STATE OF CALIFORNIA
GRANT REQUEST FORM (GRF)
CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

A) New Agreement # EPC-20-027 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Joshua Croft	51	916-445-5309

C) Recipient's Legal Name	Federal ID Number
Cuberg, Inc.	47-4245922

D) Title of Project
High-Performance Battery Systems to Power the Rise of Electric Mobility

E) Term and Amount

Start Date	End Date	Amount
5/1/2021	3/30/2024	$ 3,499,525

F) Business Meeting Information

☐ ARFVTP agreements $75K and under delegated to Executive Director

Proposed Business Meeting Date 4/14/2021 ☐ Consent ☒ Discussion

Business Meeting Presenter Michael Ferreira Time Needed: 5 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)

Agenda Item Subject and Description:

Cuberg, Inc. Proposed resolution approving Agreement EPC-20-027 with Cuberg Inc. for a $3,499,525 grant to design and manufacture an ultra-safe, non flammable lithium-metal cell battery technology, and adopting staff's determination that this agreement is exempt from CEQA. The cell battery technology will be integrated into a lightweight, high-performance module acceptable for high energy-density applications such as long-range electric vehicles and electric aviation.

G) California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
   ☒ Yes (skip to question 2)
   ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

   Explain why Agreement is not considered a "Project":

2. If Agreement is considered a "Project" under CEQA:
   a) ☒ Agreement **IS** exempt.
      ☐ Statutory Exemption. List PRC and/or CCR section number:
      ☒ Categorical Exemption. List CCR section number: Cal. Code Regs., tit. 14, § 15301
      ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

      Explain reason why Agreement is exempt under the above section: This project is categorically exempt because the project will take place in an existing facility already permitted for this type of activity. There will be no effect to the

environment and all waste will be disposed of according to all applicable regulations.

b) Agreement **IS NOT** exempt. (consult with the legal office to determine next steps)

Check all that apply

- ☐ Initial Study
- ☐ Negative Declaration
- ☐ Mitigated Negative Declaration
- ☐ Environmental Impact Report
- ☐ Statement of Overriding Considerations

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

Legal Company Name:	**Budget**
To Be Determined	$ 92,000
Veolia North America	$ 35,000
Electroflight Ltd.	$ 0

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

Legal Company Name:

J) Budget Information

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	19-20	301.001G	$3,499,525
			$

R&D Program Area: EDMFO: EDMF TOTAL: $ 3,499,525

Explanation for “Other” selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: Olivia Risset

Address: 1198 65Th St Ste 170

City, State, Zip: Emeryville, CA 94608-1474

Phone:

E-Mail: Olivia.Risset@cuberg.net

2. Recipient’s Project Manager

Name: Olivia Risset

Address: 1198 65Th St Ste 170

City, State, Zip: Emeryville, CA 94608-1474

Phone:

E-Mail: Olivia.Risset@cuberg.net

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-20-301

☐ First Come First Served Solicitation Solicitation #:

M) The following items should be attached to this GRF

1.	Exhibit A, Scope of Work		☒ Attached
2.	Exhibit B, Budget Detail		☒ Attached
3.	CEC 105, Questionnaire for Identifying Conflicts		☒ Attached
4.	Recipient Resolution	☒ N/A	☐ Attached
5.	CEQA Documentation	☐ N/A	☒ Attached

Joshua Croft *3/5/2021*
Agreement Manager **Date**

Erik Stokes *3/5/2021*
Office Manager **Date**

Linda Spiegel *3/5/2021*
Deputy Director **Date**

Exhibit A
Scope of Work
Cuberg, Inc.

