



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
May 10, 2023 Business Meeting Backup
Materials for Agenda Item No 07:
Ample Inc**

The following backup materials for the above-referenced agenda item are available in this PDF packet as listed below:

1. Proposed Resolution
2. Grant Request Form
3. Scope of Work

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Ample Inc

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

RESOLVED, that the CEC approves Agreement ZVI-22-036 with Ample Inc for a \$14,738,978 grant to expand and enhance Ample's existing manufacturing lines in Brisbane, California for the production of battery modules. At full production capacity, these manufacturing lines will achieve an annual production target of modular battery packs to support approximately 14,400 EVs. Collectively, over the facility's useful lifetime, this will support the use of roughly 127,000 high-utilization EVs; and

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

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on May 10, 2023.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

Liza Lopez
Secretariat



GRANT REQUEST FORM (GRF)

A. New Agreement Number

IMPORTANT: New Agreement # to be completed by Contracts, Grants, and Loans Office.

New Agreement Number: ZVI-22-036

B. Division Information

1. Division Name: Fuels and Transportation
2. Agreement Manager: Pilar Magaña
3. MS-: 27
4. Phone Number: 916-477-1546

C. Recipient's Information

1. Recipient's Legal Name: Ample, Inc.
2. Federal ID Number: 47-2514015

D. Title of Project

Title of project: Expansion of Ample Battery Module Manufacturing

E. Term and Amount

1. Start Date: 5/10/2023
2. End Date: 9/30/2025
3. Amount: \$14,738,978

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 05/10/2023
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Pilar Magaña
5. Time Needed for Business Meeting: 5 minutes
6. The email subscription topic is: Clean Transportation Program

Agenda Item Subject and Description:

Proposed resolution approving Agreement ZVI-22-036 with Ample, Inc. for a \$14,738,978 grant to expand and enhance Ample's existing manufacturing lines in Brisbane, California for the production of swappable battery packs, and adopting staff's determination that this action is exempt from CEQA. At full production capacity, these manufacturing lines will achieve an annual production target of swappable battery packs to support approximately 14,400 EVs. Collectively, over the facility's useful lifetime, this will support the use of roughly 127,000 high-utilization EVs. (General Fund Funding) Contact: Pilar Magaña (Staff Presentation: 5 minutes)

G. California Environmental Quality Act (CEQA) Compliance

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

Yes

If yes, skip to question 2.



If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because: If Agreement is considered a "Project" under CEQA skip to question 2. Otherwise, provide explanation.

2. If Agreement is considered a "Project" under CEQA answer the following questions.

a) Agreement **IS** exempt?

Yes

Statutory Exemption?

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number: None

CCR section number: None

Categorical Exemption?

Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: 14 CCR 15301

Cal. Code Regs., Title 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 beyond that existing at the time of the responsible agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act. The project will be located in Brisbane at Ample's existing manufacturing facility and will involve interior modifications of an existing non-historic industrial building, only requiring a construction permit from the City of Brisbane for electrical, HVAC and other work on the building, to support assembly of EV batteries for high-mileage vehicles.

The second facility, located at 245 South Spruce Avenue, Unit 200 South San Francisco, CA 94080, is an existing building that will be used solely for inventory storage. The building has no historical significance and is zoned for industrial and commercial use. No battery module manufacturing related activity will take place at the address.

Therefore, the project falls within section 15301 and will not have a significant effect on the environment.

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

No

If yes, explain reason why Agreement is exempt under the above section. If no, enter "Not applicable" and go to the next section.



Not Applicable

b) Agreement **IS NOT** exempt.

IMPORTANT: consult with the legal office to determine next steps.

No

If yes, answer yes or no to all that applies. If no, list all as “no” and “None” as “yes”.

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes

H. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter “No subcontractors to report” and “0” to funds.

Delete any unused rows from the table

Subcontractor Legal Company Name	CEC Funds	Match Funds
No subcontractors to report	\$0	\$0

I. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter “No vendors or sellers to report” and “0” to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Mactech Corporation	\$10,325,838	\$0
KUKA ROBOTICS CORPORATION	\$151,255	\$0
HAN'S LASER CORP.	\$164,000	\$0

J. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter “No key partners to report.” **Delete** any unused rows from the table.

