

GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 10/2015)

CALIFORNIA ENERGY COMMISSION



| | | | |
|----------------------|------------|-------------|---|
| Original Agreement # | EPC-14-023 | Amendment # | 1 |
|----------------------|------------|-------------|---|

| | | | |
|-----------------|---------------------------|------------|--------------|
| Division | Agreement Manager: | MS- | Phone |
| ERDD | Quenby Lum | 43 | 916-327-1492 |

| | |
|-------------------------------|--------------------------|
| Recipient's Legal Name | Federal ID Number |
| Eos Energy Storage, LLC | 32-0256144 |

| | | |
|---|--------------------------|--|
| Revisions: (check all that apply) | | |
| <input checked="" type="checkbox"/> Term Extension | New End Date: 03/30/2018 | Include revised schedule and complete items A, B, C, & F below. |
| <input type="checkbox"/> Budget Augmentation | Amendment Amount: \$ 0 | Include revised budget and complete items A, B, C, D & F below. |
| <input checked="" type="checkbox"/> Budget Reallocation | | Include revised budget and complete items A, B, C, & F below. |
| <input checked="" type="checkbox"/> Scope of Work Revision | | Include revised scope of work and complete items A, B, C, E & F below. |
| <input type="checkbox"/> Change in Project Location or Demonstration Site | | Include revised scope of work and complete items A, B, C, E & F below. |
| <input type="checkbox"/> Novation/Name Change of Prime Contractor/Recipient | | Include novation documentation and complete items A, B, C, & F below. |
| <input type="checkbox"/> Terms and Conditions Modification | | Include applicable exhibits with bold/underline/strikeout and complete items A, B, C, & F below. |

A) Business Meeting Information**Business Meeting approval is not required for the following types of Agreements:**

ARFVTP agreements under \$75K delegated to Executive Director.

| | | | |
|--------------------------------|-----------|---|-------------------------------------|
| Proposed Business Meeting Date | 9/14/2016 | <input checked="" type="checkbox"/> Consent | <input type="checkbox"/> Discussion |
|--------------------------------|-----------|---|-------------------------------------|

| | | | |
|----------------------------|------------|--------------|---------|
| Business Meeting Presenter | Quenby Lum | Time Needed: | minutes |
|----------------------------|------------|--------------|---------|

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

Agenda Item Subject and Description

Staff recommends approval of amendment #1 to agreement EPC-14-023-01 with Eos Energy Storage, LLC for an 12 month no-cost time extension and to remove two major subcontractors in conjunction with a budget reallocation.

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

| | |
|--|------------|
| Legal Company Name: | Budget |
| Pacific Gas and Electric Company | \$ 398,783 |
| DOE- Lawrence Berkeley National Laboratory | \$ 188,578 |
| Electric Power Research Institute, Inc. | \$ 248,843 |
| Timet | \$ 99,950 |

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

Legal Company Name:

D) Budget Information

| Funding Source | Funding Year of Appropriation | Budget List No. | Amount |
|-----------------------------------|-------------------------------|----------------------|--------|
| | | | \$ |
| | | | \$ |
| R&D Program Area: | ESRO: ETSI | TOTAL: | \$ |
| Explanation for "Other" selection | | | |
| Reimbursement Contract #: | | Federal Agreement #: | |



E) 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. (Attach draft NOE)

Statutory Exemption. List PRC and/or CCR section number: _____
 Categorical Exemption. List CCR section number: 14 CCR 15303 New construction or conversion of small structures

Common Sense Exemption. 14 CCR 15061 (b) (3)
 Explain reason why Agreement is exempt under the above section: The Energy commission made CEQA findings pertaining to this project when the project was originally approved by the Commission on 4/8/15. The currently proposed changes include a budget reallocation, term extension, and scope of work change that do not alter the original CEQA findings.