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		R&D and Supply Chain Study for the Ultra-Safe Cell Design
3		Characterization of the Ultra-Safe Cell Design
4	X	Multi-Cell Architecture and BMS Development
5		Demonstration of Cell Pilot Line Production
6	X	Manufacture and Formation/Ageing of Cells to Support the Module Development Efforts
7		Module Development
8	X	Characterization of the Module
9		Manufacture Module Prototypes
10		Module Validation by Customers
11		Evaluation of Project Benefits
12		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
BMS	Battery Management System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
eCTOL	Electric Conventional Takeoff and Landing
eVTOL	Electric Vertical Takeoff and Landing
EV	Electric Vehicle
TAC	Technical Advisory Committee
UAV	Unmanned Aerial Vehicle

II. PURPOSE OF AGREEMENT, PROBLEM/SOLUTION STATEMENT, AND GOALS AND OBJECTIVES

A. Purpose of Agreement

The purpose of this Agreement is to fund the design and manufacturing of an ultra-safe, non-flammable battery based on the Recipient's novel lithium-metal cell technology and integrate it into a lightweight, high-performance module. This could be used for high energy-density applications such as general electric aviation, which promises to be cheaper and cleaner with a

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

big CO2 impact, and long-range electric vehicles. Examples of possible applications include: electric Unmanned Aerial Vehicle (UAVs) for transmission line inspection; domestic airlines, making flights within CA electric; and electric helicopters, which are likely to replace standard helicopters for public uses such as medical transports and policing, at a lower cost and reduced environmental impact. For future integration into electric vehicles (EV), Recipient plans to leverage a high-profile strategic partnership with a preeminent electric vehicle battery manufacturer (to be announced in Q1 2021). The Recipient has already demonstrated

(i) Expertise in conducting R&D and manufacturing activities with designing and producing the only battery cell entering the market that meets aerospace demand for a high performance (80% higher energy than lithium-ion) and high safety (40% higher thermal limit) product, independently validated by Idaho National Lab;

(ii) (ii) Strong customer traction, with ongoing monthly production of 500+ lithium metal cells, and several hundred thousand dollars in commercial income within the past year;

(iii) A unique ability to scale up rapidly to meet customer demand with a capital-efficient contract manufacturing model – less than $3M to reach pilot production scale compared to $30M to $200M for other emerging technologies.

Through this award, Recipient will design and prototype the first fully integrated battery pack assembled with high performance next-gen batteries that can be used as a direct replacement for lithium-ion batteries in electric vehicles (automotive or aviation). From a business standpoint, Recipient anticipates this award will lead to major partnership with high profile stakeholders in the electric aviation sector.

B. Problem/ Solution Statement

Problem

In the recent years, the performance of lithium-ion batteries has plateaued with materials approaching their fundamental limits. Furthermore, lithium-ion batteries require often costly and heavy safety engineering systems to prevent the flammable electrolyte from catching fire. Lithium-ion batteries do not have sufficient energy density and safety to reach the performance needed for mass-market electrification of the automotive and aviation sectors. Additionally, many emerging approaches to improve battery performance suffer from major challenges with scalability and manufacturing incompatibility.

Increasing flight time, payload capability and reliability for UAVs and the broader electric aviation sector represent key pain points for the aerospace industry. Similarly, increasing mileage range and improving safety is key to accelerate the market penetration of electric vehicles. Specifically, improvements in cell specific energy (Wh/kg), power (W/kg), and safety – all of which can dramatically lower cost per kWh at the pack level – are critically needed to enable the rise of electric mobility, and support California in meeting its 2035 100% electric vehicle mandate.

Solution

The Recipient is developing a next-generation battery technology to address growing demand in the electric vehicle and emerging Urban Air Mobility market. The batteries deliver a step-change improvement in energy density and safety compared to the best lithium-ion batteries in the world today. As such, the batteries can deliver the power needed for vertical takeoff and landing and will enable UAVs and electric planes to achieve longer flight time with improved reliability and substantially reduced risk of fire or in-flight breakup than current lithium-ion batteries. When

equipped with such technology, UAVs can provide better capabilities for search-and-rescue efforts, logistics missions, and monitoring for agriculture, oil and gas, and utilities. In 2019, the Recipient performed the world's first UAV flight with a safe lithium metal battery, increasing flight time by 70% compared to lithium-ion batteries.

