



**California Energy Commission
March 6, 2023 Business Meeting
Backup Materials for Agenda Item No 07:
Cuberg, Inc.**

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

1. Proposed Resolution (attached below).
2. Grant Request Form or Grant Amendment Request Form or Contract Request Form or Loan Request Form (applicable form attached below).
3. Scope of Work (attached below).
4. CEQA documents (if applicable, attached below).
5. Other relevant documentation or link to other documentation (if applicable, attached below).

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Cuberg, 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-22-034 with Cuberg, Inc. for an \$11,207,887 grant to establish a 45,000 square foot zero-emission vehicle battery manufacturing facility in San Leandro. Operations would span raw materials processing to battery module manufacturing with a targeted output of 200 megawatt-hours of battery production annually (2.7 million battery cells per year). The proposed project would create more than 300 high-quality jobs in the first five years of operation; 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 March 6, 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-22-034

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: Cuberg, Inc.
2. Federal ID Number: 86-2272851

D. Title of Project

Title of project: High-Performance Battery Systems Manufacturing to Support Zero-Emission Transportation in California

E. Term and Amount

1. Start Date: 3/6/2023
2. End Date: 3/31/2026
3. Amount: \$11,207,887

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 03/6/2023
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:

Cuberg, Inc. Proposed resolution approving Agreement ZVI-22-034 with Cuberg, Inc. for an \$11,207,887 grant to establish a 45,000 square foot zero-emission vehicle battery manufacturing facility in San Leandro, and adopting staff's determination that this action is exempt from CEQA. Operations would span raw materials processing to battery module manufacturing with a targeted output of 200 megawatt-hours of battery production annually (2.7 million battery cells per year). The proposed project would create 300 high-quality jobs in the first 5 years of operation. (General Fund Funding) Contact: Pilar Magana (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 San Leandro, CA next to Cuberg's existing facility and is located in an industrial general zoning district suitable for the manufacturing activities that Cuberg will perform. The project scope includes converting the existing warehouse shell into a suitable 2019 California Building Code Group F occupancy building to house Cuberg's battery manufacturing line. The construction work to be completed includes building demising walls and interior separations, electrical upgrades, adding core restrooms, adding HVAC systems, and structural/seismic upgrades. Once operations commence, the manufacturing work to be completed includes electrode coating, cell assembly, electrolyte filling, formation, conditioning, packaging and shipping. 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
TLB Fire Protection Engineering, Inc.	\$0	\$25,000
Safety and Compliance LLC	\$0	\$25,000
ReadyLimit (dba of BenTyler Enterprises, inc.)	\$0	\$50,000
TBD: Manufacturing Consulting	\$0	\$100,000

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
Shopcore Properties TRS Management LLC	\$0	\$5,000,000
Rossi Builders Inc.	\$0	\$10,000,000
Veolia ES Technical Solutions, L.L.C.	\$0	\$500,000
Supply Chain Consulting- TBD	\$0	\$30,000
Workforce Training Development- TBD	\$0	\$30,000
Product Traceability- TBD	\$0	\$30,000
Certification Services- TBD	\$0	\$200,000

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
No key partners to report

K. Budget Information

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	\$11,207,887

TOTAL Amount: \$11,207,887

R&D Program Area: N/A

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: Megan Haines
Address: 2020 Williams Street Suite E
City, State, Zip: San Leandro, CA 94577
Phone: 510-725-4200
E-Mail: megan.haines@cuberg.net

2. Recipient's Project Manager

Name: Robert Lundeen
Address: [2020 Williams Street Suite E](#)
City, State, Zip: [San Leandro, CA 94577](#)
Phone: 630-251-17878
E-Mail: robert.lundeen@cuberg.net

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".

