STATE OF CALIFORNIA
GRANT REQUEST FORM (GRF)
CEC-270 (Revised 10/2015) CALIFORNIA ENERGY COMMISSION

New Agreement EPC-17-034 (To be completed by CGL Office)

ERDD	Benson Gilbert	51	916-445-5406

The Regents of the University of California, Davis-Western Cooling Efficiency Center	94-6036494

California Energy Product Evaluation Hub

	4/23/2018	3/31/2023	$ 10,993,646

☐ ARFVTP agreements under $75K delegated to Executive Director.			
Proposed Business Meeting Date	3/21/2018	☐ Consent	☒ Discussion
Business Meeting Presenter	Nicholas Blair	Time Needed:	5 minutes
Please select one list serve. EPIC (Electric Program Investment Charge)			
Agenda Item Subject and Description			

UNIVERSITY OF CALIFORNIA, DAVIS. Proposed resolution approving Agreement EPC-17-034 with The Regents of the University of California, on behalf of the Davis campus's Western Cooling Efficiency Center for a $10,993,646 grant to develop a rating system and associated testing methodologies to evaluate and compare emerging technology products for distributed energy resources based on criteria important to purchasing decisions by large institutional and commercial customers. As part of this agreement, the recipient will conduct on-going testing of product offerings from various original equipment manufacturers and publish the results in a web-based Buyer's Guide.

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: Cal. Code Regs., tit 14, § 15301 -- Cal. Code Regs., tit 14, § 15304

☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

The reason for the CEQA categorical exemptions are as follows:

1. For Cal. Code Regs. (CCR), Title 14, section 15301: This project will involve product testing to be performed at existing laboratory facilities, agricultural test facilities, and large commercial and institutional stake-holder facilities. The products to be tested will be advanced distributed energy resource (DER) products that are relevant to large commercial and institutional customers, such as: air conditioning equipment, water heating and cooling equipment, LED lighting, energy management and information systems, agricultural irrigation systems, solar photovoltaic systems, fenestration products, plug-load technologies, and commercial refrigeration. The tests that will be performed are temporary in nature and will require only minor alterations to existing structures or agricultural infrastructure. Work under this project will result in negligible or no expansion of the existing use of the facilities at which testing will occur. Therefore, this project will result in no significant impact to the environment and is exempt pursuant to 14 C.C.R. § 15301.

2. For Cal. Code Regs. (CCR), Title 14, section 15304: This project will involve product testing to be performed at existing laboratory facilities, agricultural test facilities, and large commercial and institutional stake-holder facilities; and which may include minor alterations to land. The products to be tested will be advanced distributed energy resource (DER) products that are relevant to large commercial and institutional customers, such as: air conditioning equipment, water heating and cooling equipment, LED lighting, energy management and information systems, agricultural irrigation systems, solar PV systems, fenestration products, plug-load technologies, and commercial refrigeration. The tests that will be performed are temporary in nature and may require minor alterations to the condition of land, water, and/or vegetation in order to be completed, such as minor trenching and backfilling where the surface is restored in order to run piping or cabling to an existing building, or outdoors in an agricultural setting, to support the installation of equipment to test a product (such as to test agricultural irrigation systems). No healthy, mature, scenic trees will be removed. This proposed project will result in no significant impact to the environment and is exempt pursuant to 14 C.C.R. § 15304.