Furthermore, the Recipient has pioneered a capital-efficient approach to commercialization, never demonstrated with other emerging battery technologies, that uses low-cost contract manufacturers to produce dry lithium metal pouch cells (cathode, separator, anode, and packaging). These cells are produced with high throughput on existing lithium-ion production lines, thus avoiding more than 95% of the capital expense typically required to scale up a new battery technology to pilot production. The cells undergo significant assembly and finishing in California – which retains tight control over all intellectual property and qualifies as U.S. origin.

C. Goals and Objectives of the Agreement

Agreement Goals
The goals of this Agreement are to:

- Adapt the Recipient's existing battery to enable integration into an airworthy module suitable for Urban Air Mobility systems
- Achieve Low-Rate Initial Production for the recipient's ultra-safe cells and obtain safety certifications
- Engineer and prototype a ground-breaking module integrating energy-dense and safe lithium-metal cells for use in Urban Air Mobility Systems, implementing innovative materials, methods, and ideas
- Manufacture and ship the high-performance modules for customer validation

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety by enabling the commercialization and democratization of electric vehicles and clean aviation services based on renewable technologies. In the short term, the battery modules will power UAVs with better capabilities for search-and-rescue efforts, logistics missions, and monitoring for agriculture, oil and gas, and utilities. More broadly, the modules will provide the critical improvements needed in performance and safety profile for the broader electric mobility sector (aviation and automotive). The energy-dense batteries will lead to safe battery packs with lower cost per kWh and eventually create cheaper electric vehicles that will be accessible to middle- and lower-income communities.

Technological Advancement and Breakthroughs:[3] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by enabling the design of an ultrasafe battery module and its integration into the world's most efficient and energy-dense pack for use in electric mobility applications. These energy-dense battery packs will decrease the cost per kWh and eventually accelerate the mass market adoption of electric vehicles as cheaper, higher range and safer

[2] California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC "Phase 2" Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).

electric vehicles are produced. This will assist California to achieve statutory goals, particularly "to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030" (SB 32), as electric vehicles become more economically and functionally appealing to consumers.

Agreement Objectives

The objectives of this Agreement are to:

- Design a safety-certified battery suitable for module integration that meets the minimum cell-level electrochemical performance specified in the Project Performance Metrics
- Design and build an LRIP pilot line for the ultra-safe cells with production volumes up to 55 kWh/month with a yield > 90%
- Engineer a battery module that meets the minimum module performance specified in the Project Performance Metrics
- Produce up to 300 kWh equivalent of module prototypes
- Ship up to 300 kWh equivalent of module prototypes to customers for validation; receive feedback and commitments for future purchase

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V).** All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations**.** All technical tasks should include product(s). Products that require a draft version are indicated by marking **"(draft and final)"** after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, **"days"** means working days.

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.
- Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

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For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products

- Submit all data and documents required as products in accordance with the following:

Instructions for Submitting Electronic Files and Developing Software:

- **Electronic File Format**
  - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

  The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:
  - Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
  - Text documents will be in MS Word file format, version 2007 or later.
  - Project management documents will be in Microsoft Project file format, version 2007 or later.

- **Software Application Development**

  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open-source programs:
  - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
  - Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
  - Visual Studio.NET (version 2008 and up). Recommend 2010.
  - C# Programming Language with Presentation (UI), Business Object and Data Layers.
  - SQL (Structured Query Language).
  - Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
  - Microsoft SQL Reporting Services. Recommend 2008 R2.
  - XML (external interfaces).

  Any exceptions to the Electronic File Format requirements above must be approved in writing by the CAM. The CAM will consult with the CEC's Information Technology Services Branch to determine whether the exceptions are allowable.