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: 1/9/2023

Office Manager: Charles Smith

Approval Date: 1/22/2023

Deputy Director: Melanie Vail

Approval Date: 1/31/2023

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Facility design
3		Design, selection and procurement of manufacturing tools and equipment
4	X	Preconstruction - Procurement of construction materials and mechanical, electrical, and plumbing (MEP) equipment for facility build out
5		Facility conditioning and build out
6		Production data integration, quality control and line management tools implementation
7		Installation and commissioning of manufacturing tools and equipment
8	X	Hiring and training of manufacturing and production control team
9		Documentation of manufacturing methods and development of standard operating procedures
10		Implementation of a quality management system
11	X	Establish disposal and product recycling processes
12		Establish an efficient shipping/receiving and inventory system
13		Strengthen and diversify the supply chain
14		Sign additional customer engagements
15		Create a customer service department
16		Data Collection and Analysis
17		Project Fact Sheet

GLOSSARY

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

Term/ Acronym	Definition
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
CRM	Customer/Contact Relationship Management tool

Term/ Acronym	Definition
CTP	Clean Transportation Program
EWI	Electronic Work Instructions
ERP	Enterprise Resource Planning
FAT	Factory Acceptance Tests
FTD	Fuels and Transportation Division
GC	General Contractor
IMS	Inventory Management System
IT	Information Technology
KPI	Key Performance Indicators
MEP	Mechanical, Electrical and Plumbing
MES	Manufacturing Execution System
OEE	Overall Equipment Effectiveness
PO	Purchase Order
QMS	Quality Management System
Recipient	Cuberg, Inc.
SAT	Site Acceptance Tests
SOP	Standard Operating Procedure
WMS	Warehouse Management System

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 fund 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 #3 which was proposed for funding in the CEC’s Notice

of Proposed Awards on August 24, 2022. 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:

Lithium-ion batteries do not have sufficient energy density and safety to reach the performance needed for mass-market electrification of the transportation sector. Many emerging approaches to improve battery performance suffer from major challenges with scalability and manufacturing incompatibility. California's goal to transition all off-road vehicles and equipment, drayage trucks, and passenger vehicle sales to ZEVs by 2035 requires a dramatic improvement in the commercial availability of high-performance battery solutions. To meet this goal, California will have to ensure that cutting edge but realistic technology for the broad electric transportation market is manufactured and available at scale.

Goals of the Agreement:

The goals of this Agreement are to:

- Establish a lithium metal battery manufacturing facility. This goal will be met by achieving the production planning and production control objectives listed below.
- Create high-quality jobs for college and non-college graduates. This goal will be met by staffing the manufacturing facility.
- Increase sales, secure capital, and accelerate the deployment of ZEVs. This goal will be met by engaging customers and improving customer service.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Design and build out the lithium metal battery manufacturing facility. Manufacturing operations would span raw materials processing to battery module manufacturing with a targeted output of 200 MWh of battery production annually (approximately 2.7 million battery cells per year), increasing Cuberg, Inc.'s (Cuberg) current pilot line production capacity by 100x.
- Scope out, design, procure, install, and commission the manufacturing equipment that will achieve the production and yield targets.
- Hire and train 300+ diverse workers, emphasizing job quality and continued development of an Inclusion and Diversity in Hiring Program, which will also include upward mobility initiatives.
- Implement systems to manage the end-to-end production process, from raw materials inbound shipments to finished goods outbound shipments.

- De-risk the supply chain and find domestic vendors and suppliers for battery production.
- Develop a Quality Management System that complies with national and international quality standards.
- Increase sales with a target of \$100 million revenue for fiscal year 2025.

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)

TECHNICAL TASKS

TASK 2 FACILITY DESIGN

The goal of this task is to establish and define: the facility's size, function, configuration, and spaces; the operation or use of equipment; the materials for the principal building structures and systems; and assemble the permit set which will be used during the construction phase.

The Recipient shall:

- Review proposed designs and ideas for facility design and hire and onboard the project team, including program manager, project manager(s), technical lead(s), architectural firm, engineers, consultants, etc.
- Prepare a *Schematic Design Concept* that includes but is not limited to:
 - Process workflows
 - Tentative equipment layout
 - Hazardous materials inventory statement
 - Key areas
 - Physical requirements and relationships of all the required building spaces and components.
- Meet with City Officials (Fire, Building and Planning departments) to review the Schematic Design Concept and obtain preliminary feedback that will be integrated in the final construction documents.