☐ 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
Lawrence Berkeley National Laboratory	$ 3,375,000
Energy Solutions International	$ 2,094,467
The Regents of the University of California, Center for the Built Environment	$ 600,000
The Local Government Commission	$ 99,000
Collaborative for High Performance Schools	$ 25,000
Sheet Metal Workers 104 & Bay Area Industry Training Fund	$ 99,000
TBD – Web programmer consultant	$ 50,000

Legal Company Name:
Lawrence Berkeley National Laboratory
The Regents of the University of California, Center for the Built Environment
Energy Solutions

Funding Source		Funding Year of Appropriation	Budget List No.	Amount
EPIC		17-18	301.001E	$10,993,646
R&D Program Area:	EDMFO: EDMF			$10,993,646
Explanation for “Other” selection				
Reimbursement Contract #:			Federal Agreement #:	

Name:	Maria Terrasa			Name:	Theresa Pistochini		
Address:	215 Sage St Ste 100			Address:	215 Sage St Ste 100		
City, State, Zip:	Davis, CA 95616-7379			City, State, Zip:	Davis, CA 95616-7379		
Phone:	530-752-2659 /	Fax:	- -	Phone:	530-752-3262 /	Fax:	- -
E-Mail:	mefernandez@ucdavis.edu			E-Mail:	tepistochini@ucdavis.edu		

☒ Competitive Solicitation   Solicitation #: GFO-17-301

☐ First Come First Served Solicitation

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
UC Regents, Davis

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1	n/a	General Project Tasks
2		Characterize Hub User Needs
3		Characterize Product Categories
4	X	Prioritize Product Categories
5		Develop Evaluation Guidelines and Methodologies
6	X	Evaluate Products
7		Publish and Disseminate Buyer's Guide
8		Evaluation of Project Benefits
9		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
Cal-EPE Hub or Hub	California Energy Product Evaluation Hub
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
DER	Distributed Energy Resource
PAG	Product Advisory Group
Recipient	The Regents of the University of California, Davis – Western Cooling Efficiency Center
TAC	Technical Advisory Committee

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

A. Purpose of Agreement

The purpose of this Agreement is to fund development of the California Energy Product Evaluation (Cal-EPE) Hub (or Hub) to conduct and disseminate evaluations of advanced distributed energy resource (DER) products relevant to large commercial and institutional customers.

B. Problem/ Solution Statement

Problem

With few rigorous product evaluations to inform purchasing decisions, large customers face enormous uncertainty and high costs associated with purchasing advanced DER products.

[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.

There is little incentive for market actors to fill this gap, which hinders the diffusion of promising DER products on a large scale.

Solution
The Recipient will develop and establish the Cal-EPE Hub to conduct and disseminate evaluations of advanced distributed energy resource products relevant to large commercial and institutional customers through a web-based Buyer's Guide.

C. Goals and Objectives of the Agreement

Agreement Goals
The goal of this Agreement is to create the Cal-EPE Hub to provide large commercial and institutional customers with the information they need to purchase advanced DER products, including but not limited to products with improved energy efficiency, renewable distributed generation products, and distributed storage products.

Ratepayer Benefits:[2] This Agreement will result in the ratepayer benefit of lower electricity costs by accelerating the penetration of advanced DER products into commercial and institutional markets, thereby improving access to and pricing of energy-saving technologies.

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 providing transparent and rigorous evaluations of advanced DER products, allowing them to become procurement-eligible by large-scale purchasers in target markets.

Agreement Objectives
The objectives of this Agreement are to:

- Evaluate selected DER products in a rigorous and transparent manner;
- Present evaluations that allow "apples-to-apples" comparisons of similar products, as well as comparisons to existing government and industry standards;
- Provide public access to the evaluations and the data behind them in a web-based Buyer's Guide; and
- Widely disseminate evaluation results in the Buyer's Guide, and promote the use of the Cal-EPE Hub for product evaluation.

III. TASK 1 GENERAL PROJECT TASKS

[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).
[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.

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:

<u>For products that require a draft version, including the Final Report Outline and Final Report</u>

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

<u>For products that require a final version only</u>

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

<u>For all products</u>

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

<u>Instructions for Submitting Electronic Files and Developing Software</u>:

- **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.

o **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 <u>administrative portion</u> of the meeting will include discussion of the following:
  - o Terms and conditions of the Agreement;
  - o Administrative products (subtask 1.1);
  - o CPR meetings (subtask 1.3);
  - o Match fund documentation (subtask 1.7);

- o Permit documentation (subtask 1.8);
- o Subcontracts (subtask 1.9); and
- o Any other relevant topics.