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MEETINGS

Subtask 1.2 Kick-off Meeting
The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Match fund documentation (subtask 1.7);
  - Permit documentation (subtask 1.8);
  - Subcontracts (subtask 1.9); and
  - Any other relevant topics.

  The technical portion of the meeting will include discussion of the following:
  - The CAM's expectations for accomplishing tasks described in the Scope of Work;
  - An updated Project Schedule;
  - Technical products (subtask 1.1);
  - Progress reports (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
  - Any other relevant topics.

- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy

- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

- Designate the date and location of the meeting.
- Send the Recipient a *Kick-off Meeting Agenda*.

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Recipient Products:

- Kick-off Meeting Presentation
- Updated Project Schedule *(if applicable)*
- Match Funds Status Letter (subtask 1.7) *(if applicable)*
- Permit Status Letter (subtask 1.8) *(if applicable)*

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

- Prepare and submit a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a *CPR Agenda* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda will include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Deputy Director of the Energy Research and Development Division.

- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:

- CPR Report(s)

CAM Products:

- CPR Agenda
- Progress Determination

Subtask 1.4 Final Meeting

The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:

- Meet with CEC staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.
  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
  - The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
  - The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
    - Disposition of any procured equipment.
    - The CEC's request for specific "generated" data (not already provided in Agreement products).
    - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
    - "Surviving" Agreement provisions such as repayment provisions and confidential products.
    - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:

- Final Meeting Agreement Summary *(if applicable)*
- Schedule for Completing Agreement Closeout Activities
- All Final Products

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.

Products:

- Progress Reports
- Invoices

Subtask 1.6 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Energy Commission Style Manual* provided by the CAM.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Energy Commission Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)

  - Acknowledgements page (optional)
  - Preface (**required**)
  - Abstract, keywords, and citation page (**required**)
  - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
  - Executive summary (**required**)
  - Body of the report (**required**)
  - References (if applicable)
  - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
  - Bibliography (if applicable)
  - Appendices (if applicable) (Create a separate volume if very large.)
  - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:
  - Comments the recipient proposes to incorporate.
  - Comments the recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.

- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:

- Summary of TAC Comments
- Draft Final Report
- Written Responses to Comments *(if applicable)*
- Final Report

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

The goal of this subtask is to ensure that the Recipient obtains any match funds planned for this Agreement and applies them to the Agreement during the Agreement term.

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of CEC funds. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before

incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a *Match Funds Status Letter* that documents the match funds committed to this Agreement. 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 this 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 cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the 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 must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

- Match Funds Status Letter
- Supplemental Match Funds Notification Letter *(if applicable)*
- Match Funds Reduction Notification Letter *(if applicable)*

Subtask 1.8 Permits

The goal of this subtask 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, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
    - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
    - The schedule the Recipient will follow in applying for and obtaining the permits.

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project 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 progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

- Permit Status Letter
- Updated List of Permits *(if applicable)*
- Updated Schedule for Acquiring Permits *(if applicable)*
- Copy of Each Approved Permit *(if applicable)*

Subtask 1.9 Subcontracts

The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:

- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.
- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of each executed subcontract.
- Notify and receive written approval from the CAM prior to adding any new subcontractors (see the discussion of subcontractor additions in the terms and conditions).

Products:

- Subcontracts *(draft if required by the CAM)*

Exhibit A
Scope of Work
Cuberg, Inc.

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)
The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
  - Technical area expertise;
  - Knowledge of market applications; or
  - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.

The TAC may be composed of qualified professionals spanning the following types of disciplines:

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

Exhibit A
Scope of Work
Cuberg, Inc.

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

- List of Potential TAC Members
- List of TAC Members
- Documentation of TAC Member Commitment

Subtask 1.11 TAC Meetings

The goal of this subtask is for the TAC to provide strategic guidance for the project by participating in regular meetings, which may be held via teleconference.