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

Check all that apply

| | |
|---|---|
| <input type="checkbox"/> Initial Study | <input type="checkbox"/> Environmental Impact Report |
| <input type="checkbox"/> Negative Declaration | <input type="checkbox"/> Statement of Overriding Considerations |
| <input type="checkbox"/> Mitigated Negative Declaration | |

F) The following items should be attached to this GARF (as applicable)

| | | |
|---|---|--|
| 1. Exhibit A, Scope of Work | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 2. Exhibit B, Budget Detail | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 3. CEQA Documentation | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 4. Novation Documentation | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 5. CEC 105, Questionnaire for Identifying Conflicts | | <input checked="" type="checkbox"/> Attached |

Agreement Manager **Date** **Office Manager** **Date** **Deputy Director** **Date**

EXHIBIT A Scope of Work

A. Task List

| Task # | CPR ¹ | Task Name |
|--------|------------------|--|
| 1 | | General Project Tasks |
| 2 | | Development of Test Plan & Determination of Interconnection Requirements |
| 3 | X | DC Battery System Production & Assembly |
| 4 | | AC System Integration |
| 5 | | Phase 1 - Lab Testing at PG&E San Ramon |
| 6 | | Grid Simulation/Modeling and Valuation of Energy Storage Services |
| 7 | | Phase 2 – Grid Simulation Performance Testing Interconnection and Operation at PG&E Distribution Test Yard |
| 8 | | Evaluation of Project Benefits |
| 9 | | Technology/Knowledge Transfer Activities |
| 10 | | Production Readiness Plan |

B. Acronym/Term List

| Acronym/Term | Meaning |
|--------------|--|
| CA IOU | California Investor-owned Utility |
| CAM | Commission Agreement Manager |
| CAO | Commission Agreement Officer |
| CPR | Critical Project Review |
| CPUC | California Public Utilities Commission |
| DTY | Distribution Test Yard |
| EPRI | Electric Power Research Institute |
| PG&E | Pacific Gas & Electric |
| RPS | Renewable Portfolio Standard |
| TAC | Technical Advisory Committee |

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the demonstration of an AC-integrated system incorporating Eos' advanced Znyth™ zinc hybrid-cathode battery technology to advance the understanding of, opportunities for, and obstacles to their deployment in grid-connected utility applications.

B. Problem/ Solution Statement

Problem

The inability of utilities to store electricity inhibits the efficient operation of the electricity grid and makes meeting California's Renewable Portfolio Standard (RPS) standards more difficult and expensive. Advanced battery chemistries have been developed that could make electricity storage cost-effective for applications including intermittent generation integration, load following

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.

EXHIBIT A

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and frequency regulation, as well as allowing deferral of capital expenditure on transmission and distribution. However, these technologies have not yet been tested in grid-tied applications and without funding for demonstration projects, storage adaptation is likely to be constrained.

Solution

Eos Energy Storage will manufacture and deploy, **at a minimum, a** 125kW / 375kWh AC-integrated system incorporating its advanced zinc hybrid cathode (Znyth™) battery technology for multi-application testing by PG&E in two distinct environments. The scope of work detailed below integrates multi-phased battery testing with grid modeling to enable dynamic performance characterization and economic evaluation in response to simulated grid conditions. Execution of the proposed project will advance commercialization of a technology with potential to achieve the California Public Utilities Commission's (CPUC) cost and performance targets while increasing understanding of energy storage benefits for utilities, and ultimately the ratepayers.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Demonstrate performance of Eos Znyth™ technology for a variety of applications
- Determine economical grid-tied applications for energy storage systems;
- Facilitate the commercialization of advanced battery products; and
- Increase industry knowledge to enable interconnection of such systems under Assembly Bill 2514 (AB 2514, Skinner. Energy storage systems. 2010).

Ratepayer Benefits:² This Agreement will result in the ratepayer benefit of greater electricity reliability by promoting the development of batteries that provide electricity at their rated power for 4-6 hours, allowing for significant load shifting and reduction of grid congestion.

