adequate performance for use in the field and document with a Vehicle Performance Test Report.
- Repower chassis three to seven and document with photographs.
- Perform commissioning test on chassis three to seven and document with commissioning test reports for each.

Products:

- Photographs of the chassis prior to repower
- Three in-process repower photographs
- Photographs of the chassis repowered
- Repower Kit bill of materials
- Vehicle Performance Test Report on Chassis repowered
- Commissioning Test Reports on Chassis repowered

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

TASK 3 FIELD OPERATION, DATA COLLECTION, AND ANALYSIS

The goal of this task is to operate the repowered vehicles in the field for two years, and provide the support needed to keep them operating during that time.

The Recipient shall:

- Place the repowered vehicles into service with partner fleets for 24 months.
- Maintain the data collection system and data logs for that time.
- Maintain and provide service for the vehicles as needed during that time.
- Simulate reduced battery capacity for shorter range vehicles.
- Collect the following data (when such collection is not included in Task 4):
 - Vehicle performance data for all vehicles during operation for 24 months.
 - Maintenance and service logs for all vehicles during operation for 24 months.
 - Driver surveys and opinions.
- Prepare Final Report including data and analysis, specific jobs and economic development resulting from the project, and comparisons of actual performance with expected performance.

Products:

- Performance data log
- Service data log
- Compilation of driver opinion survey results
- Four Quarterly reports
- Final Report

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION REGARDING: GRANT AWARD
TO
Motiv Power Systems, Incorporated
UNDER PON-13-602

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) approves **Grant Award # ARV-13-010** with Motiv Power Systems, Inc. (Recipient) for **\$1,655,594** to repower up to seven medium-duty vehicles with an electric powertrain.

WHEREAS, the Energy Commission finds that the activities funded by this grant are not a “project” under the California Environmental Quality Act (CEQA) because the vehicle demonstrations to convert up to seven gasoline and diesel vehicles to all-electric drive will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment.

CERTIFICATION

The undersigned Secretariat to the Commission 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 California Energy Commission held on March 12, 2014.

AYE: [*List Commissioners*]
NAY: [*List Commissioners*]
ABSENT: [*List Commissioners*]
ABSTAIN: [*List Commissioners*]

*Harriet Kallemeyn,
Secretariat*