The Recipient shall:

- Discuss the TAC meeting schedule with the CAM at the Kick-off meeting. Determine the number and location of meetings (in-person and via teleconference) in consultation with the CAM.
- Prepare a *TAC Meeting Schedule* that will be presented to the TAC members during recruiting. Revise the schedule after the first TAC meeting to incorporate meeting comments.
- Prepare a *TAC Meeting Agenda* and *TAC Meeting Back-up Materials* for each TAC meeting.
- Organize and lead TAC meetings in accordance with the TAC Meeting Schedule. Changes to the schedule must be pre-approved in writing by the CAM.
- Prepare *TAC Meeting Summaries* that include any recommended resolutions of major TAC issues.

The TAC shall:

- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate on behalf of the project in its effort to build partnerships, governmental support and relationships with a national spectrum of influential leaders.
- Ask probing questions that insure a long-term perspective on decision-making and progress toward the project's strategic goals.

- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:
- TAC Meeting Schedule (draft and final)
- TAC Meeting Agendas (draft and final)
- TAC Meeting Back-up Materials
- TAC Meeting Summaries

Subtask 1.12 Project Performance Metrics
The goal of this subtask is to identify key performance targets for the project. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

The Recipient shall:
- Complete and submit the project performance metrics from the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task, to the CAM.
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
- TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- TAC comments the Recipient does not propose to incorporate with and explanation why.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- Discuss the *Project Performance Metrics Results* at the Final Meeting.

Products:
- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2 R&D AND SUPPLY CHAIN STUDY FOR THE ULTRA-SAFE CELL DESIGN
The goal of this task is to perform a viability study on alternative cell designs (larger cell format, opposing tab cell arrangements, pouch sealing methods) and components (current collectors,

separator, active materials, etc.) to develop an ultra-safe cell optimized for module integration, based on the Recipient's existing commercial product.

The Recipient shall:

- Confer with stakeholders (customers, suppliers, etc.) to identify key cell design and supply chain challenges for module integration.
- Determine R&D strategies to reach high target cell-level performance metrics, including but not limited to:
    - alternative active materials
    - alternative separator
    - alternative current collectors
- Prepare a *Viability Test Plan* that describes the technical objectives, test procedures, conditions, facilities, and equipment required to assess the new components and cell designs. This document will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Conduct all experiments and down-select the alternative components and cell formats that meet the cell-level electrochemical performance outlined in the Project Performance Metrics Results.
- Design and implement a procurement/inventory system that alleviates concerns and challenges around the raw materials supply chain.
- Prepare a *Viability Study Report* that defines the design and components of the ultra-safe cell optimized for module integration. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Assemble an adequate number of ultra-safe cells to conduct the characterization experiments outlined in Task 3.

Products:

- Viability Test Plan
- Viability Study Report

TASK 3 CHARACTERIZATION OF THE ULTRA-SAFE CELL DESIGN

The goal of this task is to perform a full characterization of the ultra-safe cell performance under relevant operating conditions for electric aviation applications (realistic flight profiles, safety testing, self-heating) and obtain all relevant safety certifications.

The Recipient shall:

- Prepare a *Cell Characterization Plan*, including the conditions, facilities, and equipment required to conduct the following tests:
    - Simulation of realistic flight profiles to test the cells' electrochemical and physical properties
    - Safety screening experiments (overheating, nail penetration, overcharge, etc.)
    - This plan will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Conduct the tests outlined in the *Cell Characterization Plan*

- Prepare a *Cell Characterization Report* that describes the test results. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Determine the safety certifications needed, using battery safety testing methods and objectives established by DO-311A and recent Federal Aviation Administration Issue Papers as a guideline
- Send the cells to a third-party, certified test center to perform safety certification tests for UN, DOT, and UL standards, as needed
- Prepare a *Safety Report* that describes the results of the safety certification tests. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:
- Cell Characterization Plan
- Cell Characterization Report
- Safety Report

TASK 4 MULTI-CELL ARCHITECTURE AND BATTERY MANAGEMENT SYSTEM (BMS) DEVELOPMENT

The goal of this task is to assess cell behavior when integrated into various multi-cell architectures and collect a series of data to develop an effective BMS.