- Confirm and revise, if needed, project schedule and occupancy dates with consultants.
- Review/refine floor plans, site plans and building elevations for functionality, usability, required adjacencies, code compliance, security, safety, and aesthetics.
- Assemble the *Final Design Documentation* that includes but is not limited to:
 - Final floor plans, site plans and building elevations
 - A complete description of building systems (structural, mechanical, HVAC, plumbing, and electrical)
 - Interior and exterior finishes at the building site
 - Control strategies for all equipment and systems relating to building services and hazmat.

Products:

- Schematic Design Concept
- Final Design Documentation

TASK 3 DESIGN, SELECTION AND PROCUREMENT OF MANUFACTURING TOOLS AND EQUIPMENT

The goal of this task is to scope out and procure the manufacturing tools and equipment needed to produce battery cells.

The Recipient shall:

- Leverage existing pilot line processes and lessons learned to define and optimize high-throughput processes that will meet the production target.
- Draft a set of requirements in the *Production Roadmap* to create a manufacturing line that meets the volume and yield targets, outlining the following, including, but not limited to:
 - Production steps and processes involved, including takt manufacturing time and Key Performance Indicators
 - Production equipment, including preventative and maintenance tasks
 - Labor for staffing the manufacturing line, include hours/shift breakdown and additional hires needed
 - Overhead required to staff and operate the manufacturing line
 - Raw materials supply chain
 - Traceability requirements describing cell manufacturing and termination methods following industry best practices and a rigorous quality control process

- Other relevant resources.
- Identify strategies to leverage existing manufacturing equipment: utilizing/retrofitting existing equipment and processes or purchasing new equipment and tooling.
- For purchasing new manufacturing equipment, obtain quotes from vendors and schedule site visits. For custom pieces of equipment, a joint development agreement may be put in place with the equipment manufacturer.
- Select and procure manufacturing equipment.
- Purchase and install software required to operate the manufacturing equipment.
- Prepare a *Production Report* that includes, but is not limited to:
 - A final flowchart of processes including takt manufacturing time
 - A description of the production equipment selected including a discussion of the quality control strategy and metrics chosen
 - An analysis of the selection criteria, including a cost/benefit analysis
 - A preliminary analysis of resources needed to reach the volume and yield targets (additional hires, blanket purchase orders established for procurement, etc.)
 - A discussion of viable paths toward full traceability
 - A discussion of lessons learned and next steps to overcome remaining challenges, if any.

Products:

- Production Roadmap
- Production Report

TASK 4 PRECONSTRUCTION - PROCUREMENT OF CONSTRUCTION MATERIALS AND MEP EQUIPMENT FOR FACILITY BUILD OUT

The goal of this task is to hire a general contractor and procure all materials and MEP equipment needed to build the facility.

The Recipient shall:

- Bid the project out to a minimum of three general contractors (GC).
- Draft a *Contractor Bids Analysis* that includes but is not limited to:
 - A description of the request for proposal process
 - A summary and comparison of contractor candidates' proposals, including proposed budget and timelines
 - Selection and scoring criteria for candidates

- A discussion of the final decision.
- Hire and onboard the GC and bid the project out to the subcontractors selected by the GC.
- Onboard the subcontractors.
- Confer with stakeholders (users, suppliers, architects, contractors) to determine the critical design criteria for the MEP equipment.
- Assemble an *Owner-furnished MEP Equipment Report* that includes but is not limited to:
 - Critical design and selection criteria for the MEP equipment
 - A list of the MEP equipment that will be owner-furnished and contractor installed such as dry rooms, chemical reactors, chemical fume hoods, etc.
 - Quotes from suppliers
 - Installation parameters and process for the MEP equipment
 - Cut sheets and photographs, if available.
- Obtain material and equipment submittals for the MEP equipment and review with users and contractors.
- Procure all construction and MEP equipment.
- Review and refine the project schedule if needed.

