STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 02/13) CALIFORNIA ENERGY COMMISSION

New Agreement EPC-15-018 (To be completed by CGL Office)

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

Title of Project
Charging California Homes and Industry: Pilot Testing of Eos' Znyth Battery Technology in Distributed Energy

Term and Amount	Start Date	End Date	Amount
	1/15/2016	3/31/2017	$ 1,894,866

Business Meeting Information

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

Proposed Business Meeting Date	1/13/2016	☐ Consent	☒ Discussion
Business Meeting Presenter	Quenby Lum	Time Needed:	5 minutes

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

Agenda Item Subject and Description

EOS ENERGY STORAGE, LLC. Proposed resolution approving agreement EPC-15-018 with Eos Energy Storage, LLC for a $1,894,866.00 grant to develop and test behind-the-meter residential and commercial AC-integrated Znyth battery technology energy storage systems. Two 1-4kW residential and one 20-40kW commercial battery systems will be installed and demonstrated on both a stand-alone basis and integrated with solar photovoltaic (PV). The systems will be tested under various applications such as demand charge management, solar PV shifting, and frequency regulation.

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":
   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:
   ☒ a) Agreement **IS** exempt. (Attach draft NOE)
   ☐ Statutory Exemption. List PRC and/or CCR section number:
   ☒ Categorical Exemption. List CCR section number: Cal. Code Regs., tit 14, § 15303, 15304, 15311
   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)
   Explain reason why Agreement is exempt under the above section:

   This project is exempt under Cal. Code Regs., tit 14, Sections 15303, 15304, and 15311:

   Class 3 - New Construction or Conversion of Small Structures, Class 4 – Minor Alterations to Land, and Class 11 – Accessory Structures. This project consists of erecting structures to accommodate installation of the pilot energy storage system at an existing site facility at the University of California, San Diego. The pilot energy storage system will store about 150 kWh of energy with a maximum power (charge/discharge) rating of 250 kW. Its total weight will be approximately 5,000 pounds. Eos plans to install and test 2 residential battery systems and 1 commercial battery system. The residential battery system will be approximately the size of a dormitory refrigerator (2' W x 3' D x 5' H) and will be packaged in an outdoor rated enclosure. The commercial system will consist of a palletized, outdoor-rated Energy Stack roughly 5' W x 5' D x 9' H. Maximum size of one structure will not exceed 25' W x 25' D x 45' H. Eos will place the three systems at the Energy Storage Research Area on an existing pad. The Energy Storage Research Area is regularly used for testing storage systems and will therefore not require Eos to submit any documentation for campus infrastructure upgrades. For this project, Eos will have to complete a Site License Agreement and an internal plan review with UCSD engineers, fire marshal, etc. Approval will come through a comment and answer process internal to UCSD only.

   ☐ b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)
   Check all that apply
   ☐ Initial Study
   ☐ Negative Declaration
   ☐ Mitigated Negative Declaration
   ☐ Environmental Impact Report
   ☐ Statement of Overriding Considerations

List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)	
Legal Company Name:	Budget
Stem Inc	$ 149,920
The Regents of the University of California, San Diego	$ 389,876
The Brattle Group	$ 95,000
Itron, Inc.	$ 0
Bay City Electric Works	$ 180,583
Environment One Corporation	$ 0
Rocky Mountain Institute	$ 50,000

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List all key partners: (attach additional sheets as necessary)
Legal Company Name:

Budget Information

Funding Source	Funding Year of Appropriation	Budget List No.	Amount
EPIC	14-15	301.001B	$1,894,866
			$
			$
			$
			$
			$
R&D Program Area: ESRO: ETSI		TOTAL:	$1,894,866
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

Recipient's Administrator/ Officer				**Recipient's Project Manager**			
Name:	Janet Martocchio			Name:	Janet Martocchio		
Address:	214 Fernwood Ave			Address:	214 Fernwood Ave		
City, State, Zip:	Edison, NJ 08837-3839			City, State, Zip:	Edison, NJ 08837-3839		
Phone:	732-225-8400 /	Fax:	- -	Phone:	732-225-8400 /	Fax:	- -
E-Mail:	jmartocchio@eosenergystorage.com			E-Mail:	jmartocchio@eosenergystorage.com		

