





## California Energy Commission April 10, 2025 Business Meeting Backup Materials for ReJoule Incorporated

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

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

**RESOLUTION NO: 25-0410-13** 

#### **STATE OF CALIFORNIA**

# STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

**RESOLUTION: ReJoule Incorporated** 

**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-24-049 with ReJoule Incorporated for the first phase of an up to \$2,500,000 grant. This agreement will fund advancement of a rapid battery grading technology and demonstrations of second-life EV battery energy storage systems with capacities to discharge at least 100 kW of continuous output for 10 to 24 hours, including a 2 MWh system at an affordable housing complex in Petaluma and a 1.66 MWh system at Middletown Rancheria of Pomo Indians of California Reservation. The agreement will initially provide \$1,158,129 for the first phase consisting of preliminary engineering, detailed project planning, repurposed battery certification, and commercial scale designs, and up to an additional \$1,341,871 may be added, with approval through an amendment; 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 April 10, 2025.

AYE: NAY: ABSENT: ABSTAIN:		
	Dated:	
	Kristine Banaag Secretariat	



## STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION

### **GRANT REQUEST FORM (GRF)**

### A. New Agreement Number

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

New Agreement Number: EPC-24-049

#### **B.** Division Information

1. Division Name: ERDD

2. Agreement Manager: Ran Laviv

3. MS-:53

4. Phone Number: 916-258-2951

### C. Recipient's Information

1. Recipient's Legal Name: ReJoule Incorporated

2. Federal ID Number: 82-1644047

#### D. Title of Project

Title of project: Communities Accessing Resilient Energy Storage (CARES)

#### E. Term and Amount

Start Date: 4/30/2025
 End Date: 7/1/2031
 Amount: \$2,500,000

#### F. Business Meeting Information

- 1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
- 2. The Proposed Business Meeting Date: 4/10/2025.
- 3. Consent or Discussion? Discussion
- 4. Business Meeting Presenter Name: Peter Chen
- 5. Time Needed for Business Meeting: 5 minutes.
- 6. The email subscription topic is: EPIC (Electric Program Investment Charge).

#### Agenda Item Subject and Description:

ReJoule Incorporated. Proposed resolution approving agreement EPC-24-049 with ReJoule, Incorporated for the first phase of an up to \$2,500,000 grant, and adopting staff's recommendation that this action is exempt from CEQA. The agreement will fund advancement of a rapid battery grading technology and demonstrations of second-life electric vehicle battery energy storage systems with capacities to discharge at least 100 kW of continuous output for 10 to 24 hours, including a 2 MWh system at an affordable housing complex in Petaluma and a 1.66 MWh system at the Middletown Rancheria of Pomo Indians of California Reservation. The agreement will initially provide \$1,158,129 for the first phase consisting of preliminary engineering, detailed project planning, repurposed battery certification, and commercial scale designs, and up to an additional \$1,341,871 may be added, with approval through an amendment. (EPIC funding) Contact: Peter Chen

### G. California Environmental Quality Act (CEQA) Compliance

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



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:

# 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: Cal. Code Regs., tit. 14, § 15306;

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

Yes

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

Cal. Code Regs., tit. 14, sect. 15306 provides that basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource are categorically exempt from the provisions of CEQA. For Phase 1 of this project, the only approved activities are strictly for information gathering purposes, which may lead to an action the CEC might approve in the future.

The purpose of Phase 1 of this project is to complete the engineering and commercial-scale designs of the battery energy storage systems. Phase 1 will include tasks on Detailed Design and Planning, Second Life Battery Energy Storage System Design, Repurposed Battery Certification, and Develop Materials for Environmental Compliance. The approved activities only consist of preparing all these design and planning documents strictly for informational purposes and will not cause a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. For these reasons, Phase 1 of the proposed project will have no significant effect on the environment and is categorically exempt under section 15306.