Products:

- Contractor Bids Analysis
- Owner-furnished MEP Equipment Report

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

TASK 5 FACILITY CONDITIONING AND BUILD OUT

The goal of this task is to build out the facility that will house the battery manufacturing line.

The Recipient shall:

- Assemble a *Detailed Construction Schedule* that includes, but is not limited to, a discussion of risks, potential delays, and mitigation strategies.
- Organize an extensive cleanup of the site, pre-construction.
- Mobilize subcontractor trades on site and confirm floor plan layout and floor slab tracing based on construction documents.
- Assist the GC with problem solving during all construction phases (demolition, foundation, underground work, framing, etc.).
- Oversee the budget and schedule to ensure the project remains on track.

- Draft a *Quarterly Construction Report* that documents the build out progress after three months of construction. The Report shall include, but is not limited to, photographs and a description of progress in the following areas:
 - Demolition
 - Structural
 - Underground work
 - MEP rough in, also known as the stage of a construction project when the various mechanical, electrical, and plumbing lines are brought in. Once the framing is up, the rough-in stage of construction begins. This is when lines are laid out, but final connections are not made until other stages of the project are completed
 - Wall and ceiling framing
 - Flooring.
- Manage installation and site acceptance tests of all MEP equipment.
- Document and approve all changes or refinements to the drawings or specifications via submittals and change orders.
- Liaise with City Officials during periodic reviews and inspections of the construction site.
- Obtain final certificate of occupancy and discretionary permits.
- Draft a *Final Construction Report* that includes but is not limited to:
 - A summary of all construction work
 - A summary of change orders
 - Lessons learned
 - Final schedule and budget
 - Photographs.

Products:

- Detailed Construction Schedule
- Quarterly Construction Report
- Final Construction Report

TASK 6 PRODUCTION DATA INTEGRATION, QUALITY CONTROL, AND LINE MANAGEMENT TOOLS IMPLEMENTATION

The goal of this task is to centralize data management to provide full traceability and genealogy from raw materials to finished product and efficiently automate the manufacturing line, including quality management and control, via connected devices and production equipment.

The Recipient shall:

- Draft a *Data Integration Roadmap* that includes but is not limited to:
 - Data integration strategy
 - Goals
 - Timescale
 - Budget
 - Scalability.
- Staff the data team to develop internal information technology and data capabilities adapted to the strategy selected (custom versus off the shelf).
- Define a data governance plan with input from stakeholders.
- Analyze the full data lifecycle.
- Design a Manufacturing Execution System (MES) to provide automation of the following functionalities, including, but not limited to:
 - Production order scheduling and optimization
 - Work order management
 - Production order execution
 - Production process status and monitoring in real time
 - Machine data collection and performance monitoring
 - Inventory level monitoring in real time
 - Material genealogy (tracking and tracing)
 - Quality management and control
 - Real-time production data collection
 - Tools for Key Performance Indicators (KPI) and Overall Equipment Effectiveness (OEE) analytics, reporting and dashboards
 - Integration with Electronic Work Instructions (EWI) to support operators in order execution.
- Assemble a *MES Report* that includes but is not limited to:
 - Detailed MES system user requirements
 - A list of all functionalities automated via the MES system
 - A schedule for implementation and testing
 - A risk assessment for the definition, design, development, and deployment phases

- The integration points and latency between the various layers that comprise the enterprise architecture.
- If applicable, perform a gap analysis for both the control system(s) layer and enterprise resource planning (ERP) layer.
- If an off the shelf solution, anticipate significant adjustments for development of the operation-specific specifications, programming and testing.
- Integrate the MES software with other production control systems.
- Provide training to understand and interpret the unified data and act upon the insights it produces.

Products:

- Data Integration Roadmap
- MES Report

TASK 7 INSTALLATION AND COMMISSIONING OF MANUFACTURING TOOLS AND EQUIPMENT

The goal of this task is to establish and qualify the production equipment purchased in Task 3.