Selection Process Used

☒ Competitive Solicitation Solicitation #: PON-13-302

☐ First Come First Served Solicitation

The following items should be attached to this GRF

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

Agreement Manager	Date	Office Manager	Date	Deputy Director	Date

Exhibit A
Scope of Work

Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Development of Testing Protocol and Plan
3		Engineering and Design of Residential and Commercial AC/DC Battery Systems
4	X	Production of Eos Batteries
5		Development / Adaptation of Intelligent Controller
6		Production & Integration of Residential AC/DC Battery System
7		Production & Integration of Commercial AC/DC Battery System
8		Installation and Operation of Residential and Commercial Battery Systems
9		Evaluation Of Project Benefits
10		Technology/Knowledge Transfer Activities
11		Production Readiness Plan

A. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
CPUC	California Public Utilities Commission
PV	Photovoltaics
TAC	Technical Advisory Committee
DC	Direct current
AC	Alternating current
BMS	Battery management system
PCS	Power control system

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

A. Purpose of Agreement

The purpose of this Agreement is to fund development of battery technology and systems that will decrease the cost, improve performance, and increase the safety of energy storage applications.

[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
Scope of Work

B. Problem/ Solution Statement

Problem

There are significant barriers to energy storage use including high capital costs, lack of information regarding performance, and limited operational experience. The Recipient will develop and pilot test an advanced chemical battery technology and demonstrate a development path that will help integrate grid level energy storage technologies and determine best applications that provide locational benefits. This project is focused on developing innovative utility-scale and generation energy storage technologies and applications to mitigate intermittent renewables and meet peak demand. There is a lack of real-word experience integrating energy storage for a variety of use cases, which this project will address.

Solution

The Recipient will manufacture and test two 1-4kW residential and one 20-40kW commercial battery systems employing Eos' Znyth™ technology[2] in a variety of use cases. This pilot demonstration project will help reduce barriers to entry into the energy storage market—such as high battery costs, lack of system safety, and insufficient performance testing/validation—while helping to enable California's renewable energy goals and ensuring reliable and affordable electricity for consumers.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to develop low-cost, efficient, and safe energy storage technologies through a pilot test of Eos' novel Znyth battery technology under a variety of use cases.

Ratepayer Benefits: This project will result in ratepayer benefits of greater electricity reliability, lower costs, and increased safety primarily by furthering the development of Eos' novel Znyth™ battery technology, which will provide an energy storage option once commercialization is achieved. The pilot test of energy storage in a variety of use cases will provide data that can be used to develop best practices. Furthermore, the project will provide data on experimental rate structures that can help influence decisions for various storage applications.

[2] Eos' Znyth™ technology is a sealed battery containing an aqueous, mildly acidic electrolyte. Eos' novel chemistry/technology employs a bipolar electrode design that simplifies internal battery connections and eliminates the need for a traditional membrane separator, cutting out significant cost and a common source of battery failure. Hybridization of multiple cathode reactions improves the balance between energy storage and power performance, allowing the battery to provide multi-hour discharge at nominal power levels and short surges of power for applications also needing immediate response times. Eos' Znyth battery comprises an anode and cathode separated by an electrolyte pool, which provides dynamic separation of the electrodes. Eos' technology employs a standard acid-zinc plating bath to store electrical energy through zinc deposition. During charge and discharge, chemical ions move through the electrolyte to their respective electrode to donate or accept electrons creating a current flow through the bipolar stack. The chemistry used in the Eos electrochemical couple is non-reactive under conditions that could cause thermal runaway in other battery chemistries. DNV GL has conducted third party evaluation of Eos cells, finding that after significant abuse testing (short-circuit, high temperatures, overcharging, etc.), there was no incidence of fire, explosion, venting, or leaking. The electrolyte is non-flammable and does not have a flash point, therefore eliminating fire suppression requirements. UL and other agency certification is under way.

Exhibit A
Scope of Work

Technological Advancement and Breakthroughs: This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of California's statutory energy goals by furthering the development of Eos' novel Znyth battery technology, which will provide a superior energy storage option once commercialization is achieved. This project will also provide lessons on how to best integrate battery, power conversion, and intelligent control hardware/software with this technology under various use cases.