This project is also covered by the Common Sense Exemption under 14 CCR 15061 (b) (3) that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

The project does not involve impacts on any particularly sensitive environment; will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

### 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. Is this project considered "Infrastructure"?

No

#### I. 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
University of Kansas	<b>\$</b> 0	\$290,390



Subcontractor Legal Company Name	CEC Funds	Match Funds
Redwood Energy	\$0	\$170,000
Solar Bear of Minnesota LLC	<b>\$</b> 0	\$140,000
CollectiveSun Foundation	<b>\$</b> 0	\$100,000
Battelle Memorial Institute - Pacific Northwest National Laboratory	\$0	\$425,967

## J. 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
Sigway Energy Inc.	\$70,423	<b>\$</b> \$44,108
Contractor TBD	\$0	<b>\$</b> \$64,000
Coffman Engineers Inc.	<b>\$</b> 0	\$100,000
Underwriters Laboratories Inc.	<b>\$</b> 0	<b>\$</b> \$400,000
General Contractors TBD	<b>\$</b> 0	\$50,000
Fire Protection and Fire Alarm System TBD	<b>\$</b> 0	\$5,000
CNC Electric Supply Orange County, Inc.	<b>\$</b> 0	\$40,000
Warehouse Facility Equipment Maintenance TBD	\$0	\$15,000
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.	\$0	\$57,500
Dekra Corporation	\$0	\$30,000
Red Lake Nation, Oshkiimaajitahdah Center.	<b>\$</b> 0	\$75,000



New Mexico Inter-Faith Community Housing Development Corporation	\$0	\$12,740
Danco Communities	<b>\$</b> 0	\$56,428
Middletown Rancheria of Pomo Indians of California	\$0	\$101,931
Zhe Design Services	\$0	\$182,250

## K. 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.

### L. 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
EPIC	23-24	301.001K	\$1,158,129
EPIC	TBD	TBD	\$1,341,871

**TOTAL Amount:** \$2,500,000

R&D Program Area: ESB: Transportation

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: DE-CD0000035

### M. Recipient's Contact Information



### 1. Recipient's Administrator/Officer

Name: Steven Chung

Address: 2888 Gundry Ave

City, State, Zip: Signal Hill, CA 90755-1813

Phone: 657-200-5670

E-Mail: schung@rejouleenergy.com

2. Recipient's Project Manager

Name: Steven Chung

Address: 2888 Gundry Ave

City, State, Zip: Signal Hill, CA 90755-1813

Phone: 657-200-5670

E-Mail: schung@rejouleenergy.com

#### N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-21-901
First Come First Served Solicitation #	Not applicable
Other	Not applicable

#### O. 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	Yes
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: Ran Laviv



#### STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION

Grant Request Form CEC-270 (Revised 01/2024)

**Approval Date: 2/28/2025** 

**Branch Manager:** Reynaldo Gonzalez

**Approval Date: 2/28/2025** 

**Director:** Reynaldo Gonzalez for Jonah Steinbuck

**Approval Date: 2/28/2025** 

#### I. TASK ACRONYM/TERM LISTS

#### A. Task List

Task #	CPR <sup>1</sup>	Task Name
1		General Project Tasks
2	Х	Detailed Design and Planning
3		Second Life Battery Energy Storage System
4		Repurposed Battery Certification
5		Long Duration Energy Storage Project Development
6		Business Model Development
7	Х	Develop Materials for Environmental Compliance
8	Χ	Construction
9		Operations and Maintenance
10		Evaluation of Project Benefits
11		Technology/Knowledge Transfer Activities

### B. Acronym/Term List

Acronym/Term	Meaning
BESS	Battery Energy Storage System
BOM	Bill of Materials
CAM	Commission Agreement Manager
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPR	Critical Project Review
DOE	United States Department of Energy Office of Clean Energy
	Demonstrations
EV	Electric Vehicle
kW	kilowatt
LDES	Long Duration Energy Storage
MWh	Megawatt-hour
O&M	Operation and Maintenance
Recipient	ReJoule Incorporated
SOW	Scope of Work
TAC	Technical Advisory Committee
TEA	Techno-economic Analysis
UL	Underwriters Laboratories

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

EPC-24-049
Rev.09/2023
ReJoule Inc

 $<sup>^{1}</sup>$  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.