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

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

Products:
- Progress Reports
- Invoices

Subtask 1.6 Final Report
The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. The CAM will review 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 the 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. *(See Task 1.1 for requirements for draft and final products.)*

Recipient Products:
- Final Report Outline (draft and final)

CAM Product:
- Style Manual
- Comments on Draft Final Report Outline
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:
- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
  - Ensure that the document is written in the third person.

- o Ensure that the Executive Summary is understandable to the lay public.
  - ▪ Briefly summarize the completed work. Succinctly describe the project results and whether or not the project goals were accomplished.
  - ▪ Identify which specific ratepayers can benefit from the project results and how they can achieve the benefits.
  - ▪ If it's necessary to use a technical term in the Executive Summary, provide a brief definition or explanation when the technical term is first used.
- o Follow the Style Guide format requirements for headings, figures/tables, citations, and acronyms/abbreviations.
- o Ensure that the document omits subjective comments and opinions. However, recommendations in the conclusion of the report are allowed.
- o Include a brief description of the project results in the Abstract.

- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt
- Consider incorporating all CAM comments into the Final Report. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product
- Submit the revised Final Report and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period or approves a request for additional time.
- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

Products:
- Final Report (draft and final)
- Written Responses to Comments on the Draft Final Report

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

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

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. The Recipient may only spend match funds during the Agreement term, either concurrently or prior to the use of 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.
  - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.

- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.8 Permits

The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:

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

The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 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:
  - o Technical area expertise;
  - o Knowledge of market applications; or
  - o 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

IV. 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: CHARACTERIZE HUB USER NEEDS

The goal of this task is to determine the specific needs that potential Cal-EPE Hub users have regarding advanced DER products.

The Recipient shall:

- Prepare a *Target Customers List Memo*, which shall include, but is not limited to, a list of large institutional and commercial customers (referred to as target customer groups), any additional related target customers identified by the Recipient, and a brief description of each customer group and its energy footprint in California. Target customer groups shall include, but are not limited to, the following:
  - School districts
  - Ports
  - Local governments
  - State of California
  - Military bases
  - Construction industry
  - Hospitals
  - Colleges and Universities
  - Agriculture
  - Equipment vendors and installers
  - Food processing, distribution and food service industry including supermarkets
  - Data centers
- Prepare an *Interview Guide*, which shall include, but is not limited to, the protocol for conducting the interviews mentioned below, and questions to ask during the interviews.
- As directed by the Interview Guide, interview 15-20 representatives of the customer groups listed above to obtain information on their procurement processes, product priorities, and information needs.
- Analyze interview data and prepare an *Interview Summary Report,* which shall include but is not limited to a summary of major findings from the interviews.
- Prepare a *Survey Guide* for the online survey (see below), which shall include but is not limited to a protocol for survey recruitment and implementation and a copy of the survey questions that will be used to gather information on:
  - DER product categories for which independent validation or additional information is most needed; and
  - DER product categories whose procurement would be most (and least) likely to be influenced by the information provided in the Online Buyer's Guide (see Task 7); and
  - Specific types of information needed by industry that the Hub can provide through its evaluations.
- Conduct an online survey of roughly 200 targeted customers, as directed by the Survey Guide.
- Analyze survey data.

- Prepare a *Summary of Hub User Needs*, which shall include but is not limited to the following:
  - A copy of the final survey, including its programmed structure, as an appendix to the report; and
  - The results and conclusions from the interview and survey activities described above; and
  - Recipient recommendations based on the results and conclusions from the interview and survey activities.