This Agreement will also result in the ratepayer benefit of lower costs by demonstrating the most cost-effective battery technology on the market (as identified by a recent DNV-GL report). This will allow California investor-owned utilities (CA IOU) to more cost-effectively meet their procurement goals under AB 2514. These savings will be passed down to California ratepayers and new peaking plants and network upgrades can then be delayed.

This Agreement will result in the ratepayer benefit of increased safety by promoting the development of an energy storage battery product that is non-toxic and nonflammable, unlike many of its alternatives. Eos Znyth™ uses inert materials and is designed to be suitable for use in densely populated residential areas.

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).

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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 advancing the technological and commercial development of Eos' Znyth™ technology as well as contributing to industry wide understanding of storage system applications.

Znyth™ technology was recently identified by a DNV-GL report as having potential to achieve \$100/kWh manufactured cost, making it the most cost-effective battery technology on the market. The technology's low cost will allow CA IOU's to more cost-effectively meet their procurement goals for AB 2514. These savings will be passed down to California ratepayers through more affordable electricity bills, one of the ways by which the costs of electricity generation impact society.

The recently legislated Assembly Bill 327 (AB 327, Perea. Electricity: natural gas: rates: net energy metering: California Renewables Portfolio Standard Program. 2013) has established California's 2020 goal of 33% renewables as a floor, and authorized the CPUC to further increase the Renewables Portfolio Standard (RPS) procurement goals. Between this and the recent success of the state's carbon cap and trade program, it can be stated with a fair amount of certainty that the state is headed in the direction of continually expanding levels of RPS as well as towards the internalization of the costs of carbon emissions, which could make for more expensive electricity rates. Flexible resources such as Eos' battery systems, which can switch their state of charge nearly instantaneously in response to market conditions, will help utilities meet these requirements more cost-effectively.

Agreement Objectives

The objectives of this Agreement are to:

- Build and integrate Eos' novel Znyth™ battery technology with a high-voltage inverter to create an AC energy storage system that meets CPUC's cost and performance goals.
- Install, test and validate performance of a 125kW Eos 'Aurora' system at PG&E's **facility in San Ramon** ~~'s Applied Technology Services laboratory testing facility, followed by installation at the San Ramon Distribution Test Yard (DTY)~~
- Demonstrate the economic validity of Eos' grid-connected energy storage technology in a pilot testing for a variety of use cases, including load following, frequency regulation and intermittent integration
- Develop and publish a simulated PG&E grid interconnection model to validate system performance in a grid-connected scenario
- Develop and increase industry understanding of utility requirements for interoperability with communication/control systems to provide prioritized functionality in response to real-time grid conditions
- Use historical and real-time data with extrapolated grid scale simulations to quantify the benefits for CA IOU ratepayers

³ California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state's statutory and energy goals.

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II. 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). 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

- 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.
- Submit the final product to the CAM once agreement has been reached on the draft. The CAM will provide written approval of the final product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- If the CAM determines that the final product does not sufficiently incorporate his/her comments, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

For products that require a final version only

- Submit the product to the CAM for approval.
- If the CAM determines that the product requires revision, submit the revised product to the CAM within 10 days of notice by the CAM, unless the CAM specifies a longer time period.

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 Energy Commission’s 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 or CD-ROM.

The following describes the accepted formats for electronic data and documents provided to the Energy Commission as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:

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- 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.
- Documents intended for public distribution will be in PDF file format. The Recipient must also provide the native Microsoft file format.
- 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 Energy Commission'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, the Commission Agreement Officer (CAO), and any other Energy Commission 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;
- Administrative products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Match fund documentation (subtask 1.7);
- Permit documentation (subtask 1.8);

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- 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 and invoices (subtask 1.5);
 - Final Report (subtask 1.6);
 - Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
 - Any other relevant topics.
- Provide an *Updated Project Schedule*, *List of Match Funds*, and *List of Permits*, 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:

- Updated Project Schedule (*if applicable*)
- Updated List of Match Funds (*if applicable*)
- Updated List of Permits (*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 Energy Commission 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 Energy Commission 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 Energy Commission.