### A. Purpose of Agreement

The purpose of this Agreement is to fund the deployment of a Battery Energy Storage System (BESS) as Second-Life Application for Electric Vehicle (EV) Batteries. California Energy Commission (CEC) grant funds will be used as the cost share funding for the United States Department of Energy Office of Clean Energy Demonstrations (DOE) supported collaborative agreement, DE-CD0000035. This project will include demonstrations of second-life EV BESS with capacities to discharge at least 100 kilowatt of continuous output for 10 to 24 hours at four demonstration sites, including two in California: (1) an estimated 2 Megawatt-hour (MWh) BESS at the Meridian at Corona Station affordable housing complex in Petaluma and (2) an estimated 1.66 MWh BESS at the Tribal Administration Building and Medical Center at Middletown Rancheria supporting tribal energy resilience. Part of this effort is to grade the used EV batteries following the Underwriters Laboratories (UL) Standard for Evaluation for Repurposing Batteries – UL 1974 and optimize this standard to make it cost efficient and accessible. The project will demonstrate the BESS ability to power critical operations during outage events, such as Public Safety Power Shutoff events, mitigate peak grid demand, and reduce greenhouse gas emissions through the use of second-life EV batteries.

#### **DOE Grant**

The DOE grant was competitively awarded to the ReJoule Incorporated (Recipient) to deploy the second-life BESS systems and requires 50% cost share funding. The CEC is providing \$2,500,000 in grant funding for a cost-share for this \$10,000,000 DOE grant. The DOE divides their grant award into four Budget Periods each with a Go/No-Go assessment at its end, prior to funding the subsequent Budget Period. Tasks 2, 3, 4, 5, 6, 7, 8 and 9 below each correspond to one of DOE's four Budget Periods.

The CEC's initial approval of this project only authorizes the Recipient to perform portions of Tasks 1, 10 and 11 and all of Tasks 2, 3, 4, 5, 6 and 7. Accordingly, the Recipient is only authorized to incur expenses detailed in the preliminary Agreement Budget, Phase-1, which covers costs for portions of Task 1, 10 and 11 and all of Tasks 2, 3, 4, 5, 6 and 7. The Recipient may not incur reimbursable expenses that exceed the amount detailed in the Agreement Budget, Full Agreement, without further CEC approval.

The Agreement Budget, Full Agreement, encompasses all tasks, including the remaining tasks of this agreement, Tasks 8-9, and the preliminary tasks initially approved. Recipient will only be authorized to incur reimbursable expenses beyond the Agreement Budget, Phase-1, if the CEC approves both the California Environmental Quality Act (CEQA) analysis for the BESS system deployment and the remaining tasks in the Scope of Work (SOW), and they are consistent with the Agreement Budget, Full Agreement.

The CEC's SOW is designed to align with the DOE's Project Management Plan. As the DOE approves later Budget Periods and provides the Recipient additional details of the requirements of those Budget Periods, the CEC will amend the SOW to maintain consistency. Tasks 3 - 9 equate to DOE Budget Periods 2 - 4 and will be reviewed and amended as DOE information becomes available.

#### B. Problem/ Solution Statement

#### **Problem**

Existing utility-scale battery storage systems have an average duration limited to just 1.7 hours. Moving towards a carbon-free electric grid that relies more on variable renewable energy generation necessitates reliable long duration energy storage (LDES) that can dispatch stored energy over periods of time longer than 10 hours and can reduce costs and provide resiliency to communities, particularly at grid-edge. Underserved communities have not yet had the opportunity to take advantage of these solutions and are particularly vulnerable to grid outages and rising costs of electricity. At the same time, in 2019, McKinsey & Company published a report estimating that by 2030, the United States will have a surplus of retired batteries from electric passenger vehicles<sup>2</sup>. To date, the repurposing industry has failed to tackle the challenge of extracting remaining value from used EV batteries before recycling, primarily due to the lack of reliable and scalable methods for testing battery capacity and viability for second-life applications. Using the expected large volume of retiring EV batteries for stationary energy storage applications is a major opportunity. However, developing cost-effective, reliable, and safe repurposed battery systems at scale is a major challenge. Unreliable used battery supply chains, rising costs due to supply chain crunches, liability concerns, safety, inflation, and geopolitical turmoil, and a lack of precedent of repurposed battery projects leads to high risk for site hosts, project developers, and project investors. These barriers must be addressed for the battery repurposing industry to develop commercial feasibility.