Products:

- Target Customers List Memo (draft and final)
- Interview Guide (draft and final)
- Interview Summary Report (draft and final)
- Survey Guide (draft and final)
- Summary of Hub User Needs (draft and final)

TASK 3: CHARACTERIZE PRODUCT CATEGORIES

The goal of this task is to identify and describe the product categories eligible for evaluation.

The Recipient shall:

- Prepare a *List of Eligible Product Categories Report,* which shall include but is not limited to a list of product categories that could be evaluated by the Hub and that meet the following criteria:
  - Is applicable to commercial and institutional customers; and
  - Is in the early commercial adoption stage.

  The *List of Eligible Product Categories Report* will also include, but is not limited to, product categories in the following technology sectors:
  - Electric space conditioning, and water heating and cooling
    - Electric heat pumps
    - Cooling technologies using alternative refrigerants (high efficiency, low global warming and low ozone depletion) including CO2, ammonia, propane, isobutene-test would efficiency, and safety; absorption cooling
    - Aftermarket treatments that improve energy efficiency of existing HVAC and building envelope systems
  - Solid-state lighting technologies and applications
  - Energy management and information systems
  - Onsite energy storage systems
  - Energy - and water - saving agricultural irrigation systems
  - Distributed PV systems

  The *List of Eligible Product Categories Report* may also include product categories in the following technology sectors:
  - Fenestration products
  - Plug-load technologies
  - Commercial refrigeration

- Prepare a *Product Category Characterization Report*, which will include but is not limited to the following:
  - o Descriptions of each product category provided in the List of Eligible Product Categories Report
  - o Product category structure (including sub-categories)
  - o List of products in the categories
  - o Key features of those products
  - o Differentiating factors between products in the category
- Present the draft *Product Category Characterization Report* to the TAC for review and feedback.

Products:
- List of Eligible Product Categories Report (draft and final)
- Product Category Characterization Report (draft and final)

TASK 4: PRIORITIZE PRODUCT CATEGORIES
The goal of this task is to prioritize the product categories to be evaluated based on Hub user needs, energy savings, environmental impacts, and evaluation feasibility.

The Recipient shall:
- Prepare a *Prioritization Process for Product Categories Report*, which shall include documentation of the process by which product categories shall be prioritized for evaluation by the Hub. The report will describe the process that will:
  - o Rank the product categories based on user needs as identified in the Summary of Hub User Needs Report (Task 2). Establish cut-off criteria for product categories to continue in the prioritization process.
  - o Rank the product categories based on their potential impact for reducing California energy consumption and greenhouse gas emissions. Establish cut-off criteria for product categories to continue in the prioritization process.
  - o Consider the feasibility (the ease or difficulty) of evaluating a given product category.
  - o Consider the pace of development for the product categories, and their associated subcategories, and the need for potential future updated product evaluations.
- As directed by the Prioritization Process for Product Categories Report, assess and prioritize the final list of product categories identified in the Product Category Characterization Report from Task 3.
- Prepare three separate product category evaluation priority list and selection reports for each evaluation phase (Phase 1, 2, and 3) with the following respective titles: *Phase 1 Product Category Evaluation Priority List and Selection Report, Phase 2 Product Category Evaluation Priority List and Selection Report, Phase 3 Product Category Evaluation Priority List and Selection Report.* Each report shall include, but is not limited to, the following:
  - o A final ranking of the product categories, organized according to the priority for evaluation, as determined by the assessment mentioned above (Task 4).
  - o An explanation of the reason for the priority determination for each product category.
  - o Selection of product categories to be evaluated in each Phase.
- Present the draft product category evaluation priority lists and selection reports for each evaluation phase (Phase 1, 2, and 3) to the TAC for review and feedback.

- Prepare *CPR Report #1* and participate in a CPR meeting immediately before the initial product testing. CPR meeting #1 should take place after the Final *Phase 1 Product Category Evaluation Priority List and Selection Report* is submitted.