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 Energy Commission, 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 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.

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- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- 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* and 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)
- Task Products (draft and/or final as specified in the task)

CAM Products:

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- 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 Energy Commission 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 state-owned equipment.
 - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1)

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- regarding the Energy Commission's interest in patented technology.
 - The Energy Commission'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 *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

Products:

- Final Meeting Agreement Summary (*if applicable*)
- Schedule for Completing Agreement Closeout Activities
- All Draft and Final Written 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 quarterly *Progress Report* to the CAM. Each progress report must:
 - Summarize all Agreement activities conducted by the Recipient for the preceding month, including 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.
 - Provide a synopsis of the project progress, including accomplishments, problems, milestones, products, schedule, fiscal status, and any evidence of progress such as photographs.
- Submit a quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions. In addition, each invoice must document and verify:
 - Energy Commission funds received by California-based entities;
 - Energy Commission funds spent in California (if applicable); and
 - Match fund 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. The CAM will review and approve the Final Report, which will be due at least **two months** before the

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Agreement end date. When creating the Final Report Outline and the Final Report, the Recipient must use a 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 *Style Manual* provided by the CAM.
- Submit a draft of the outline to the CAM for review and comment.
- Once agreement has been reached on the draft, submit the final outline to the CAM. The CAM will provide written approval of the final outline within 10 days of receipt.

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

- Style Manual
- Comments on Draft Final Report Outline
- Approval 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 and the Style Manual provided by the CAM.
- Submit a draft of the report to the CAM for review and comment. Once agreement on the draft report has been reached, the CAM will forward the electronic version for Energy Commission internal approval. Once the CAM receives approval, he/she will provide written approval to the Recipient.
- Submit one bound copy of the Final Report to the CAM.

Recipient Products:

- Final Report (draft and final)

CAM Product:

- Comments on 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 Energy Commission 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.

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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 Energy Commission 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 Energy Commission 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.
- A copy of 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.

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- The schedule the Recipient will follow in applying for and obtaining the permits.

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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 the 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*)

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:

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- 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.

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.

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.

EXHIBIT A

Scope of Work

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.

Products:

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

EXHIBIT A

Scope of Work

III. TECHNICAL TASKS

*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. **Subtask 1.1 (Products)** describes the procedure for submitting products to the CAM.*

TASK 2: Development of Test Plan & Interconnection Requirements

The goals of this task are to: (1) Develop testing protocol and testing plans for the evaluation of system performance with respect to specific applications/use cases for a grid-connected energy storage system; (2) Determine the PG&E test site requirements for interconnection, communications, safety and control, and; (3) Provide insight into wider generic utility energy storage interconnection requirements.

The Recipient shall:

- Develop a *Test Plan* which includes, but is not limited to operation and testing protocols for the energy storage system that includes use cases for grid-tied applications. For example, using the systems’ master controller, sample tests may include, but are not limited to:
 - Utility dispatch for grid support peak shaving
 - Photovoltaic smoothing
 - Electric vehicle charging
 - Ramp and Frequency regulation tests for the California Independent System Operator (CAISO)
 - Peak shaving to simulate end-use energy management
- Determine the interconnection requirements for the PG&E laboratory ~~and DTY~~ site for communications, safety and control, to ensure successful installation
- Prepare a draft *Energy Storage PG&E Demonstration Interconnection Report* that describes the protocols and operational standards that will be used for the interconnection of battery energy storage systems during the test phases, and the implications for future utility-operated applications, and for the testing of those systems thereafter. The draft *Energy Storage PG&E Demonstration Interconnection Report* will include, but is not limited to:
 - a narrative on utility grid integration
 - a narrative on interconnection requirements
 - a narrative on best practices
- Survey and review utility industry criteria interconnection needs and best practices for future utility-sited products based on Eos’ energy storage system, with learning throughout task 7 to be incorporated.