#### **Solution**

The Recipient is uniquely positioned to tackle the most pressing challenges facing wide scale battery repurposing. While the prevailing method for testing decommissioned batteries, known as cycling, requires up to 10 hours of test time, the Recipient's patent-pending technology leverages electrochemical impedance spectroscopy to reduce test time from 10 hours to as little as 30 seconds. The portable device can be dispatched wherever used batteries are found, mitigating the need to ship heavy batteries prior to testing and dramatically reducing the cost and complexity to assess a retired battery's health. The Recipient will build on lessons learned implementing a previous CEC-funded project, EPC-19-055, to address complex challenges in building BESS from repurposed EV batteries, including explosion control and other key safety and regulatory hurdles. The project will lead to increased adoption of repurposed storage systems in California and the development of a thriving California-based battery repurposing supply chain.

#### C. Goals and Objectives of the Agreement

#### **Agreement Goals**

The goals of this Agreement are to:

- Demonstrate feasibility of LDES using second-life EV batteries;
- Reduce costs of testing used EV batteries;
- Address regulatory hurdles and safety concerns related to second-life EV batteries;
- Prove that second-life EV batteries can be a sustainable, reliable, scalable, and competitive energy storage solution.

EPC-24-049
Rev.09/2023
Rev.09/2023

<sup>&</sup>lt;sup>2</sup> McKinsey & Company, Second-life EV batteries: The Newest Value Pool in Energy Storage, 30 April 2019.

Ratepayer Benefits:<sup>2</sup> This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety by laying the foundation for a viable circular economy for EV batteries where they can safely be repurposed into energy storage systems. Second-life BESS have potential as low cost alternatives to BESS produced using virgin materials that can also contribute to improving grid reliability, integrating renewables, reducing peak loads, and providing resilience to under resourced communities including an affordable housing complex and a tribe, both located in California.

<u>Technological Advancement and Breakthroughs</u>:<sup>3</sup> 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 applying the Recipient's innovative battery diagnostic technology that reduces testing costs and streamlines the EV battery repurposing process. This involves establishing a pathway to certify repurposed EV batteries in a cost and time efficient manner and leveraging that pathway to conduct real world demonstrations of MWh-scale long duration second-life BESS in California.

#### **Agreement Objectives**

The objectives of this Agreement are to:

- Establish a path to certify used EV batteries under UL 1974, UL 1973, and UL9540/9540A using a rapid battery grading, in a cost and time efficient manner to reduce complexity of permitting repurposed battery systems.
- Establish a baseline techno-economic analysis to quantify the economic impacts of battery repurposing for LDES applications.
- Establish a baseline life-cycle assessment for EV battery life to quantify emissions benefits of battery repurposing.
- Lowering the financial and environmental cost of repurposing batteries, setting a pathway to \$0.05/kWh levelized cost of storage by 2030.
- Establish a manufacturing base for advanced battery repurposing technology in a community scoring high on CalEnviroScreen 4.0.
- Design and engineer second-life BESS systems with capacity to discharge at least 100kW of continuous output for a minimum of 10 hours serving the two designated sites in California.
- Construct and install two second-life BESS systems at the two designated California sites.
- Provide each deployment site with 10 hours of energy resilience tailored to the specific needs of the community, including but not limited to, backup power during planned power outages and emergency situations.
- Leverage the second-life BESS systems for peak shaving and demand response.
- Develop operations and maintenance (O&M) plans for the second-life systems that are tailored to the needs of each deployment site.
- Develop pathways to facilitate job creation at each deployment site, including but not limited to, temporary construction roles, and long-term O&M roles.