Agreement Objectives

The objectives of this Agreement are to:

1. Build and integrate Eos' novel Znyth battery technology with low- and medium-power inverters to create Alternating Current (AC) energy storage systems that support relevant California Public Utilities Commission's (CPUC) policy goals.[3]
2. Install, test, and validate performance of two residential and one commercial AC-storage systems on a stand-alone basis and/or integrated with solar photovoltaics (PV), for multiple use cases such as energy/demand management, back-up power, ancillary services, load following, and solar PV shifting or firming.
3. Evaluate impact of battery operation on customer load profile and pursuant financial benefits under various retail tariff structures.
4. Implement intelligent control algorithms and demonstrate aggregation of multiple storage units to create virtual power plants that maximize the value of behind-the-meter storage to the utilities.
5. Model, simulate, and extrapolate the economic impacts of installed storage systems and quantify benefits to California utilities and ratepayers.

[3] For more information see Assembly Bill (AB) 2514 - Energy Storage Systems (Statutes of 2010), Assembly Bill (AB) 32 ("The Global Warming Solutions Act of 2006"), Renewables Portfolio Standard (Senate Bill (SB) X1-2, Statutes of 2011-12, First Extraordinary Session), CPUC Decision 13-10-040, "Decision Adopting Energy Storage Procurement Framework and Design Program" (2013).

Exhibit A
Scope of Work

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:

- 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);
- 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.

Exhibit A
Scope of Work

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.
- 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) 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 monthly *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 monthly or 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 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 Products:

- 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.

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

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

Products:

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

Subtask 1.9 Subcontracts
The goals of this subtask are to: (1) procure subcontracts required to carry out the tasks under this Agreement; and (2) ensure that the subcontracts are consistent with the terms and conditions of this Agreement.

The Recipient shall:

- Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.
- Incorporate this Agreement by reference into each subcontract.
- Include any required Energy Commission flow-down provisions in each subcontract, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subcontract terms.

- If required by the CAM, submit a draft of each *Subcontract* required to conduct the work under this Agreement.
- Submit a final copy of 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:

- 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.

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 Testing Protocol and Plan

The goal of this task is to develop a testing plan and application-specific protocols to evaluate the performance of two residential energy storage systems and one commercial energy storage system.

The Recipient shall:

- Create a *Test Plan* that provides detailed instructions for recording day-to-day operation of the energy storage systems using available testing and data acquisition equipment.
- Create a *Test Plan* that provides well-defined testing protocols and detailed instructions for performance evaluation of the battery systems under specific applications or use cases. These applications or use cases are expected to include, but not be limited to:
    - Energy arbitrage
    - Demand charge management
    - Peak shaving
    - Solar PV shifting
    - Back-up power
    - Frequency regulation
- Create a *Test Plan* that will assess end-of-pilot test battery performance against baseline data to determine the potential impact of these applications on battery life.

Products:

- Test Plan

TASK 3 Engineering and Design of Residential and Commercial AC/DC Battery Systems

Subtask 3.1 Engineering and design of residential AC/DC battery systems

The goal of this subtask is to develop the system design and specification for the residential AC/DC integrated battery system.

The Recipient shall:

- Generate data for Product Readiness Plan.
- Perform preliminary market analysis to confirm product size and attributes.
- Develop engineering drawings and diagrams for the residential AC/DC battery system, with technical design allowing for low-cost, turn-key integration with rooftop solar PV.

  - System design shall include battery system, power conversion system (where applicable)[4], battery management system, and packaging/containerization.
  - Computer-aided design and computer-aided manufacturing illustrations shall be created to effectively incorporate design concepts into the final prototype.
- Develop detailed *Technical Specifications for the residential AC/DC integrated battery systems*, one of which will be solar-integrated and one of which will be stand-alone.

Products:

- Technical Specifications for the residential AC/DC integrated battery systems

Subtask 3.2 Engineering and design of the commercial AC/DC battery systems
The goal of this subtask is to develop the system design and specification for the commercial AC/DC integrated battery system.