The Recipient shall:
- Confer with customers and the module subcontractor to identify the following:
    - relevant multi-cell architectures (series and parallel configurations) for optimum module design
    - data needed to develop the BMS
- Assemble the multi-cell architectures and determine the preferred configuration to meet the module performance outlined in the Project Performance Metrics Results
- Collect the data needed to develop an effective BMS, including but not limited to:
    - Resistance under various conditions (temperature, discharge rates, state of charge, state of health)
    - Self-heating
- Build thermal models using multidomain simulation software to understand how the temperature will fluctuate in the preferred architecture.
- Prepare a *Cell Integration Report* that details the various configurations explored and the lessons learned. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Prepare a *CPR Report 1* in accordance with subtask 1.3 (CPR Meetings)
- Participate in CPR Meeting

Products:
- Cell Integration Report
- CPR Report 1

Exhibit A
Scope of Work
Cuberg, Inc.

TASK 5 DEMONSTRATION OF CELL PILOT LINE PRODUCTION

The goal of this task is to design and implement high throughput production processes and develop a robust quality control system to reach the targeted production volumes and yield for the ultra-safe cell design, as stated in the Project Performance Metrics Results.

The Recipient shall:

- Draft a set of requirements in a *Pilot Production Roadmap* to create a pilot line that meets the volume and yield targets, as stated in the Project Performance Metrics Results , outlining the following:
    - Production steps and processes involved, including takt manufacturing time and Key Performance Indicators
    - Production equipment, including preventative and maintenance tasks
    - Labor, including hours/shift breakdown and additional hires needed
    - Overhead
    - Raw materials supply chain
    - Traceability requirements for the aerospace industry describing cell manufacturing and termination methods following industry best practices and a rigorous quality control process
    - Other relevant resources
    - This document will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Identify strategies to leverage existing pilot production line to handle the new ultra-safe cell design, which includes but is not limited to:
    - Utilizing existing equipment and processes
    - Retrofitting existing equipment and processes
    - Purchasing new equipment and tooling
- If purchasing new equipment, select, receive, and commission each piece of equipment
- Leverage existing production processes and lessons learned to:
    - Define and optimize high-throughput processes for the new cell design
    - Create a robust quality control system
- Set up documentation and draft standard operating procedures
- Hire additional production team members:
    - Advertise job openings, using strategies that promote diversity and inclusion
    - Screen applications and interview candidates, practicing unconscious bias interview techniques
    - Hire, onboard and train new team members according to standard operating procedures
- Research integrating traceability methods for cell manufacturing following the aerospace industry best practices and rigorous quality control process. (Note that full traceability that satisfies all requirements from the aerospace industry is out of the scope of this agreement.)
- Prepare a *Pilot Production Report* that includes, but is not limited to:
    - A final flowchart of processes including takt manufacturing time
    - A description of the production equipment

- An analysis of resources secured 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
- This report will be 5-20 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:

- Pilot Production Roadmap
- Pilot Production Report

TASK 6 MANUFACTURE AND FORMATION/AGEING OF CELLS TO SUPPORT THE MODULE DEVELOPMENT EFFORTS

The goal of this task is to manufacture, form, age and ship an adequate number of cells (minimum equivalent of 75 kWh) to support the module development efforts for one full pack at minimum.

The Recipient shall:

- Assemble a minimum of 75 kWh equivalent of cells on the pilot line
- Form and age the cells, according to existing procedure
- Package and ship cells to the module development subcontractor by leveraging existing packaging/shipping line
- Prepare a *Quarterly Cell Production Report* with the following information*:*
  - Number of cells assembled
  - Yield
  - Number of cells shipped to the module development partner
  - Pilot line state of health, using the Key Performance Metrics set in Task 5
  - Challenges and resolutions
  - These reports will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Prepare a *CPR Report* 2 in accordance with subtask 1.3 (CPR Meetings).
- Participate in mid-project CPR Meeting.