Products:

- Test Plan
- Draft Energy Storage PG&E Demonstration Interconnection Report (Final to be produced as Task 7.2 Product)
- Survey and review of utility industry criteria interconnection needs and best practices

TASK 3 DC Battery System Production & Assembly

The goals of this task are to: (1) Manufacture the Znyth™ batteries; (2) Engineer the DC battery system, and; (3) Construct and containerize the DC battery system that forms the primary component of the technology that will be tested over the course of the project.

EXHIBIT A

Scope of Work

Subtask 3.1 Production of Eos Batteries

The goal of this subtask is to manufacture the Eos batteries that will serve as the building blocks of the eventual energy storage system.

The Recipient shall:

- Source appropriate, cost-effective materials for the construction of Eos DC batteries
- Manufacture the Eos batteries
- Prepare batteries for DC system integration
- Prepare and submit a *Task Memo for Subtask 3.1*, to include and not be limited to the data and process documentation, for later inclusion in the *Production Readiness Plan* (Plan described in Task 10)

Products:

- Task Memo for Subtask 3.1

Subtask 3.2 AC/DC Battery Design

The goal of this subtask is to design a containerized 125kW/375kWh AC-integrated battery system from the batteries produced in Subtask 4.1.

The Recipient shall:

- ~~Collaborate with the Recipient's subcontractors Electromatic, Inc. and Stem to develop~~ **Develop** CAD Illustrations of system design for the AC-integrated battery system
 - System design shall include detailed battery and string configurations, interconnections, battery casing, simplified balance of plant, power conversion systems, battery management systems, packaging and containerization, etc.
 - Computer-aided design and computer-aided manufacturing illustrations will be created to effectively incorporate design concepts into the final prototype.
- Collaborate with the Recipient's subcontractors to develop detailed *Technical Specification for the AC-integrated battery system*

Products:

- Technical Specification for the AC-integrated battery system

Subtask 3.3 DC Battery System Assembly

The goal of this subtask is to create an aggregated DC system employing the batteries manufactured in Subtask 3.1 and the design developed in Subtask 3.2.

The Recipient shall:

- Assemble and containerize the batteries to create ultimate DC battery product
- Design and install all electrical wiring required for the integrated energy storage systems, and generate DC Battery Design Package and DC Battery Bill Of Material
- Perform initial electrical testing to validate electrical connections
- Prepare and submit a *Task Memo for Subtask 3.3*, to include and not be limited to the data and process documentation, for later inclusion in the *Production Readiness Plan* (Plan described in Task 10)

Products:

- Task Memo for Subtask 3.3

EXHIBIT A

Scope of Work

TASK 4 AC System Integration

The goals of this task are to (1) integrate the DC battery system with a bi-directional inverter to form an AC energy storage system (2) Develop and implement an intelligent controller to allow for testing to be performed and data collected (3) Qualify the system prior to deployment at the PG&E facility in San Ramon ~~'s DTY in San Ramon.~~

Subtask 4.1 Inverter Production

The goal of this subtask is to produce a bi-directional inverter suitable for interconnecting the DC battery with DC-DC converters and AC electricity systems.

The Recipient shall:

- Manufacture hardware & software for three phase, 480v, bi-directional inverters (AC to DC) for utility application
- Generate Inverter engineering documentation and specifications that describe the characteristics of the resulting AC energy storage system

Products:

- Inverter engineering documentation and specifications

Subtask 4.2 Development of Integration Software

The goal of this subtask is to develop the Battery Management System and Power Control System software interface necessary for interconnection of the DC battery system to the AC system and the intelligent controller to allow for the test protocols to be executed and data collected.