Key Partner Legal Company Name
City of Brisbane

K. Budget Information



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 10/2022)

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
General Fund	2021-2022	601.129MGA	\$14,738,978

TOTAL Amount: \$14,738,978

R&D Program Area: N/A 617

Explanation for "Other" selection Enter explanation for "Other"

Reimbursement Contract #: Enter Reimbursement Contract Number

Federal Agreement #: Enter Federal Agreement Number

L. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: K.R. Liu
Address: 100 Hooper St., Ste 25
City, State, Zip: San Francisco, CA 94107
Phone: 617-504-3557
E-Mail: krliu@ample.com

2. Recipient's Project Manager

Name: Levi Tilleman
Address: 100 Hooper St., Ste 25
City, State, Zip: San Francisco, CA 94107
Phone: 617-504-3557
E-Mail: ltilleman@ample.com

M. Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	GFO-21-605
First Come First Served Solicitation #	
Other	

N. Attached Items

1. List all items that should be attached to this GRF by entering "Yes" or "No".



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 10/2022)

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager: Pilar Magaña

Approval Date: 3/6/2023

Office Manager: Charles Smith

Approval Date: 4/3/2023

Deputy Director: Melanie Vail

Approval Date: (Deferred, in absentia)

Exhibit A

SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Upgrade Battery Module Manufacturing Line 1.1
3	X	Hire and Train Employees on Battery Module Line Operation
4		Deploy Battery Module Manufacturing Line 1.2
5		Identify and Transition to a Centralized Warehousing Facility
6	X	Deploy Battery Module Manufacturing Line 2.1
7		Data Collection and Analysis
8		Project Fact Sheet

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Levi Tillemann	N/A	N/A
2	KR Liu; Hashmat Haidari	N/A	City of Brisbane
3	Kim Rosenberg	N/A	N/A
4	KR Liu; Hashmat Haidari	N/A	N/A
5	KR Liu	N/A	N/A
6	KR Liu; Hashmat Haidari	N/A	City of Brisbane
7	Levi Tillemann	N/A	N/A
8	Levi Tillemann	N/A	N/A

GLOSSARY

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

Term/ Acronym	Definition
BM	Battery Module
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CTP	Clean Transportation Program
CPR	Critical Project Review
DFM	Design for Manufacturing
FAT	Factory Acceptance Test
FTD	Fuels and Transportation Division
Recipient	Ample, Inc.
SAT	Site Acceptance Test
SOP	Standard Operating Procedure

Background

The Budget Act of 2021 (Assembly Bill (AB) 128, Ting, Chapter 21, Statutes of 2021, as amended by Senate Bill (SB) 129, Skinner, Chapter 69, Statutes of 2021 and SB 170, Skinner, Chapter 240, Statutes of 2021) appropriated \$785,000,000 from the General Fund to support infrastructure deployments and manufacturing projects for zero-emission light-duty and medium- and heavy-duty vehicles. The Budget Act of 2022 (SB 154, Skinner, Chapter 43, Statutes of 2022, as amended by AB 178, Ting, Chapter 45, Statutes of 2022) appropriated an additional \$255,000,000 from the General Fund to support infrastructure deployments and manufacturing projects for zero-emission light-duty and medium- and heavy-duty vehicles.

On March 30, 2022, the California Energy Commission (CEC) released a Grant Funding Opportunity (GFO) entitled “Zero-Emission Transportation Manufacturing.” This competitive grant solicitation was to provide funding for projects that will increase in-state manufacturing of zero-emission vehicles (ZEV), ZEV components and batteries, and ZEV charging or refueling equipment. In response to GFO-21-605, the Recipient submitted application #04 which was proposed for funding in the CEC’s Revised Notice of Proposed Awards on January 27, 2023. GFO-21-605 and Recipient’s application are hereby incorporated by reference into this Agreement in their entirety.

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

Problem Statement

The CEC's Draft Zero Emission Vehicle Infrastructure Plan (ZIP) describes battery swapping as "a good solution for those without access to home charging or long-distance travelers that need a quick recharge." It also highlights that "[b]attery swapping has the potential to be grid-friendly and allows rapid and convenient charging for the consumer." But the ZIP acknowledges that the supply of vehicles compatible with battery swapping is severely limited in California and, as of today, mostly concentrated in China. Increased trade and political tensions between the United States and China, together with existing supply chain problems, could cause significant barriers to growing the usage of battery swaps domestically. Ample's proposed manufacturing expansion will provide an efficient and sustainable solution to this problem of swap-enabled vehicle supply.