Products:

- Quarterly Cell Production Report
- CPR Report 2

TASK 7 MODULE DEVELOPMENT

The goal of this task is to design and assemble battery module prototypes (1 – 2 kWh) to conduct characterization experiments.

The Recipient shall:

- Draft a *Module Development Roadmap* to create a battery system that addresses the unique challenges of lithium metal cells while meeting the module performance metrics stated in the Project Performance Metrics Results, along with newly identified customers'

requirements. The roadmap will detail the objectives, procedures, conditions, facilities, and equipment required to investigate the following:
    - Target aircraft/UAV requirements from the customer(s) experimental aircraft(s)/drone(s) that define pack level objectives (physical size, weight limits, safety, electrical interface, insulation and creepage clearance as established by IEC 60664, etc.)
    - Structural features with ultra-light weight materials to maintain high specific energy density at the battery module level (>300 Wh/kg) and provide sufficient shock & vibration management
    - Design solutions to accommodate both the state of charge-dependent expansion/contraction and the state of health-dependent expansion of the cells, while maintaining uniform pressure
    - Thermal management methods to ensure operation in the optimum temperature range
    - Battery Management System to monitor and balance all the cell groups within the modules and pack
    - Safety features to prevent cell cascade failures and propagation to nearby modules, providing the ability to pass relevant DO-311A tests for failure propagation when a single cell enters thermal runaway (section 2.4.5.5)
    - This document will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Conduct all experiments described in the *Module Development Roadmap* to determine the features needed to meet the module performance metrics outlined in the Project Performance Metrics Results, as well as other identified customers' needs. The bulk of the module development experiments will take place at the subcontractor facility, in close collaboration with the team. This Module Development Roadmap document will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Prepare a *Module Development Report* that specifies the design and characteristics of the module. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Assemble an adequate number of module prototypes to carry out the characterization experiments outlined in Task 8.

Products:
- Module Development Roadmap
- Module Development Report

TASK 8 CHARACTERIZATION OF THE MODULE
The goal of this task is to perform a full characterization of the module under relevant operating conditions for electric aviation applications (realistic flight profiles, safety testing, self-heating) and perform safety screening experiments to produce a preliminary hazard analysis.

The Recipient shall:
- Prepare a *Module Characterization Plan*, including the conditions, facilities, and equipment required to conduct the following tests:

  - Simulation of realistic flight profiles to test the module electrochemical and physical properties
  - Safety screening experiments to test cell failures cascade and propagation
  - Validation of thermal models collected in Task 4
  - Integration and validation of Battery Management System designed using data collected in Task 4
  - This document will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Conduct the tests outlined in the *Module Characterization Plan.*
- Prepare a *Module Characterization Report*, including a preliminary hazard analysis, that describes the test results. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Prepare a *CPR Report* 3 in accordance with subtask 1.3 (CPR Meetings)
- Participate in CPR Meeting

Products:
- Module Characterization Plan
- Module Characterization Report
- CPR Report 3

TASK 9 MANUFACTURE MODULE PROTOTYPES
The goal of this task is to establish a pilot line to manufacture modules for one full pack at minimum (equivalent of 75 kWh).

The Recipient shall:
- Develop manufacturing techniques based on the module development performed in Task 7 (in coordination with subcontractor).
- Establish a pilot line to manufacture a minimum of 75 kWh equivalent of module prototypes (1 full electric aviation packs).
- Assemble a minimum of 75 kWh equivalent of module prototypes on the pilot line.
- Prepare a *Module Production Report* that includes the number of modules assembled, information regarding the pilot line, and lessons learned. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:
- Module Production Report

TASK 10 MODULE VALIDATION BY CUSTOMERS
The goal of this task is to deliver a minimum of one full pack (equivalent of 75 kWh) for customers' evaluation, as a drop-in replacement for the incumbent technology, and collect feedback.