#### **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 SOW, "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.

#### 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.

#### **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, and other CEC staff relevant to the Agreement. The Recipient's Project Manager and any other individuals deemed necessary by the CAM or the Project Manager shall participate in 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., Teams, Zoom), with approval of the CAM.

The Kick-off meeting will include discussion of the following:

- The CAM's expectations for accomplishing tasks described in the SOW;
- An updated Project Schedule;
- Terms and conditions of the Agreement;
- Invoicing and auditing procedures;
- Travel;
- Equipment purchases;
- Administrative and Technical products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Monthly Calls (subtask 1.5)
- Quarterly Progress reports (subtask 1.6)

- Final Report (subtask 1.7)
- Match funds (subtask 1.8);
- Permit documentation (subtask 1.9);
- Subawards(subtask 1.10);
- o Technical Advisory Committee meetings (subtasks 1.11 and 1.12);
- Agreement changes;
- Performance Evaluations; 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.

#### **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 Commission Agreement Officer 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 may 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 may 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 and
  this may result in project delays, including a potential Stop Work Order, while the CEC
  determines whether the project should continue.
- 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(s)
- 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 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 organized by the tasks in the Agreement.

#### **Products:**

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

#### **MONTHLY CALLS, REPORTS AND INVOICES**

#### **Subtask 1.5 Monthly Calls**

The goal of this task is to have calls at least monthly between the 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 the Recipient of items discussed during the call.

### The Recipient shall:

- Review the questions provided by CAM prior to the monthly call
- Provide verbal answers to the CAM during the call.

#### **Products:**

Email to CAM concurring with call summary notes.

#### **Subtask 1.6 Quarterly 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 *Quarterly Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the SOW for the reporting period, including accomplishments, problems, milestones, products, schedule, fiscal status, DOE funds spent, and 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
- Submit a monthly or quarterly *Invoice* on the invoice template(s) provided by the CAM.

#### **Recipient Products:**

- Quarterly Progress Reports
- Invoices

#### **CAM Product:**

Invoice template

#### **Subtask 1.7 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 1.7.1 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 Products:**

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

#### Subtask 1.7.2 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:
  - o 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 on Draft Final Report received on the Executive Summary. For each comment received, the Recipient will identify in the summary the following:
  - o Comments the Recipient proposes to incorporate.
  - o 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 on Draft Final Report
- Draft Final Report
- Written Responses to Comments (if applicable)
- Final Report

#### **CAM Product:**

• Written Comments on the Draft Final Report

#### MATCH FUNDS, PERMITS, AND SUBAWARDS

#### **Subtask 1.8 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. 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 application 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 application 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 1.9 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 <u>no permits</u> 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 1.10 Obtain and Execute Subawards and Agreements with Site Hosts

The goals of this subtask are to ensure quality products and to execute subrecipients and site host agreements, as applicable, required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement and contracting policies and procedures.

#### The Recipient shall:

- Execute and manage subawards and coordinate subrecipient activities.
- Execute and manage site host agreements and ensure the right to use the project site throughout the term of the Agreement, as applicable. A site host agreement is not required if the Recipient is the site host.
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the project site cannot be acquired or can no longer be used for the project.
- Submit a letter to the CAM describing the subawards and any site host agreement needed or stating that no subawards or site host agreements are required.
- If requested by the CAM, submit a draft of each subaward and any site host agreement required to conduct the work under this Agreement to the CAM for review.
- If requested by the CAM, submit a final copy of each executed subaward and any site host agreement.
- 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 subaward (if requested)
- Final subaward (if requested)
- Draft site host agreement (if requested)
- Final site host agreement (if requested)

#### TECHNICAL ADVISORY COMMITTEE

### **Subtask 1.11 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;
  - o 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 ensure 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. DOE 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.