Goals of the Agreement:

The goal of this Agreement is to expand the manufacturing facility for the production of battery-swap-related technology and modules to support the growth of the market for battery swapping electric vehicles (EVs) in California.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Train and employ 31 full-time personnel to support expanded Ample manufacturing facilities.
- Support expansion of Ample's existing Brisbane-based micro factory by:
 - Enhancing Ample's existing manufacturing line
 - Installing an additional line segment to automate battery module enclosure
 - Installing an additional cell stack micro factory line in the existing Brisbane facility
 - Assessing the size and efficiency of the manufacturing lines, the number of new and re-trained employees, and the overall capacity of the Brisbane facility to produce battery modules that are readily swappable, particularly for use in high-utilization EV fleet applications
 - Achieving an annual production capacity of modular battery packs to support approximately 14,400 EVs. Collectively, over the facility's useful lifetime, that will support the use of roughly 127,000 high-utilization EVs.

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

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

Recipient Products:

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

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

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

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

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

The CAM shall:

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

The Recipient shall:

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

CAM Products:

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

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

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

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

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

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

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

Products:

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

Task 1.4 Monthly Calls

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

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted, or the CAM determines that a monthly call is unnecessary.

The CAM shall:

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

The Recipient shall:

- Review the questions provided by CAM prior to the monthly call

- Provide verbal answers to the CAM during the call.

Product:

- Email to CAM concurring with call summary notes.

Task 1.5 Quarterly Progress Reports

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

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

The Recipient shall:

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

Product:

- Quarterly Progress Reports

Task 1.6 Final Report

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

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.

The Final Report shall be a public document and is limited to 25-pages. If the Recipient has obtained confidential status from the CEC and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

In addition to any other applicable requirements, the Final Report must comply with the Americans with Disabilities Act (ADA) of 1990 (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability; all applicable regulations and guidelines issued pursuant to the ADA; Cal. Gov. Code sects. 7405 and 11135; and Web Content Accessibility Guidelines 2.0, or a subsequent version, as published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success criteria.

The Recipient shall:

- Prepare an Outline of the Final Report, if requested by the CAM.
- Prepare a Final Report complying with ADA requirements and 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 Final Report in Microsoft Word format or similar electronic format as approved by the CAM.

Products:

- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.7 Identify and Obtain Matching Funds

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

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

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.

- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

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

Task 1.8 Identify and Obtain Required Permits

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

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

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - The schedule the Recipient will follow in applying for and obtaining these permits.

- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the CAM.
- As permits are obtained, send a copy of each approved permit to the CAM.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days. Either of these events may trigger an additional CPR.

Products:

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

Task 1.9 Obtain and Execute Subawards

The goal of this task is to ensure quality products and to procure subrecipients required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures.

The Recipient shall:

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

Products:

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

TASK 2 UPGRADE BATTERY MODULE MANUFACTURING LINE 1.1

The goal of this task is to upgrade the manufacturing capacity of the battery module (BM) manufacturing line 1.1 and retrofit to improve manufacturing cycle time, yield, and add in-line testing capabilities.

The Recipient shall:

- Design and prototype a semi-automated battery testing module at the end of BM manufacturing line 1.1.
- Update the plant layout to accommodate additions to the assembly line, optimize efficiency, and add utility connections to new machinery.
- Customize and order new machinery from selected vendors to implement new design.
- Arrange transportation and installation logistics for new components for use in existing facility in Brisbane, California.
- Together with supplier technicians, integrate machinery with Ample's existing modular battery pack automated manufacturing line.
- Catalog the installation process for upgrades to BM manufacturing line 1.1 and include information in *Battery Module Manufacturing Line 1.1 Installation Report* which will include, but is not limited to:
 - Time elapsed between order and fabrication; shipping time, installation time; significant deviations in processes or key performance metrics
 - Site Acceptance Test (SAT) detailing equipment performance and capability
 - Capability study for all new equipment installed detailing yield, repeatability and reliability for each machine
 - 3-months of data on uptime, yield and quality metrics for BM manufacturing line 1.1
 - Summary of recommendations for increasing speed, uniformity, and quality metrics for subsequent battery manufacturing lines.

Products:

- Battery Module Manufacturing Line 1.1 Installation Report

TASK 3 HIRE AND TRAIN EMPLOYEES ON BATTERY MODULE (BM) LINE OPERATION

The goal of this task is to train current Ample employees who have used prior versions of the BM manufacturing lines and tooling to be able to efficiently and safely use the new features of BM manufacturing line 1.1 and to hire and train new employees to staff additional BM lines.