The Recipient shall:

- Attend and validate the Factory Acceptance Tests (FAT) at the vendor facility prior to shipping the equipment onsite.
- Develop a *Commissioning Checklist* that includes but is not limited to:
 - Equipment installation schedule
 - Bill of Materials required for the Site Acceptance Tests (SAT)
 - Personnel required for installation and training
 - SAT performance metrics and relevance of metrics.
- Contract with a rigging company to move and anchor the equipment to the final onsite location.
- Order all the supplies needed for equipment commissioning.
- Organize vendors' visit to perform the SATs.
- Troubleshoot any remaining issues.
- During the vendor's visit, schedule trainings with all operators and maintenance personnel.
- Establish a preventive maintenance process and schedule.
- Develop a *Factory/Site Acceptance Tests Report* that includes but is not limited to:
 - Results of the FAT/SAT process
 - Remaining issues

- Mitigation strategies
- Lessons learned.

Products:

- Commissioning Checklist
- Factory/Site Acceptance Tests Report

TASK 8 HIRING AND TRAINING OF MANUFACTURING AND PRODUCTION CONTROL TEAM

The goal of this task is to hire and train the workforce needed to run and maintain the manufacturing line and all associated operations (warehouse, inventory, supply chain, sales, customer service) and integrate lessons learned as a part of the Inclusion in Diversity and Hiring Program.

The Recipient shall:

- Hire production, maintenance, and logistics team members.
- Advertise job openings using strategies that promote diversity and inclusion.
- Screen applications and interview candidates, practicing interview techniques that eliminate unconscious bias.
- Onboard and provide on-the-job trainings to new team members.
- Leverage workforce training programs.
- Prepare a *Hiring Report* to support the Inclusion in Diversity and Hiring Program that includes but is not limited to:
 - Initial and final headcounts
 - Demographic information
 - Hiring strategies to promote diversity and inclusion
 - Strategies to promote hiring within local communities
 - A list of workforce training programs available
 - Initiatives developed and implemented for upward mobility opportunities.

Products:

- Hiring Report

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

TASK 9 DOCUMENTATION OF MANUFACTURING METHODS AND DEVELOPMENT OF STANDARD OPERATING PROCEDURES

The goal of this task is to establish a robust documentation management system, develop and manage standard operating procedures (SOPs) to ensure safety throughout the manufacturing line, uniformity of the battery cells assembled, and efficient use of resources (training time, parts, labor).

The Recipient shall:

- Evaluate the existing documentation management system and practices in the context of (1) efficiency and ease of accessibility; (2) traceability; and (3) regulatory compliance. Make necessary changes and updates as needed.
- Confer with stakeholders (such as future customers, Cuberg manufacturing team (i.e. technicians and operators), Cuberg business development team, the Cuberg process engineering team, and potential suppliers) to develop a master list of all processes that need to be formally documented.
- Draft a *Documentation Process Report* that will detail a systematic approach to develop and manage SOPs, including, but not limited to:
 - Determining the format (narrative, diagrams, etc.)
 - Creating a template and reviewing with the stakeholders as the template should be collectively approved and used organization-wide
 - Establishing a formal review process that states who the SOP is sent to for approval once it is written and who has the final approval authority and will ensure that processes are made effective and published within the organization's central information system.
 - Determining how and by whom processes will be accessed.
- Collect all content information from subject matter experts and existing documentation.
- Write, review, and publish the SOPs.
- Establish a maintenance schedule for periodic and systematic reviews of all documentation.

Products:

- Documentation Process Report

TASK 10 IMPLEMENTATION OF A QUALITY MANAGEMENT SYSTEM

The goal of this task is to establish a quality management system (QMS) that ensures consistent standards and full traceability, demonstrates transparency for regulators, and defines what quality means within the Cuberg organization.