### 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 1.12.
- 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 1.12 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 for each TAC Meeting 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 ensure 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 1.13 Project Performance Metrics**

The goal of this subtask is to finalize key performance targets for the project based on feedback from the TAC and report on final results in achieving those targets. 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 section of 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 DETAILED DESIGN AND PLANNING (aligns with DOE Budget Period 1)

Activities in this task will focus on completing details about the overall project plan and analysis to refine the projections submitted as part of the proposal. The goal of this task is to develop performance requirements, specifications, and drawings for a BESS at 10-30% completion level. This task corresponds to Budget Period 1 of DOE award DE-CD0000035. Budget Period 1 is designed to identify, minimize, and/or mitigate project business risks. The Budget Period 1 plan includes refining the project schedule, budget, and financial model; starting permitting activities, as applicable; and obtaining land rights.

### The Recipient shall:

- Submit BESS Design engineering documents that will include:
  - A technical readiness level assessment of key project components.
  - Analyses predicting emission and effluent from the BESS, including any increased or reduced air emissions (greenhouse gases and criteria pollutants) resulting from operation.
  - Requirements and a specification sheet for a BESS cabinet,
  - Draft of BESS Electrical Diagram,
  - Draft of BESS Communication Diagram, and the planned integration of multiple BESS cabinets detailing software and control requirements,
  - High level BESS mechanical drawings,
  - o High level definition of heat, ventilation, and air conditioning system,
  - o High level definition of fire safety systems and fire alarm control panel, and
  - High level bill of materials (BOM) for the BESS.
- Provide Approved Budget Period 2 DOE Project Management Plan and applicable Terms and Conditions.
- Prepare a CPR Report #1 and participate in a CPR Meeting, per subtask 1.3. The CPR
  meeting should be conducted after submission of the DOE Continuation Application and
  include discussion on the DOE approval status of the next Budget Period.

#### **Products:**

- BESS Design
- Approved Budget Period 2 DOE Project Management Plan and applicable Terms and Conditions
- CPR Report #1

# TASK 3 SECOND-LIFE BATTERY ENERGY STORAGE SYSTEM DESIGN (aligns with DOE Budget Period 2)

The goal of this task is to build the basis of cost-competitive and performance-competitive second-life BESS. The Recipient will build upon learnings from the design and installation of their pilot second-life BESS to report on its performance, and to develop requirements and a procurement plan for future systems.

This task corresponds to Budget Period 2 of DOE award DE-CD0000035. Once the DOE approves Budget Period 2, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 2 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

#### The Recipient shall:

- Develop performance requirements, specifications, and drawings for a second-life BESS. Develop a *BESS Datasheet* including
  - Electrical Diagram,
  - o Communication Diagram,
  - Energy Management Strategy,
  - Certification strategy for UL 1973, and UL9540/9540A,
  - o Permit Plans, and
  - High level BOM.
- Measure performance of an existing second-life battery system deployment, highlighting performance improvement metrics to be used for future second-life BESS, and produce a BESS Performance Report detailing findings.
- Develop a *Procurement Plan* detailing the plan to procure critical equipment including but not limited to battery feedstock, enclosures, safety disconnects, fire safety systems, battery management system equipment, and energy management systems.

#### **Products:**

- BESS Datasheet
- BESS Performance Report
- Procurement Plan

### TASK 4 REPURPOSED BATTERY CERTIFICATION (aligns with DOE Budget Period 2)

The goals of this task are to 1) obtain the United States's first certification for battery repurposing testing for the Recipient's Second-Life Battery Testing facility, and 2) obtain a world first certification for a rapid battery test.

This task corresponds to Budget Period 2 of DOE award DE-CD0000035. Once the DOE approves Budget Period 2, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 2 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

#### The Recipient shall:

- Develop the Recipient's Second-Life Battery Testing capabilities in a manner compliant with UL 1974
  - Build up and maintain data generation and data intake processes
  - Establish processes for shipping, receiving, packaging, storage, testing, monitoring, and tracking batteries.
  - Establish training programs to educate new and existing staff on proper and safe handling of used batteries
- Pursue UL 1974 certification for the Recipient's testing capabilities, and document the process for obtaining equivalent certification for the Recipient's rapid battery testing in a *UL 1974 Certification Report*.