The Recipient shall:

- Generate data for Product Readiness Plan.
- Perform preliminary market analysis to confirm product size and attributes.
- Develop engineering drawings and diagrams for the commercial AC/DC battery systems, with technical design allowing for low-cost, turn-key integration with rooftop solar PV.
  - System design shall include battery system, power conversion system (where applicable)[4], battery management system, and packaging/containerization.
  - Computer-aided design and computer-aided manufacturing illustrations shall be created to effectively incorporate design concepts into the final prototype.
- Develop detailed *Technical Specifications for the commercial AC/DC integrated battery systems*, one of which will be solar-integrated and one of which will be stand-alone.

Products:

- Technical Specifications for the commercial AC/DC integrated battery systems.

TASK 4 Production of Eos Batteries
The goal of this task is to manufacture Eos batteries to be integrated into the AC/DC residential and commercial battery designs, based on the technical specifications developed in Task 3.

The Recipient shall:

- Procure all equipment and materials required for construction of the Eos batteries.
  - Materials procured may include plastics parts, pre-fabricated metal electrodes, electrolyte solution and additives, tools required for processing (e.g., cathode fabrication equipment), and inverter systems.

[4] Engineering/design optimization of the solar photovoltaic tied energy storage system may suggest a "DC coupling" strategy where the DC battery system is directly integrated with the DC solar PV system, as opposed to each system having its own AC inverter.

    - Leverage existing suppliers to procure materials at the lowest available cost.
- Fabricate and assemble battery components including current collectors, cathodes, and electrolyte sufficient for integration of two AC/DC residential battery systems.
    - Upon completion of component assembly, conduct quality assurance inspection and testing to verify component quality and adherence to design specifications.
    - Prepare the *Battery Specification Document* describing the specifications for each battery component. This document will exclude any confidential information or data that may risk disclosure of Eos' intellectual property or trade secrets.
- Ship Eos batteries to integrator facilities.
- Provide *Pictures of Finished Batteries*.

Products:
- Battery Specification Document
- Pictures of Finished Batteries

TASK 5 Development / Adaptation of Intelligent Controller
The goal of this task is to develop and adapt load monitoring and battery control software for seamless integration with Eos residential and commercial battery systems and third-party inverters.

The Recipient shall:
- Adapt existing off-the-shelf intelligent control software to dispatch the Eos batteries and third-party inverters.
- Validate safety mechanisms and determine the most cost-effective way to cycle the batteries for demand charge reduction and grid services control.
- Confirm that the batteries and inverters can be controlled and operated by the optimization and controls software and maintain the operating envelope for both safety and efficiency.
- Validate bring-up procedures, metrics and maintenance procedures.
- Generate *Technical Specification for Intelligent Controller*
- Generate *Memo documenting successful design and adaptation to Eos battery systems*

Products:
- Technical specification for Intelligent Controller
- Memo documenting successful design and adaptation to Eos battery systems

TASK 6 Production & Integration of Residential AC/DC Battery System

Subtask 6.1 Residential DC Battery system construction, assembly, and containerization
The goal of this subtask is to incorporate the Eos batteries into the residential energy storage system in preparation for installation and testing.

The Recipient shall:

- Integrate Eos batteries into customized cabinets.
- Design and install all electrical wiring and power electronics required for the integrated energy storage systems.
- Perform initial electrical testing to validate electrical connections.
- Generate *Documentation of Complete Residential DC Battery System.*

Products:
- Documentation of Complete Residential DC Battery System

Subtask 6.2 Inverter procurement
The goal of this task is to design and procure hardware & software for bi-directional inverters and isolated dual active bridges, if needed[4], for residential application.

The Recipient shall:
- Procure hardware & software for bi-directional inverters and isolated dual active bridges, if needed[4], for residential application.
- Generate *Inverter Specification Sheet*

Products:
- Inverter Specification Sheet

Subtask 6.3 Development and implementation of intelligent controller / BMS / PCS software interface for Residential Systems
The goal of this subtask is to develop and implement the battery management system (BMS) and power control system (PCS) software interface.