The Recipient shall:

- Define Cuberg's organizational direction and goals, values, and priorities.
- Define quality policies and measurable objectives.
- Map all processes (input, activities, and output) from raw materials purchase to finished goods shipping and define defects.
- Develop metrics to track and monitor critical success factors data such as customer satisfaction, supplier performance, defects, and preventive and corrective action.
- Define a quality procedure, including internal audits, compliance requirements, management review, corrective and preventive actions, and communication processes.
- Develop a *Quality Manual* to document the following:
 - The scope of the QMS
 - The requirements of the QMS standard or framework
 - Any elements of the QMS which are excluded from the implementation with justification
 - Specific quality procedures used within the organization
 - Visual documentation of critical processes via flowchart
 - The organization's quality policies and objectives
 - Performance metrics.
- Define the roles and responsibilities in the QMS and provide continuing education and training to ensure process owners have the needed skills, education, and training necessary to execute their roles.
- Select and implement suitable QMS software.

Products:

- Quality Manual

TASK 11 ESTABLISH DISPOSAL AND PRODUCT RECYCLING PROCESSES

The goal of this task is to set up safe, environmentally friendly and cost-effective disposal and/or recycling processes for products that do not meet quality control criteria.

The Recipient shall:

- Draft a *Product Disposal Roadmap* that includes but is not limited to:
 - Criteria for categorization of defective products: destruction versus recycling
 - Safe waste storage and handling procedures
 - Packaging options
 - Pricing at anticipated volumes.
- Reach out to waste management companies and inquire about their destruction processes and capabilities, waste packaging requirements, pricing at anticipated volumes, etc.
- Select one or several waste management companies and establish a schedule for recurring waste pick-up.
- Leverage Northvolt's recycling program, Revolt, to assess the feasibility of an internal recycling process for Cuberg batteries .
- Perform recycling tests at Northvolt's recycling facility in Sweden.
- Investigate the feasibility of conducting the recycling process at Cuberg's facility in California.
- Draft a *Product Disposal Report* that includes but is not limited to:
 - A discussion of the feasibility of the recycling approach:
 - Collection of processed materials from defective finished product (battery dismantling, crushing, and sorting)
 - Processed materials treatment and purification to recover raw materials (hydrometallurgical treatment)
 - Assembly of new batteries using recycled raw materials
 - Validation of batteries assembled with recycled materials
 - A summary of the disposal approach taken with justifications
 - Lessons learned
 - Strategies to maximize the ratio of battery cells recycled.

Products:

- Product Disposal Roadmap
- Product Disposal Report

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

TASK 12 ESTABLISH AN EFFICIENT SHIPPING/RECEIVING AND INVENTORY SYSTEM

The goal of this task is to automate and streamline the inbound/outbound logistics and maintain an accurate inventory from raw materials to finished goods.

The Recipient shall:

- Scope out and implement a Warehouse Management System (WMS).
- Automate the inbound recording and receipts process.
- Perform inbound planning and coordinate load arrival with loads appointments, reserved docks, equipment, and staging areas.
- Implement real time put away and close receipt process, outbound order validation and exceptions handling.
- Develop and track relevant metrics: dock to stock time, dock utilization, receiving error reporting, supplier shipping problems, etc.
- Define processes for packing items, inspecting, labeling, routing, and manifesting outbound orders per specific customer requirements.
- Ship finished goods to customers in compliance with all applicable regulations and generate documentation.
- Scope out and implement an Inventory Management System (IMS) that provides the following capabilities:
 - Real time inventory
 - Bar code scanning
 - Inventory trends and future forecasting
 - Ability to set reorder points
 - Ease of use and reporting.
- Develop a *Shipping/Receiving and Inventory Report* that includes but is not limited to:
 - Management systems candidates and justification for final selection
 - Features of interest
 - Metrics tracked and relevance, including tracked inventory metrics
 - Lessons learned
 - Tracking of inventory metrics: average storage cost per unit, total number of bins/shelves/pallets currently in use, stock per location, etc.

Products:

- Shipping/Receiving and Inventory Report

TASK 13 STRENGTHEN AND DIVERSIFY THE SUPPLY CHAIN

The goal of this task is to develop a strong and resilient supply chain management function.