The Recipient shall:
- Identify preferred customers to validate the module prototypes based on factors such as technical expertise and commercial potential. The Recipient will work closely with

customers to ensure that the module requirements meet customer needs. Due to the limited number of module prototypes available, the Recipient will down-select key customers to conduct the modules' validation process.
- Identify packaging and shipping requirements for ground, rail, ship, and air shipping of the modules
- Ship the modules manufactured in Task 9 to the preferred customers
- Establish a *Validation Test Plan*, including but not limited to:
    - Lifetime testing
    - Drive cycles to simulate realistic flight profiles in various conditions
    - Safety screening experiments
    - This test plan will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Collect customers' feedback
- Take actions to secure commitments for future purchase
- Prepare a *Customers Validation Report* that describes the outcome of the third-party validation and potential future engagements. This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Establish a commercialization plan based on customers' feedback. This will be included in the Customers Validation Report and the Final Report.

Products:
- Validation Test Plan
- Customers Validation Report

TASK 11 EVALUATION OF PROJECT BENEFITS
The goal of this task is to report the benefits resulting from this project.

The Recipient shall:
- Complete the *Initial Project Benefits Questionnaire*. The *Initial Project Benefits Questionnaire* shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the *Annual Survey* by December 15th of each year. The *Annual Survey* includes but is not limited to the following information:
    - Technology commercialization progress
    - New media and publications
    - Company growth
    - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.

- Complete and update the project profile on the CEC's public online project and recipient directory at www.energizeinnovation.fund, and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory at www.energizeinnovation.fund, and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

- Initial Project Benefits Questionnaire
- Annual Surveys
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK 12 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to conduct activities that will accelerate the commercial adoption of the technology being supported under this agreement. Eligible activities include, but are not limited to, the following:

- Scale-up analysis including manufacturing analysis, independent design verification, and process improvement efforts.
- Technology verification testing, or application to a test bed program located in California.
- Legal services or licensing to secure necessary intellectual property to further develop the technology
- Market research, business plan development, and cost-performance modeling.
- Entry into an incubator or accelerator program located in California.

The Recipient Shall:

- Develop and submit a *Technology Transfer Plan (Draft/Final)* that identifies the proposed activities the recipient will conduct to accelerate the successful commercial adoption of the technology.
- Present the *Draft Technology Transfer Plan* to the TAC for feedback and comments.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the *Draft Technology Transfer Plan*. This document will identify:
  - TAC comments the recipient proposes to incorporate into the *Final Technology Transfer Plan*.
  - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit the *Final Technology Transfer Plan* to the CAM for approval.
- Implement activities identified in *Final Technology Transfer Plan.*
- Develop and submit a *Technology Transfer Summary Report (Draft/Final)* that includes high level summaries of the activities, results, and lessons learned of tasks

performed relating to implementing the *Final Technology Transfer Plan*. This report should not include any proprietary information.
- When directed by the CAM, develop presentation materials for an CEC- sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the CEC.
- 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:
- Technology Transfer Plan (Draft/Final)
- Summary of TAC Comments
- Technology Transfer Summary Report (Draft/Final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

RESOLUTION NO: 21-04-14-19c

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: 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 EPC-20-027 with Cuberg, Inc. for a $3,499,525 grant to design and manufacture an ultra-safe, nonflammable lithium-metal cell battery technology. The cell battery technology will be integrated into a lightweight, high-performance module acceptable for high energy-density applications such as long-range electric vehicles and electric aviation; and

FURTHER BE IT RESOLVED, that the Executive Director or his/her 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 April 14, 2021.

AYE:
NAY:
ABSENT:
ABSTAIN:

_____
Patricia Carlos
Secretariat