Products:
- Prioritization Process for Product Categories Report (draft and final)
- Phase 1 Product Category Evaluation Priority List and Selection Report (draft and final)
- Phase 2 Product Category Evaluation Priority List and Selection Report (draft and final)
- Phase 3 Product Category Evaluation Priority List and Selection Report (draft and final)
- CPR Report #1

TASK 5: DEVELOP EVALUATION GUIDELINES AND METHODOLOGIES
The goal of this task is to develop evaluation guidelines, with evaluation methodologies, that are adapted to each product category selected for evaluation. In this task, Recipient shall also create Product Advisory Groups (PAGs) that specialize in each product category selected for evaluation, to advise on the evaluation methodology (Task 5) and product selection (Task 6).

The Recipient shall:
- In each evaluation phase (Phase 1, 2, and 3), select and convene PAGs to support product evaluation related activities on an as-needed basis. PAG members will be subject matter experts who can advise on specific products within a given product category selected for evaluation by the Cal-EPE Hub.
- Prepare a Product Advisory Group members contact list for each Phase 1, 2 and 3 with the following respective titles: Phase 1 Product Advisory Group Members Contact List, Phase 2 Product Advisory Group Members Contact List, and Phase 3 Product Advisory Group Members Contact List. The lists shall include contact information (such as name, job title, company, email and phone numbers) for all members of each PAG formed in that phase.
- Prepare a PAG Memo for each PAG convened, which shall include, but is not limited to, the following:
  - A list of the PAG members involved; and
  - A summary of what the PAG discussed; and
  - General outcomes from what the PAG discussed.
- Prepare a DER Evaluation Criteria Report that outlines the evaluation metrics that will be applicable to the range of product categories, which may include energy and water use, grid services, cost, payback, ease of installation, operation and maintenance costs, warranty, user interface and experience, service network and capabilities, security, and interoperability.
- Present the draft DER Evaluation Criteria Report to the TAC for review and feedback.
- Prepare three separate product category evaluation guideline reports for each evaluation phase (Phase 1, Phase 2, and Phase 3) with the following respective titles: Phase 1 Product Category Evaluation Guidelines Report, Phase 2 Product Category Evaluation Guidelines Report, and Phase 3 Product Category Evaluation Guidelines Report. These shall contain product category evaluation guidelines for each product category selected for the evaluation phase. The guidelines for each product category shall include, but are not limited to:
  - A description of the evaluation objectives, methods, metrics, and results-to-be-reported to be used by the Cal-EPE Hub to test and compare product offerings within

the category (such as product features, characteristics, etc.). The evaluation criteria for a given product category will include a subset of applicable criteria from the DER Evaluation Criteria Report.
    - A description of how the evaluation guidelines for a given product category address customer needs as identified in the Summary of Hub User Needs Report (Task 2).
- Present the draft of each *Product Category Evaluation Guidelines* report to the PAG for review and feedback on the product category in question. After incorporating comments from the PAG, submit the final *Product Category Evaluation Guidelines* report for each evaluation phase to the CAM.

Products:
- Phase 1 Product Advisory Group Members Contact List
- Phase 2 Product Advisory Group Members Contact List
- Phase 3 Product Advisory Group Members Contact List
- PAG Memo for Each PAG Convened
- DER Evaluation Criteria Report (draft and final)
- Phase 1 Product Category Evaluation Guidelines Report (draft and final)
- Phase 2 Product Category Evaluation Guidelines Report (draft and final)
- Phase 3 Product Category Evaluation Guidelines Report (draft and final)

TASK 6: EVALUATE PRODUCTS
The goal of this task is to complete the product evaluations.