The Recipient shall:

- Train key line operators and maintenance technicians on new equipment against standard operating procedures (SOPs) for existing BM manufacturing line 1.1, as well as battery lines 1.2 and 2.1 (as discussed in Tasks 4 and 6 respectively).

- Train all operators and engineers on BM manufacturing line operation, start/stop procedures, and part loading procedures.
- Conduct multiple training sessions, including hands-on demonstration, guided practical session, independent operation trial, and certification.
- Design modified training curriculum for new employees, to be offered by Ample on a monthly basis.
- Design and oversee internal certification for the training process.
- Engage and collaborate with JobTrain, City College of San Francisco, and other community partners to identify and develop a pipeline of engineers and operators.
- Develop and implement a paid internship program for students and other prospective Ample employees. This paid internship program may include, but is not limited to:
 - Instruction and on the job training in project management, quality assurance and other quantitative methods required to support Ample's modular battery pack production facilities
 - Instruction and on the job training in inventory functions required to support fabrication, handling and storage of Ample's modular battery packs
 - Instruction and on the job training in safe operation of Ample's automated battery module manufacturing line
- Prepare *Final Report on Internship Program* that includes but is not limited to number of students and prospective employees trained, summary of instructions provided, and lessons learned. Prepare a *Training Report* for each BM manufacturing line that includes but is not limited to:
 - Documentation of training efforts monitoring employees' absorption, and evaluating the new skills transfer
 - Curriculum and presentation materials
 - Training handouts and checklists
 - Certification test and log

Products:

- Training Report for BM manufacturing line 1.1
- Training Report for BM manufacturing line 1.2
- Training Report for BM manufacturing line 2.1
- Final Report on internship program

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

TASK 4 DEPLOY BATTERY MODULE MANUFACTURING LINE 1.2

The goal of this task is to complete the design, assembly, and installation of the second half of the automated BM manufacturing line (Line 1.2) at the Brisbane facility in order to fully automate BM assembly.

The Recipient shall:

- Propose, validate, and test automated assembly concepts and modify design to accommodate Design for Manufacturing (DFM) requests.
- Work with the City of Brisbane to obtain appropriate permits.
- Complete factory installation of BM manufacturing line 1.2 in Ample's manufacturing facility.
- Fully validate all processes on BM manufacturing line 1.2 to ensure the line is ready for production use.
- Obtain permit approval for improvement projects from the City of Brisbane.
- Update plant layout to accommodate additional assembly lines and add utility connections for new machinery.
- Finalize design specifications and customize machinery and component orders.
- Ship machinery to existing facility in Brisbane, California.
- Install BM manufacturing line 1.2 at the Brisbane facility, including making utility connections to the machines, aligning all equipment and anchoring in place.
- Test all individual systems and the line as a whole and create SOPs for all line related tasks.
- Perform multiple trial runs of the BM manufacturing line to identify process yield and cycle time for every process.
- Confirm calibration procedures on all critical assembly and testing equipment.
- Catalog the process for designing, customizing, permitting, and installing BM manufacturing line 1.2 in a *Battery Module Manufacturing Line 1.2 Installation Report* including, but not limited to:
 - Time elapsed between custom order and fabrication
 - Shipping time and post-install performance
 - Summary of SAT test run report, to include:
 - Capability analysis
 - Average cycle time
 - Overall yield
 - Individual process yield
 - Standard procedures
 - Reliability and repeatability analysis.
 - Line installation report, to include:
 - Line anchoring inspection report
 - Control systems test report
 - Line install completion internal certification.
 - Line install completion internal certification (including BM manufacturing line anchoring inspection report and control systems test report)
 - Records of permits, building improvements, and construction project completion internal certification.

Products:

- Battery Module Manufacturing Line 1.2 Installation Report

TASK 5 IDENTIFY AND TRANSITION TO A CENTRALIZED WAREHOUSING FACILITY

The goal of this task is to develop a new centralized warehousing facility for manufacturing components and finished battery pack modules from BM manufacturing lines 1.1, 1.2, and 2.1.