The Recipient shall:
- Develop BMS and PCS software interface.
- Generate *Memo documenting successful integration of intelligent controller with Eos battery systems.*

Products:
- Memo documenting successful integration of intelligent controller with Eos battery systems

Subtask 6.4 Physical integration of Residential DC systems with AC inverter(s)
The goal of this subtask is to physically interconnect and integrate DC battery systems with AC inverter(s).

The Recipient shall:
- Physically connect DC battery systems with residential AC inverter products according to detailed product specification.
- Install battery monitoring and supervisory controls.
- Generate *Pictures of the Residential Battery/Inverter System*

Products:
- Pictures of the Residential Battery/Inverter Systems

TASK 7 Production & Integration of Commercial AC/DC Battery Systems

Subtask 7.1 Commercial DC Battery system construction, assembly, and containerization
The goal of this subtask is to incorporate the Eos batteries into the commercial DC battery system in preparation for testing and installation.

The Recipient shall:
- Integrate Eos batteries into customized cabinets.
- Design and install all electrical wiring required for the integrated energy storage system.
- Perform initial electrical testing to validate electrical connections.
- Generate *Documentation of Complete Commercial DC Battery System.*

Products:
- Documentation of Complete Commercial DC Battery System

Subtask 7.2 Inverter Procurement
The goal of this subtask is to design and procure hardware & software for bi-directional inverters and isolated dual active bridges, if needed[4], for commercial application.

The Recipient shall:
- Procure hardware & software for bi-directional inverters and isolated dual active bridges, if needed[4], for commercial application.
- Generate *Inverter Specification Sheet*

Products:
- Inverter Specification Sheet

Subtask 7.3 Development and implementation of intelligent controller / BMS / PCS software interface for Commercial system
The goal of this subtask is to develop and implement the BMS and PCS software interface.

The Recipient shall:
- Develop BMS and PCS software interface.
- Generate *Memo documenting successful integration of intelligent controller with Eos battery systems.*

Products:
- Memo documenting successful integration of intelligent controller with Eos battery systems

Subtask 7.4 Physical integration of Commercial DC system with AC inverter
The goal of this subtask is to integrate the commercial DC system with a commercially available AC/DC inverter.

The Recipient shall:

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Scope of Work

- Physically connect DC battery system with commercial AC inverter products according to detailed product specification.
- Install battery monitoring and supervisory controls.
- Generate *Pictures of the Commercial Battery/Inverter System*

Products:

- Pictures of the Commercial Battery/Inverter System

Exhibit A
Scope of Work

TASK 8 Installation and Operation of Residential and Commercial Battery Systems

Subtask 8.1 Transportation, Installation, and Interconnection of Systems

- The goals of this subtask are to interconnect the AC energy storage systems to the pilot site's microgrid and integrate with communication, control, and data acquisition systems.

The Recipient shall:

- Provide test site locations for the pilot testing of multiple energy storage systems, which will include providing plan checks and inspectors.
- Ship residential and commercial battery storage systems.
- Install residential and commercial battery storage systems.
- Integrate these energy storage systems with the communication, control, and data acquisition systems.
- Interface pilot site's solar forecasting system to provide control signal for Eos energy storage system.
- Generate *Pictures and documentation of successful installation.*

Products:

- Pictures and documentation of successful installation

Subtask 8.2 Conduct Testing, Data Acquisition and Analysis

The goal of this subtask is to accommodate pilot testing, data collection and analysis of the new energy storage technology.

The Recipient shall:

- Execute the Test Plan.
- Provide communications and controls, data collection, and real time monitoring and control capability.
- Collect data, conduct analysis, and provide *Performance Evaluation Report*. The report will exclude any confidential information or data that may risk disclosure of Eos' intellectual property or trade secrets.
- Provide an evaluation of the fire safety systems and provide recommendations to ensure safety; a *Safety Analysis Report* will be provided.
- Conduct an engineering review and plan check of the proposed design of the energy storage system and determine code compliance with the goal of ensuring eventual commercial product development of the Residential and Commercial systems.
- Provide solar renewable energy and load forecasting signal for control of the energy storage systems.

Products:

- Performance Evaluation Report
- Safety Analysis Report

Subtask 8.3 Code Compliance

The goals of this subtask are to review the design of the overall residential and commercial energy storage systems to ensure code compliance with applicable state and federal codes.