#### **Products:**

UL 1974 Certification Report

# TASK 5 LONG DURATION STORAGE PROJECT DEVELOPMENT (aligns with DOE Budget Period 2)

The goal of this task is to develop LDES projects for demonstration sites that meet the energy needs of the host site.

This task corresponds to Budget Period 2 of DOE award DE-CD0000035. Once the DOE approves Budget Period 2, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 2 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

### The Recipient shall:

- Prepare a Planset Package for each demonstration site of LDES second-life battery system that includes but not limited to:
  - Site evaluation identifying energy impacts,
  - Interconnection plan,
  - Single-line diagram,
  - A permit list, and
  - o Environmental impacts.

#### **Products:**

Planset Package

### TASK 6 BUSINESS MODEL DEVELOPMENT (aligns with DOE Budget Period 2)

The goal of this task is to evaluate second-life battery business models to allow scalability. It will include techno-economic modeling that considers cost reduction strategies, warranties, insurance, tax incentives and other financial and performance factors

This task corresponds to Budget Period 2 of DOE award DE-CD0000035. Once the DOE approves Budget Period 2, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 2 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

#### The Recipient shall:

- Develop a Second-Life Battery Project Financing Plan for the various demonstration sites,
- Develop a Techno-Economic Analysis Report (TEA) for LDES using second-life battery systems. In partnership with Pacific Northwest National Laboratories, the Recipient's TEA report will include demonstration costs, replacement costs, maintenance costs, and illustrate a pathway for future second life BESS projects to be economically viable and competitive in the market

#### **Products:**

Second-Life Battery Project Financing Plan

Techno-Economic Analysis Report

# TASK 7: DEVELOP MATERIALS FOR ENVIRONMENTAL COMPLIANCE (aligns with DOE Budget Period 2)

The goal of this task is to develop proposed modifications to agreement documents if needed and assist as needed to ensure the materials supporting environmental compliance are accurately completed.

This task corresponds to Budget Period 2 of DOE award DE-CD0000035. Once the DOE approves Budget Period 2, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 2 scope, to include the Recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

#### The Recipient shall:

- Provide assistance, as requested by the CAM, to ensure the CEQA Compliance
   Documents are complete and fully analyze the project effects.
- Prepare draft updated Scope of Work and any other Agreement Documents for consideration (if applicable)
- Provide Approved Budget Period 3 DOE Project Management Plan and applicable Terms and Conditions.
- Prepare a CPR Report #2 and participate in a CPR Meeting, per subtask 1.3. The CPR
  meeting should be conducted after the DOE Continuation Application and discussion on
  the DOE approval status of the next Budget Period.

#### **Products:**

- CEQA Compliance Documents (as requested)
- Updated Scope of Work and any other Agreement Documents (if needed)
- Approved Budget Period 3 DOE Project Management Plan and applicable Terms and Conditions
- CPR Report #2

Approval of the remaining tasks, starting with Task 8 will be considered at a future CEC Business Meeting and is contingent on the successful completion of preliminary planning and resource evaluation (Tasks 2 – 7) and environmental compliance for Tasks 8 - 9. No work on Tasks 8 – 9 may start unless and until the CEC authorizes beginning work on those tasks. The Recipient is not authorized to incur expenses beyond the Agreement Budget, Phase 1, unless and until further CEC approval is provided.

#### TASK 8 CONSTRUCTION (aligns with DOE Budget Period 3)

The goal of this task is to establish a viable plan for the riskiest and most capital-intensive phase of battery system deployment: construction.