The Recipient shall:

- Develop and implement a software interface to allow communication and collaboration with the Battery Management System and the Power Conversion System
- Develop an intelligent system controller (~~System Power Monitor and controls~~) to allow integration with PG&E and potentially other CA electric utilities for testing of desired use cases, data acquisition and downstream analysis
- Validate safety mechanisms, state of charge and state of health calculations, and determine the most cost effective way to cycle the batteries for grid services control
- Prepare and submit a *Task Memo for Subtask 4.2*, to include and not be limited to results of coding and validation of software interface

Products:

- Task Memo for Subtask 4.2

Subtask 4.3 AC/DC Interconnection & Integration

The goal of this subtask is to finalize the preparation of the DC battery system for integration with the AC inverter system.

The Recipient shall:

- Review intended application use cases, required storage product attributes, integration approach of subsystems, and master controller
- Physically integrate the DC system with AC inverter
- Prepare and submit a *Lessons-learned Summary* to be included in the *Integration Summary Report* (to be submitted as Task 4.4 product) to include, but not limited to, an

EXHIBIT A

Scope of Work

outline of lessons learned from the physical integration and the software integration and to recommend effective methods

Products:

- Lessons-learned Summary

Subtask 4.4: Pre-deployment system qualification

The goal of this subtask is to ensure the system is performing as expected before it is installed at the San Ramon PG&E ~~laboratory~~ facility.

The Recipient shall:

- Confirm that the batteries and inverters can be controlled and operated by the Stem's optimization and controls software and that the operating envelope for both safety and efficiency are adhered to
- Validate bring-up procedures, metrics and maintenance procedures including any early warning sign of battery or inverter issues
- Test the system's operational performance across a range of aspects, including round trip efficiency, charge and discharge rates, ramping and part loading, and thermal management
- Validate the integrated system is operating to specifications and safety standards
- Review data acquisition, communication and control design effectiveness
- Prepare an *Integration Summary Report*, to include and not be limited to technical notes, data and narratives of Subtask 4.4, and the Lessons-learned Summary of Subtask 4.3

Products:

- Integration Summary Report

TASK 5 Phase 1 - ~~Lab~~ Testing at PG&E San Ramon

The goals of this task are to: (1) Install the AC system at the PG&E facility ~~the laboratory~~; (2) Run initial test protocols for a variety of use cases and applications; (3) Collect and analyze data to evaluate key characteristics and attributes of the energy storage system; (4) Validate results. This will enable an understanding of technical issues and potential benefits of different applications and allow for refinement of protocols before relocating for further tests.

Subtask 5.1 Installation and Interconnection

The goal of this subtask is to install and interconnect the AC-integrated energy storage system at PG&E's facility ~~lab~~ in San Ramon.

The Recipient shall:

- Install the AC-integrated energy storage system in PG&E's facility ~~AC load lab~~
- Set up remote cellular communication and local LAN connectivity on site to remotely monitor and manage the system
- **Perform acceptance testing to ensure communication of the battery system with PG&E's test and monitoring equipment**
- **Demonstrate compliance with PG&E test grid interconnection requirements**
- **Complete the *Interconnection Requirement Checklist***
- Prepare and submit a *Task Memo for Subtask 5.1*, to include and not be limited to documentation of the installation of the storage system, and data storage services and data transmitting protocols for transmitting data to ~~Stem's~~ cloud connected controls

EXHIBIT A

Scope of Work

Products:

- Task Memo for Subtask 5.1
- **Interconnection Requirement Checklist**

Subtask 5.2 System Operation and Monitoring

The goal of this subtask is to operate the system in accordance with the testing protocols developed in Task 3, and to monitor and collect data from this operation. The data will then be verified by a third party.

The Recipient shall:

- Commission the system in accordance with interconnection requirements developed in the draft Energy Storage PG&E Demonstration Interconnection Report
- Acquire data from testing and analyze this data to evaluate the technology performance under a variety of use cases
- Share data for third party performance verification, including review of metering and test location data points, review of data analysis and recorded test data per the test plan
- Report and assess the observed system's operational and performance capabilities across elements such as system-level round trip efficiency, run-time, power rating, charge/discharge rate, and response time.
- Prepare *Phase 1 System Performance Characterization Report* which will include but is not limited to assessments of the observed system's operational and performance capabilities across elements such as system-level round trip efficiency, run-time, power rating, charge/discharge rate, and response time. The report will exclude any confidential information or data that may risk disclosure of Eos' intellectual property or trade secrets.
- Prepare and submit a *Task Memo for Subtask 5.2* to include and not be limited to technical notes and narratives to be used in final report