The Recipient shall:

- Find domestic alternatives to foreign suppliers whenever possible.
- Find and use California suppliers whenever feasible.
- Build redundancies, including emergency stockpiles, safety stocks, and diversified sourcing from offshored, nearshored, and/or reshored suppliers.
- Consider replacing large suppliers with small to medium suppliers that offer more flexibility.
- Leverage both private and public supply chain stakeholders, including government agencies.
- Perform effective demand planning process via the Inventory Management System.
- Establish detailed contracts with all suppliers that include, at minimum, the scope of service, service level agreements, level of reporting, and terms and conditions.
- Assess suppliers via thorough request for proposals.
- Provide standardized workflows and checklists for audits and inspections.
- Perform compliance checks and audits.
- Utilize suppliers that have multiple manufacturing and shipping locations with the ability to repackage and deliver different configurations (bulk, bags, totes, etc.).
- Leverage suppliers with extensive distribution networks, including suppliers that can source raw materials from domestic as well as foreign sources.
- Assess geographical dependencies, both the country of origin of the manufacturer and the distributor.
- Reevaluate storage, handling, and shelf life of products, both in-house capabilities and vendor-managed inventory.
- Strengthen supplier relationships to minimize disruptions of critical products.
- Draft a *Supply Chain Report* that includes but is not limited to:
 - A description of the supply chain at the beginning of the project (geographical dependencies, size, private vs. public, etc.)
 - Risk assessment for key suppliers
 - Mitigation strategies (i.e. demand planning process, redundancies, supplier relationships, blanket purchase orders, etc.)

- A description of the supply chain at the end of the project and justification of the suppliers or strategies selected
- Lessons learned.

Products:

- Supply Chain Report

TASK 14 SIGN ADDITIONAL CUSTOMER ENGAGEMENTS

The goal of this task is to increase sales and secure capital.

The Recipient shall:

- Share Cuberg's story, mission, vision and personalize interactions with customers.
- Increase visibility and brand awareness using social media and press releases.
- Attend conferences, forums, and other networking events.
- Scope out and implement a Customer/Contact Relationship Management tool (CRM) to manage the sales pipeline.
- Evaluate potential customers and partners and conduct site visits.
- Assess Cuberg's technology against the customer needs and conduct preliminary tests in-house.
- If applicable, confer with the customer to draft a product customization roadmap and joint development agreement.
- If the product customization project is successful, draft and sign sales agreements that include the type, amount, and duration of their commitment.
- Draft a *Commercialization Report* that includes but is not limited to:
 - Product description
 - Industry sector and target markets
 - Value proposition
 - Key market drivers and market entry challenges
 - Business model
 - Marketing and sales strategy
 - Environmental and social impacts
 - Customers, secured and prospective
 - Revenue, secured and anticipated.

Products:

- Commercialization Report

TASK 15 CREATE A CUSTOMER SERVICE DEPARTMENT

The goal of this task is to improve operating efficiency and customer service levels.

The Recipient shall:

- Establish a clear role and objectives for the customer service department, such as reducing the time to respond to customer inquiries, reducing the cost of handling service requests and improving levels of customer satisfaction.
- Analyze customer interactions (Why do customers reach out? How often? What channels do they use?), obtain customers' feedback, and integrate findings into the Customer Service Plan.
- Define a customer service strategy and set measurable goals.
- Establish robust processes in analyzing returned products under warranty.
- Establish a process for monitoring performance against the standards and introduce staff or departmental incentives for meeting or exceeding the standards.
- Document all customer service interactions in the CRM software.
- Draft a *Customer Service Plan* that includes but is not limited to:
 - Customers' needs
 - Customer service processes and capabilities
 - Customer service strategy
 - Performance metrics
 - Internal tools and software
 - Customer journey and service design map to clarify the steps to assist the customer.

Products:

- Customer Service Plan

Task 16 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 as described above.

Products:

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

TASK 17 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