

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 10/2015)

CALIFORNIA ENERGY COMMISSION

New Agreement ARV-17-037 (To be completed by CGL Office)

600 Fuels and Transportation Division	Sam Lerman	27	916-654-4649
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City of Long Beach Harbor Department	95-6000733
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Port Advanced Vehicle Electrification (PAVE) Project
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06 / 30 / 2018	6 / 30 / 2022	\$ 8,000,000
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<input type="checkbox"/> ARFVTP agreements \$75K and under delegated to Executive Director.			
Proposed Business Meeting Date	5 / 9 / 2018	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Sam Lerman	Time Needed:	5 minutes
Please select one list serve. Altfuels (AB118- ARFVTP)			

Agenda Item Subject and Description

CITY OF LONG BEACH HARBOR DEPARTMENT. Proposed resolution approving Agreement ARV-17-037 with the City of Long Beach Harbor Department (Port of Long Beach) for an \$8,000,000 grant to install advanced battery-electric charging technology for zero emission yard tractors and forklifts to reduce petroleum consumption, exhaust, and GHG emissions. Match funds will be used to purchase electric vehicles and support workforce training. The demonstration will occur at the Port of Long Beach and will benefit disadvantaged communities. (ARFVTP funding) Contact: Sam Lerman. (Staff presentation: 5 minutes)

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**California Environmental Quality Act (CEQA) Compliance**

1. Is Agreement considered a "Project" under CEQA?

☒ Yes (skip to question 2)☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

Explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because _____.

2. If Agreement is considered a "Project" under CEQA:

☒ a) Agreement **IS** exempt. (Attach draft NOE)☐ Statutory Exemption. List PRC and/or CCR section number: _____☒ Categorical Exemption. List CCR section number: _____ Cal. Code Regs., tit. 14, §§15301, 15303, 15304☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

Cal. Code Regs., tit. 14, sec. 15301 provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion of use are categorically exempt from the provisions of the California Environmental Quality Act (CEQA). The project will upgrade existing electrical infrastructure, including building stub-outs, to support installation of thirty-seven new charging stations and a battery storage system at existing facilities at the Port of Long Beach (Port). Specifically, approximately ten battery electric forklift charging station stub-outs and twenty-seven stub outs for battery electric yard hostlers will be installed in an existing paved yard area outside an existing warehouse at Total Terminals International (TTI) terminal at the Port, involving upgrades to existing electrical panels and minor trenching. Approximately six charging stations, approximately the size of a gasoline pump, for electric yard tractors will be installed at the stub outs, also in the existing outdoor paved yard at the TTI terminal. An additional two stub outs at an outdoor vehicle maintenance area, for a total of thirty nine stubs outs, will also be installed at the TTI terminal yard area. And finally, a battery storage system in an approximately 20-foot storage container will be installed in the yard area to support the new chargers. The purpose of these installations is to replace and phase out existing diesel yard hostlers and forklifts. The project will involve negligible or no expansion of existing use and will occur on land that is not environmentally sensitive. Therefore, this project will have no significant effect on the environment and falls within section 15301.

Cal. Code Regs., tit. 14, sec. 15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of CEQA. In this case, approximately six electric vehicle charging stations, thirty nine stub outs, and a small battery storage system will be installed. The charging stations are approximately the size of a gas station pump and the battery storage system will be contained in a 20-foot storage container. Both the small new charging stations and battery storage necessary to operate the new equipment will have no significant impact on the environment. Therefore, this project falls within section 15303.

Cal. Code Regs., tit. 14, sec. 15304 provides that projects which consist of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes are categorically exempt from the provisions of CEQA. Charging stations, stub-outs, and battery storage will be installed on existing paved ground and will require electrical wiring to be routed to the stations. Minor trenching and repaving will be needed to install the charging infrastructure. The trenching will take place on currently paved ground, will not involve the removal of any trees, and the surface will be restored. Project activities will occur on land that is not environmentally. Therefore, this project will not have a significant effect on the environment and falls within section 15304.

☐ 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

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CALIFORNIA ENERGY COMMISSION

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

Legal Company Name:	Budget
see attached	\$
	\$
	\$

Legal Company Name:

Southern California Edison; Kalmar Global

Electric Vehicle Infrastructure Training Program; International Brotherhood of Electrical Workers; Ramboll

Funding Source	Funding Year of Appropriation	Budget List No.	Amount
ARFVTP	17/18	601.118J	\$8,000,000
Funding Source			\$
Funding Source			\$
Funding Source			\$
Funding Source			\$
R&D Program Area:	Select Program Area		\$8,000,000
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Name:	Aimee Castillo	Name:	Morgan Caswell
Address:	4801 Airport Plaza Drive	Address:	4801 Airport Plaza Drive
City, State, Zip:	Long Beach, CA 90815	City, State, Zip:	Long Beach, CA 90815
Phone:	562-283-7111	Fax:	562-283-7148
E-Mail:	aimee.castillo@polb.com	E-Mail:	morgan.caswell@polb.com