The Recipient shall:

- Identify all design requirements needed to make the pilot test be compliant with all applicable state and federal codes, and UL compliant.
- Generate *Report Documenting All of the Code Requirements and Path to Compliance*.

Products:

- Report Documenting All of the Code Requirements and Path to Compliance.

Subtask 8.4 Solar and Load Forecasting Integration with Energy Storage Systems
The goal of this subtask is to integrate solar and load forecasting with the control systems of the energy storage systems to maximize benefits and performance.

The Recipient shall:

- Develop interface between the solar forecasting system and the advanced energy storage control system.
- Develop control strategies to respond to solar forecasting predictions.
- Model energy storage response to solar and load forecasting.
- Determine Operational Parameters and Requirements.
- Develop *Report on Solar and Load Forecasting for the Testbed* for advanced energy storage.

Products:

- Report on Solar and Load Forecasting for the Testbed

Subtask 8.5 Ongoing Operations/Maintenance
The goal of this subtask is to provide 24/7 operations and monitoring of energy storage systems.

The Recipient shall:

- Work closely with teaming partners to deploy storage systems on site at proposed locations.
- Provide PowerMonitor hardware as necessary for integration and install the device on-site.
- Set up remote cellular communication and local Local Area Network connectivity on site to remotely monitor and manage the systems.
- Provide data storage services for transmitting data to cloud connected controls.
- Provide ongoing 24/7 operations support and management for the energy storage systems for 1 year of operation of the system(s).
- Generate *Report documenting maintenance activity with recommendations for product success in the field*.

Products:

- Report documenting maintenance activity with recommendations for product success in the field

Exhibit A
Scope of Work

TASK 9 Evaluation of Project Benefits
The goal of this task is to report the benefits resulting from this project.

The Recipient shall:

- Evaluate economics of residential and commercial energy storage systems, comparing retail, wholesale, and system-level revenues against current and projected system costs.
- Assess the impact of rate design on energy storage economics
    - Collaborate with the local utility to review menu of possible rate options and/or retail tariffs currently under development
    - Identify rate options to be analyzed through this study
    - Design the rates
    - Estimate customer bill impact
    - Conduct preliminary assessment of the impact of the new rates on energy storage adoption
- Assess system-level benefits
    - Establish a list of the possible benefits of behind-the-meter energy storage, including but not limited to avoided generation capacity costs, avoided T&D capacity costs, energy arbitrage value, ancillary services, wholesale market price reductions, improved reliability, emissions reductions, and reduced line losses
    - Assign a unit value to each benefit
    - Calculate the total value of each benefit stream under a range of adoption scenarios
- Generate Report *Economic Evaluation of Advanced Energy Storage to Maximize Utility and End-User Value*
- 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:

    - <u>For Product Development Projects and Project Demonstrations:</u>
        - 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.

- 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.

- 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:

- Economic Evaluation of Advanced Energy Storage to Maximize Utility and End-User Value
- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire

TASK 10 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.

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 11 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:
    - o Production processes and equipment required to produce a commercially viable product.
    - o Manufacturing facilities, supplier technologies and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes."
    - o The expected investment threshold needed to launch the commercial product.
    - o An implementation plan to ramp up to full production.
    - o The outcome of product development efforts, such as copyrights and license agreements.
    - o Patent numbers and applications, along with dates and brief descriptions.
    - o Other areas as agreed upon with the CAM.

Products:
- Production Readiness Plan (draft and final)

RESOLUTION NO: 16-0113-14c

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 Agreement EPC-15-018 from PON-13-302 with Eos Energy Storage, LLC for a $1,894,866 grant to develop and test behind-the-meter residential and commercial AC-integrated Znyth battery technology energy storage systems. Two 1-4 kW residential and one 20-40 kW commercial battery systems will be installed and demonstrated on both a stand-alone basis and integrated with solar photovoltaic (PV). The systems will be tested under various applications such as demand charge management, solar PV shifting, and frequency regulation; 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 January 13, 2016.

AYE: [List of Commissioners]
NAY: [List of Commissioners]
ABSENT: [List of Commissioners]
ABSTAIN: [List of Commissioners]

Tiffani Winter,
Secretariat