Products:

- Phase 1 System Performance Characterization Report
- Task Memo for Subtask 5.2

TASK 6 Grid Simulation/Modeling and Valuation of ES services

The goals of this task are to: (1) identify and quantify economical grid applications for the Aurora system based on Phase 1 system performance and a simulation of the PG&E grid; and (2) develop secondary test plans for the Phase 2 **grid simulation performance testing at PG&E interconnection and testing of the system at PG&E's DTY.**

Subtask 6.1 Use Case Characterization

The goal of this subtask is to use data acquired during Phase 1 testing to characterize system performance and to identify promising use cases.

The Recipient shall:

- Prepare and submit a *Task Memo for Subtask 6.1* to include and not be limited to the documentation and characterization of potential use cases based on Phase 1 system performance

Products:

- Task Memo for Subtask 6.1

EXHIBIT A

Scope of Work

Subtask 6.2 Distribution System Modeling and Software Development

The goal of this subtask is to model a part of the distribution system and develop a model of the storage technology.

The Recipient shall:

- Develop a software model of a portion of the PG&E distribution grid
- Simulate the Aurora system's potential grid applications and impact
- Evaluate the grid services that the technology can deliver, through cost benefit analysis using data from PG&E, use case performance and EPRI's an Energy Storage Valuation Tool (ESVT)
- Develop *Phase 2 testing protocols*
- Prepare and validate *Energy Storage Grid Simulation Model*
- Prepare summary charts and tables of ESVT results for use in *Final Report*
- Prepare and submit a *Task Memo for Subtask 6.2* to include and not be limited to grid services definitions, use cases, and preliminary report on the value of Eos technology

Products:

- Phase 2 testing protocols
- Validated Energy Storage Grid Simulation Model
- Summary charts and tables of ESVT results for use in Final Report
- Task Memo for Subtask 6.2

~~TASK 7 Phase 2 – Grid Simulation Performance Testing Interconnection and operation at PG&E Distribution Test Yard~~

The goal of this task is to test the Eos system in a realistic grid-interconnected environment for dynamic testing protocols developed in Task 6: Grid Simulation/Modeling and Valuation of ES services.

~~Subtask 7.1 Secondary Installation and Interconnection~~

The goal of this subtask is to transport (if necessary), install, and interconnect the energy storage system to the secondary testing facility at PG&E's DTY.

~~The Recipient shall:~~

- Transport (if necessary), install and interconnect the Aurora system at PG&E's Distribution Test Yard
- Demonstrate compliance with PG&E test grid interconnection requirements
- Perform acceptance testing to ensure communication of the battery system with PG&E's DTY test and monitoring equipment
- Complete the *Interconnection Requirement Checklist*

~~Products:~~

- ~~Interconnection Requirement Checklist~~

~~Subtask 7.2 Conduct Use Case Testing According to Simulated Grid Requirements~~

The goal of this subtask is to simulate the performance of the system on a representative distribution grid by operating and monitoring its performance on PG&E's DTY.

~~The Recipient shall:~~

EXHIBIT A

Scope of Work

- Conduct testing to establish charge and discharge profile when interacting with simulated real-time grid or market conditions
- Apply testing protocols as determined in Task 6: Grid Simulation/Modeling and Valuation of ES services.
- Acquire and analyze performance data in simulated distribution network conditions
- Obtain 3rd party verification/independent analysis of data and intended use cases by ~~EPRI~~
- Prepare *Phase 2 System Performance Report* which will include, but is not limited to, Phase 2 results, analysis, and findings assessment. The report will exclude any confidential information or data that may risk disclosure of Eos' intellectual property or trade secrets.
- Review and update utility interconnection needs and best practices for future products through collaboration with PG&E grid integration staff, ~~EPRI's~~ the industry network and the Energy Storage Integration Council
- Prepare final version of *Energy Storage PG&E Demonstration Interconnection Report* will include, but is not limited to, a narrative on utility grid integration and interconnection requirements and best practices
- Prepare ~~EPRI a~~ *Technical Brief* which will include, but is not limited to, summary results and findings of testing