☒ Competitive Solicitation
 Solicitation #: GFO-17-603

☐ First Come First Served Solicitation

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

List all subcontractors (major and minor) and equipment vendors

Legal Company Name:	Budget - CEC share	Match share
The Grant Farm		\$40,000
Total Terminals International, LLC		\$5,208,169
TBD (installation contractor)	\$6,756,753	\$2,681,247
Transportation Power, Inc.	\$391,024	\$250,000
ChargePoint, Inc.	\$652,408	\$60,100
Electric Power Research Institute, Inc.	\$199,815	\$220,377
Ramboll US Corporation		\$125,000
TBD (data collection and analysis contractor)		\$50,000

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2	X	Infrastructure Design and Installation
3		Vehicle Acquisitions and Operations
4		Dynamic Energy Forecasting Tool (DEFT)
5		Workforce Development and Outreach
6		Data Collection and Analysis

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	POLB Morgan Caswell	Grant Farm	NA
2	POLB Morgan Caswell		ChargePoint Kalmar/TransPower Total Terminals International
3	POLB Morgan Caswell		ChargePoint Kalmar/TransPower Total Terminals International
4	POLB Christine Houston	EPRI Ramboll	Southern California Edison Total Terminals International
5	POLB Christine Houston		EVITP IBEW
6	POLB Morgan Caswell		Total Terminals International

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

Term/ Acronym	Definition
CCS	Combined Charging System
CHE	Cargo Handling Equipment
CPR	Critical Project Review
DC	Direct Current
DEFT	Dynamic Energy Forecasting Tool
EPRI	Electric Power Research Institute
EVITP	Electric Vehicle Infrastructure Training Program
FTD	Fuels and Transportation Division
IBEW	International Brotherhood of Electrical Workers
POLB	Port of Long Beach
Recipient	City of Long Beach Harbor Department (Port of Long Beach)
TTI	Total Terminals International

BACKGROUND

Assembly Bill (AB) 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The statute authorizes the California Energy Commission (Energy Commission) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the ARFVTP through January 1, 2024, and specifies that the Energy Commission allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational. The ARFVTP 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.
- Support workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

The Energy Commission issued GFO-17-603 entitled "Advanced Freight Vehicle Infrastructure Deployment" under the ARFVT Program on December 19, 2017. This competitive grant solicitation was an offer to fund projects that will support infrastructure deployment for Advanced Freight Vehicles. To be eligible for funding under GFO-17-603, the projects must also be

consistent with the Energy Commission's ARFVTP Investment Plan updated annually. In response to GFO-17-603, the Recipient submitted application #1 which was proposed for funding in the Energy Commission's Notice of Proposed Awards on April 5, 2018. GFO-17-603 is hereby incorporated by reference into 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. In the event of any conflict or inconsistency between the Recipient's Application and the terms of Energy Commission's Award, the Energy Commission'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:

California seaports have run on diesel for decades. Today, however, the tide is changing and a variety of forces are driving seaports away from fossil-based fuels toward the adoption of zero-emission vehicles and equipment. Yet, even as new state and federal environmental mandates drive change, many barriers, unresolved issues, and knowledge gaps still stand in the way of the transition to zero-emissions operation and the associated reductions in emissions and improvements in air quality around California's seaports.

A wide variety of light-, medium-, and heavy-duty equipment and vehicles operate at ports. Although the number of battery-electric and hydrogen-fuel-cell vehicles and cargo handling equipment (CHE) is beginning to grow, the actual number of port-specific, zero-emission CHE and vehicles is quite low. Demand has begun to grow among marine terminal operators, but many are still reluctant to purchase untested and costly options on the market today. Further complicating matters, many zero-emission alternatives to conventional vehicles or equipment in use at seaports do not exist yet or are in early stages of development. In order to support the operation of vast numbers of battery-electric CHE and vehicles, seaports must perform significant upgrades to their electrical systems and install thousands of charging stations. These barriers have been addressed by the marketplace in limited fashion because of the high incremental cost that has been associated with adopting zero-emission CHE and vehicles. Today, however, seaports must overcome these barriers or risk failure to comply with environmental mandates.

Goals of the Agreement:

The goals of this Agreement are to enhance market acceptance of infrastructure development for advanced freight vehicles and cargo handling equipment that will reduce greenhouse gas emissions, reduce petroleum use, improve energy cost savings, improve air quality and benefit disadvantaged communities.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Upgrade the electrical distribution at the Port of Long Beach to support the operation of 27 electric yard hostlers and 10 electric forklifts.
- Develop and test a Dynamic Energy Forecasting Tool (DEFT) to predict costs of converting freight facilities to support zero-emission vehicle operations.
- Support workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.
- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.

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 Energy Commission Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
- 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

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 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 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 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 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 INFRASTRUCTURE DESIGN AND INSTALLATION

The goals of this task are to complete the design and installation of electric infrastructure to support 27 zero-emission electric yard hostlers and 10 electric forklifts and install a battery management system to reduce demand charges.

The Recipient shall:

- Finalize project design for upgrading electric infrastructure to support the operation of 27 battery electric yard hostlers and 10 battery electric forklifts and include design documents in *Final System Design Report*.