The Recipient shall:
- Prepare three separate product selection reports for each evaluation phase (Phase 1, Phase 2, and Phase 3) with the following respective titles: *Phase 1 Product Selection Report, Phase 2 Product Selection Report, and Phase 3 Product Selection Report*. Each product selection report, shall include, but is not limited to, the following content for each product category:
    - An updated list of products that could be evaluated, as initially identified in the Product Category Characterization Report from Task 3.
    - A description of the process for selecting a sample of products representing the product category range when it is not possible to evaluate every product in a category due to time or budget constraints. The process will include:
        - Incorporating input from the PAG.
        - Considering the market implications of product selection and, in particular, the impact on customers and the potential for developing economies of scale.
    - A list of products to be evaluated which will include:
        - A list of at least 5 products selected for evaluation for each product category in the final list, unless otherwise approved by the CAM.
    - A plan to acquire the products.
- For products selected, gather product testing data, as needed, by:
    - Curating existing data from third-party sources;
    - Gathering new data from laboratory testing, using existing or newly developed test protocols;
    - Collecting new field data from installations (in special cases);
    - Gathering user experience data from existing customers and technicians.

- Evaluate products identified in the applicable product selection report (Phase 1-3) using the evaluation methodologies identified in the applicable product category evaluation guidelines report (Task 5), and through coordination with laboratories, facilities, and other resources.
- All product evaluation data for the same product category shall result from the use of the same test protocol and procedure to ensure that product evaluation data and results included in the Online Buyer's Guide (Task 7) are directly comparable.
- Prepare three separate test protocols and procedures reports for each evaluation phase (Phase 1, Phase 2, and Phase 3) with the following respective titles: *Phase 1 Test Protocols and Procedures Report, Phase 2 Test Protocols and Procedures Report*, and *Phase 3 Test Protocols and Procedures Report*. The test protocols and procedures for each product category will use existing protocols and procedures when possible. When existing test protocols and procedures will not adequately collect the information required for the Hub, test protocols and procedures will be developed to test technology products within a given product category. These test protocols and procedures will include, but are not limited to, the following:
    - Description of the test's purpose
    - Description of the test's scope
    - Description of the test's approach for evaluating the technology products.
    - Description of the test's step-by-step procedure for evaluating the technology products
    - Required test personnel, equipment, environment, etc.
    - Potential risks/issues for personnel, equipment, and/or technology product
    - Evaluation criteria (based on evaluation metrics) for the technology product
    - Test deliverables (such as analysis, results, and reports)
    - All items described above will be consistent with the applicable product category evaluation guidelines report (Task 5).
- Product evaluation data obtained via testing or data gathering shall meet the requirements provided in the applicable product category evaluation guidelines report (Task 5).
- Analyze product testing data and standards compliance.
- Prepare three separate requirements reports for adding additional products to a product category for each evaluation phase (Phase 1, Phase 2, and Phase 3) with the following respective titles: *Phase 1 Requirements for Adding Additional Products to a Product Category Report, Phase 2 Requirements for Adding Additional Products to a Product Category Report*, and *Phase 3 Requirements for Adding Additional Products to a Product Category Report*. The requirements for adding additional products to a product category reports will provide a description of the process and requirements for adding additional products to a product category, including data requirements and test protocols and procedures approved by the Cal-EPE Hub. This will enable inclusion of products and the associated results in the Online Buyer's Guide (Task 7) that the Cal-EPE Hub was not able to evaluate (either due to budget or time limitations, or because the product in question was released after the product's category evaluations and/or project were completed). Using these reports, a given entity (manufacturer, utility, testing facility, etc.) has the ability to have a product tested and the required results and information submitted by an independent testing facility to the Cal-EPE Hub for review and potential inclusion within the Online Buyer's Guide (Task 7).