This task corresponds to Budget Period 3 of DOE award DE-CD0000035. Once the DOE approves Budget Period 3, and the necessary documents are submitted to the CAM, this task

and scope will be amended accordingly to reflect DOE's Budget Period 3 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

### The Recipient shall:

- Develop initial contracting strategies for construction of the project's facilities, addressing the number of major contractors, interfaces, and pricing structures. As applicable, estimate times for different phases of procurement, construction, and commissioning.
- Identify safety responsibilities, programs, and assurance programs to be used during construction.
- Devise offtake agreements and a procurement strategy for high-value items including battery feedstock, inverters, enclosures, racking, and battery management systems.
- Develop a *Construction Plan* documenting the above ahead of project financing and construction activities.
- Develop a Construction Report after construction of the California sites detailing the implementation of the battery system, as well as challenges overcome, and lessons learned during the construction process.
- Provide Approved Budget Period 4 DOE Project Management Plan and applicable Terms and Conditions.
- Prepare a CPR Report #3 and participate in a CPR Meeting, per subtask 1.3. The CPR
  meeting should be conducted after submission of the DOE Continuation Application and
  include discussion on the DOE approval status of the next Budget Period.

#### **Products:**

- Construction Plan
- Construction Report
- Approved Budget Period 4 DOE Project Management Plan and applicable Terms and Conditions
- CPR Report #3

### TASK 9 OPERATIONS AND MAINTENANCE (aligns with DOE Budget Period 4)

The goal of this task is to devise a relevant plan for the O&M of second-life battery energy storage systems.

This task corresponds to Budget Period 4 of DOE award DE-CD0000035. Once DOE approves Budget Period 4, and the necessary documents are submitted to the CAM, this task and scope will be amended accordingly to reflect DOE's Budget Period 4 scope, to include the recipient and CAM products. Additionally, products not included in DOE's scope may be added per CEC's discretion.

### The Recipient shall:

- Establish *Commissioning Plan* for worker training, procedure validation, testing, and commissioning of key project components and systems.
- Develop a plan for battery system removal and document it in a Decommissioning Plan.
- Develop an Operations & Maintenance Manual that identifies
  - o the main tasks for operating the project,
  - the parties that will be responsible for the above tasks,

- plans to maintain physical security at the various demonstration sites,
- plans to maintain cybersecurity between networks, systems, devices, applications, or components and maximize the use of open guidance and standards, and
- strategies and tactics to ensure safety and health of operations personnel, visitors, and the public during facility operation.
- Demonstrate the battery systems in peak shaving, demand response, and resilience use cases.
- Develop an *Operations & Maintenance Report* detailing California battery system O&M, as well as challenges overcome, and lessons learned during the O&M process.

#### **Products:**

- Commissioning Plan
- Decommissioning Plan
- Operations & Maintenance Manual
- Operations & Maintenance Report

#### **TASK 10: 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 January 31st 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 on the <u>Energize Innovation website</u> (<u>www.energizeinnovation.fund</u>), and provide <u>Documentation of Project Profile on EnergizeInnovation.fund</u>, 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 on the
  Energize Innovation website (www.energizeinnovation.fund), and provide
  Documentation of Organization Profile on EnergizeInnovation.fund, including the profile
  link.

#### **Products:**

- Initial Project Benefits Questionnaire
- Annual Survev(s)
- Final Project Benefits Questionnaire

- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

#### TASK 11 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the demonstration(s) is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

#### The Recipient Shall:

- Develop and submit a Project Case Study Plan that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The Project Case Study Plan should include:
  - o An outline of the objectives, goals, and activities of the case study.
  - The organization that will be conducting the case study and the plan for conducting it.
  - A list of professions and practitioners involved in the technology's deployment.
  - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
  - Presentations/webinars/training events to disseminate the results of the case study.
- Present the draft *Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the draft *Project Case Study 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 *Project Case Study Plan* to the CAM for approval.
- Execute the final Project Case Study Plan and develop and submit a Project Case Study.
- When directed by the CAM, develop presentation materials for a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California 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:**

- Project Case Study Plan (draft and final)
- Summary of TAC Comments
- Project Case Study (draft and final)
- High Quality Digital Photographs

## V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.