- Complete necessary utility interconnect requirements.
- Upgrade electric distribution infrastructure to ensure sufficient capacity for vehicle charging requirements.
- Deploy thirty-nine charging station stub-outs, including two stub-outs at a maintenance facility to support charging of electric freight vehicles pulled out of service for maintenance/repair.
- Install a minimum of six charging stations at stub-out locations to support near term deployment of yard tractors, including four charging stations equipped with the Combined Charging System (CCS) 1.0 standard.
- Install battery management system to reduce demand charges.
- Commission each system by verifying the installation meets project design and specification requirements and include pictures in a *Commissioning Report*

Products:

- Final System Design Report
- Commissioning Report

[CPR WILL BE HELD IN TASK 2. See Task 1.2 for details]

TASK 3 VEHICLE ACQUISITIONS AND OPERATIONS

The goals of this task are to acquire a minimum of six battery electric yard tractors for demonstration, including four tractors compatible with DC fast charging, and maintain vehicles and infrastructure for demonstration.

- Procure a minimum of six battery electric yard tractors.
 - Oversee engineering modifications required for four yard tractors to be compatible with the CCS 1.0 standard.
 - Submit copies of *TTI Yard Hostler Purchase Orders*.
- Develop *Operations and Maintenance Manual* to detail maintenance requirements and procedures for deployed infrastructure and vehicles.
- Maintain four charging stations equipped with the CCS 1.0 charging standard.
- Maintain infrastructure improvements, stub-outs, charging stations, battery-electric yard hostlers, and battery storage system in accordance with the *Operations and Maintenance Manual*.
- Expeditiously address any issues such as malfunctions, repairs, and vandalism.

Products:

- TTI Yard Hostler Purchase Orders
- Operations and Maintenance Manual

TASK 4 DYNAMIC ENERGY FORECASTING TOOL (DEFT)

The goal of this task is to develop a Dynamic Energy Forecasting Tool (DEFT). The Recipient will use this tool to more accurately understand the requirements of and predict the costs

associated with the conversion of port terminals to full zero-emission operations.

The Recipient shall:

- Work with subcontractors, terminal operators, local agencies and other appropriate entities to determine the inputs, calculations, and outputs required for the DEFT.
- Develop *DEFT Specifications* for the tool, including but not limited to:
 - Communication protocol with EPRI's StorageVET tool.
 - Energy storage planning and forecasting criteria.
- Develop the tool.
- Test DEFT prior to implementation and revise tool as necessary in accordance with the written specifications.
- Develop and share a *DEFT Communication Plan* with other Ports and freight facilities that describes the benefits of the tool.
- Demonstrate the software tool's ability to predict costs associated with converting the facility to full zero-emission operations and include results in *DEFT Demonstration Report*.

Products:

- DEFT Specifications
- DEFT Communication Plan
- DEFT Demonstration Report

TASK 5 WORKFORCE DEVELOPMENT AND OUTREACH

The goals of this task are to support workforce development by promoting programs that train qualified electricians for infrastructure installation and communicate project benefits to freight facility operators, labor groups, and the community surrounding the Port.

The Recipient shall:

- Work with the Electric Vehicle Infrastructure Training Program (EVITP) and the International Brotherhood of Electrical Workers (IBEW) to perform outreach to potential installation contractors.
- Evaluate EVITP requirements for future Port projects and include results in the *Final Report*.
- Develop *Small Business/Very Small Business Enterprise Program Annual Report* that summarizes construction activities by small business enterprises.
- Prepare *Outreach Summary Report* that describes outreach to local, regional, and national stakeholders, press releases, social media, and news stories.
- Conduct outreach described in *Outreach Summary Report*.
- Organize a ribbon cutting or other celebratory event.

Products:

- Port of Long Beach Small Business/Very Small Business Enterprise Program Annual Report
- Outreach Summary Report

TASK 6 DATA COLLECTION AND ANALYSIS

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

The Recipient shall:

- Develop *Data Collection Test Plan*.
- Troubleshoot any issues identified.
- Collect 12 months of throughput, usage, and operations data from the project including, but not limited to:
 - Maximum capacity of the new fueling system
 - Gallons of gasoline and/or diesel fuel displaced (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
 - Specific jobs and economic development resulting from this project
- Identify any current and planned use of renewable energy at the facility.
- Identify the source of the alternative fuel.
- Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
- Describe the effectiveness of energy management strategies deployed and opportunities for improvement or new strategies.
- Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Provide a quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions.
- Compare any project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments.
- Collect data, information, and analysis described above and include in the *Final Report*.

Products:

- Data Collection Test Plan
- Data collection information and analysis will be included in the Final Report

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: CITY OF LONG BEACH HARBOR DEPARTMENT

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

RESOLVED, that the Energy Commission approves Agreement ARV-17-037 with the City of Long Beach Harbor Department (Port of Long Beach) for an \$8,000,000 grant to install advanced battery-electric charging technology for zero emission yard tractors and forklifts to reduce petroleum consumption, exhaust, and GHG emissions. Match funds will be used to purchase electric vehicles and support workforce training. The demonstration will occur at the Port of Long Beach and will benefit disadvantaged communities; and

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

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 May 9, 2018.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Cody Goldthrite,
Secretariat