The Recipient Shall:

- Design and build racking (storage) required for BM manufacturing lines 1.1, 1.2, and 2.1, collectively facilitating the storage of approximately 40 sub-components.
- Finalize estimates for a warehouse and the storage requirements needed to securely store growing stock of battery pack components.
- Transition component storage to offsite facility.
- Document capacity and operations of the new facility in a *Warehousing Facility Report* that includes, but is not limited to:
 - Analysis of key physical features of a centralized warehouse
 - Analysis of core relevant efficiencies gained by moving to the space.

Products:

- Warehousing Facility Report

TASK 6 DEPLOY BATTERY MODULE MANUFACTURING LINE 2.1

The goal of this task is to finalize the design for BM manufacturing line 2.1 at the Brisbane facility; customize and procure relevant quotations from an automation vendor; perform required facility and utility upgrades; complete factory installation of BM manufacturing line 2.1 in collaboration with the vendor install team; and to fully validate all processes on BM manufacturing line 2.1 to ensure the line is ready for production use.

The Recipient shall:

- Customize and procure relevant quotations from an automation vendor.
- Perform required facility and utility upgrades.
- Complete factory installation of BM manufacturing line 2.1 in collaboration with the vendor install team.
- Fully validate all processes on BM manufacturing line 2.1 to ensure the line is ready for production use.
- Finalize design specifications and customize machinery and component orders in collaboration with vendor system integration specialists.
- Arrange logistics and shipping to existing facility.
- Perform equipment delivery inspection and align, level, and locate all equipment.
- Install BM manufacturing line 2.1 at the Brisbane facility, in collaboration with vendor systems integrator specialists.

- Make utility connections to the manufacturing robotics.
- Align all equipment and anchor in place.
- Test all individual systems and the line as a whole and create SOPs for all line related tasks.
- Perform multiple trial runs of the BM manufacturing line to identify process yield and cycle time for every process.
- Confirm calibration procedures on all critical assembly and testing equipment.
- Catalog the installation process for BM manufacturing Line 2.1 in a *Battery Module Manufacturing Line 2.1 Report* that includes, but is not limited to:
 - Time elapsed between order and fabrication; shipping time, installation time; significant deviations in process or key metrics from BM manufacturing line 2.1.
 - SAT testing processes for BM manufacturing Line 2.1 including, but not limited to: capability analysis; average cycle time; overall yield; individual process yield; standard procedures; and reliability and repeatability analysis.
 - Summary of SAT test run report, to include:
 - Capability analysis
 - Average cycle time
 - Overall yield
 - Individual process yield
 - Standard procedures
 - Reliability and repeatability analysis.
 - Line installation report, to include:
 - Line anchoring inspection report
 - Control systems test report
 - Line install completion internal certification.
 - Line install completion internal certification (including BM manufacturing line anchoring inspection report and control systems test report)
 - Records of permits, building improvements, and construction project completion internal certification.

Products:

- Battery Module Manufacturing Line 2.1 Installation Report

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

TASK 7 DATA COLLECTION AND ANALYSIS

The goal of this task is to collect operational data from the project and to analyze that data for economic and environmental impacts.

The Recipient shall:

- Develop a *Data Collection Outline and Plan*.

- Identify key project issues encountered and resolution of the issues.
- Collect a minimum of 6 months of project and operations data.
- Identify the number and description of units produced from product beta testing and validation through commercial production. The Recipient shall also characterize the use of these products after the project.
- Describe the market(s) for the manufactured products and compare the market status from the time of the original project proposal to the time of the project's completion.
- Provide a projection of the number of units to be manufactured per year, for the products identified in the original application, 3 years after the completion of the project. The Recipient shall also provide assumptions for projected growth.
- Compare project performance and expectations provided in the original project proposal with actual project performance, results, and accomplishments.
- Provide data on specific jobs and economic impact as a direct result of the project, including:
 - Number and type of short-term jobs created or retained by the project
 - Number and type of sustained, long-term jobs created or retained by the project
 - Estimates and descriptions of future jobs resulting from the project
 - Estimates of local economic impacts and revenues to state and local governments
 - Number of employees participating in training programs, and types of training programs
 - Number of indirect jobs resulting from the project.
- Provide a *Data Collection and Information Analysis Report* that lists and analyzes all the data and information described above.

Products:

- Data Collection Outline and Plan
- Data Collection and Information Analysis Report

TASK 8 PROJECT FACT SHEET

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

The Recipient shall:

- Prepare an *Initial Project Fact Sheet* at the start of the project that describes the project and the expected benefits. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that describes the project, the actual benefits resulting from the project, and lessons learned from implementing the project. Use the format provided by the CAM.

- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

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