Products:

- Phase 2 System Performance Report
- Energy Storage PG&E Demonstration Interconnection Report (Final)
- ~~EPRI~~ Technical Brief

TASK 8 Evaluation of Project Benefits

The goal of this task is to report the benefits resulting from this project.

The Recipient shall:

- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:
 - For Product Development Projects and Project Demonstrations:
 - Published documents, including date, title, and periodical name.
 - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
 - Greenhouse gas and criteria emissions reductions.
 - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
 - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.

EXHIBIT A

Scope of Work

- A discussion of project product downloads from websites, and publications in technical journals.
- A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Additional Information for Product Development Projects:
 - Outcome of product development efforts, such copyrights and license agreements.
 - Units sold or projected to be sold in California and outside of California.
 - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
 - Investment dollars/follow-on private funding as a result of Energy Commission funding.
 - Patent numbers and applications, along with dates and brief descriptions.
- Additional Information for Product Demonstrations:
 - Outcome of demonstrations and status of technology.
 - Number of similar installations.
 - Jobs created/retained as a result of the Agreement.
- For Information/Tools and Other Research Studies:
 - Outcome of project.
 - Published documents, including date, title, and periodical name.
 - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
 - The number of website downloads.
 - An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
 - An estimate of energy and non-energy benefits.
 - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
 - A discussion of project product downloads from websites, and publications in technical journals.
 - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

The Energy Commission may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

Products:

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire

TASK 9 Technology/Knowledge Transfer Activities

The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers.

EXHIBIT A

Scope of Work

The Recipient shall:

- Prepare an *Initial Fact Sheet* at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a *Technology/Knowledge Transfer Plan* that includes:
 - An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
 - A description of the intended use(s) for and users of the project results.
 - Published documents, including date, title, and periodical name.
 - Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the documents were disseminated.
 - A discussion of policy development. State if project has been or will be cited in government policy publications, or used to inform regulatory bodies.
 - The number of website downloads or public requests for project results.
 - Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop *Presentation Materials* for an Energy Commission-sponsored conference/workshop on the results of the project.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities conducted during the project.

Products:

- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

TASK 10 Production Readiness Plan

The goal of this task is to determine the steps that will lead to the manufacturing of technologies developed in this project or to the commercialization of the project's results.

The Recipient shall:

- Prepare a *Production Readiness Plan*. The degree of detail in the plan should be proportional to the complexity of producing or commercializing the proposed product, and to its state of development. The plan will exclude any confidential information or data that may risk disclosure of Eos' intellectual property or trade secrets. As appropriate, the plan will discuss the following:
 - Production processes and equipment required to produce a commercially viable product.
 - Manufacturing facilities, supplier technologies and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes."
 - The expected investment threshold needed to launch the commercial product.

EXHIBIT A

Scope of Work

- An implementation plan to ramp up to full production.
- The outcome of product development efforts, such as copyrights and license agreements.
- Patent numbers and applications, along with dates and brief descriptions.
- Other areas as agreed upon with the CAM.

Products:

- Production Readiness Plan (draft and final)

IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: EOS ENERGY STORAGE, LLC

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

RESOLVED, that the Energy Commission approves Amendment 1 to Grant Agreement EPC-14-023 with Eos Energy Storage, LLC to extend the term by 12 months and to remove two major subcontractors in conjunction with a budget reallocation. The testing to be developed and performed as part of the amendment will determine the best applications and locations for energy storage on PG&E's system; and

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

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on September 14, 2016.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Cody Goldthrite,
Secretariat