- The requirements report for adding additional products to a product category, for each evaluation phase (Phase 1, Phase 2, and Phase 3), will be posted on the Cal-EPE Hub website (Task 7) along with a copy of all Cal-EPE Hub-approved test protocols and procedures for product evaluation created by the Cal-EPE Hub. Source information for the Cal-EPE Hub-approved test protocols and procedures documents will also be posted on the Cal-EPE Hub website (Task 7) for test protocols and procedures that were not created by the Cal-EPE Hub.
- As needed, prepare and revise an *Updated Test Protocols and Procedures Summary* for existing test protocols and procedures (for product evaluation) that has been revised during the term of this project, and has been or will be used to evaluate products. The report shall include, but is not limited to, the following for all revised existing test protocols: the title of the given revised test protocol and procedure, and a brief explanation of what was revised in the given test protocol and procedure. Confidential or proprietary information shall not be included in the explanation.
- Prepare *CPR Report #2* and participate in a CPR meeting right before the last set of categories is chosen for evaluation, and before the *Draft Phase 3 Product Selection Report* is submitted.
- Maintain and operate the Cal-EPE Hub, the Cal-EPE Hub website, and the Buyer's Guide until the end of the Agreement term.

Products:

- Phase 1 Product Selection Report (draft and final)
- Phase 2 Product Selection Report (draft and final)
- Phase 3 Product Selection Report (draft and final)
- Phase 1 Test Protocols and Procedures Report (draft and final)
- Phase 2 Test Protocols and Procedures Report (draft and final)
- Phase 3 Test Protocols and Procedures Report (draft and final)
- Phase 1 Requirements for Adding Additional Products to a Product Category Report (draft and final)
- Phase 2 Requirements for Adding Additional Products to a Product Category Report (draft and final)
- Phase 3 Requirements for Adding Additional Products to a Product Category Report (draft and final)
- Updated Test Protocols and Procedures Summary (if applicable)
- CPR Report #2

TASK 7: PUBLISH AND DISSEMINATE BUYER'S GUIDE
The goals of this task are to publish, periodically update and disseminate the product evaluations in the Buyer's Guide.

The Recipient shall:

- Prepare a *Cal-EPE Hub Website Development and Outreach Guide*, which shall include, but is not limited to, the following:
  - Description of what the Cal-EPE Hub website will contain, as outlined in the Cal-EPE Hub website's requirements below; and
  - Guidelines for how the Cal-EPE Hub website will appear (layout, format, etc.), function, and be maintained; and
  - Guidelines on how Outreach Materials (brochures, presentations) will appear (layout, format, etc.).
  - A disclaimer that states that the Energy Commission does not endorse any of the products mentioned on the Cal-EPE Hub website.
- Create a Cal-EPE Hub website as directed by the *Cal-EPE Hub Website Development and Outreach Guide*, which shall include, but is not limited to, the following:
  - The Online Buyer's Guide; and
  - The requirements for adding additional products to a product category reports (Task 6), for each evaluation phase (Phase 1, Phase 2, and Phase 3); and
  - The Cal-EPE Hub-approved test protocols and procedures and/or test protocols and procedures document source information; and
  - The Cal-EPE Hub website may also include, but is not limited to, the following:
    - A list of products and product categories that have been evaluated; and
    - A list of products and product categories that are in the queue to be evaluated; and
    - A location for submitting a comment or message to the CAL-EPE Hub with regards to a specific product or product category.
- Prepare a *Buyer's Guide Outline* which shall include, but is not limited to, the following:
  - Description of the Online Buyer's Guide content, which shall include, but is not limited to, the following:
    - Unbiased technology product evaluation review summaries; and
    - Associated technology product evaluation metrics; and
    - Associated technology product evaluation results (from the results-to-be-reported); and
    - Product category descriptions (as provided in the Product Category Characterization Report from Task 3).
  - Description of how the information within the Online Buyer's Guide will be presented (layout and format).
- Present the draft *Buyer's Guide Outline* to the TAC for review and feedback.
- Develop the web-based Online Buyer's Guide as directed by the *Buyer's Guide Outline* and TAC feedback.
- Prepare and periodically update (as required) an *Online Buyer's Guide User's Manual,* which shall include, but is not limited to, step-by-step instructions with screen-shots on how to use the Online Buyer's Guide, and the web address that points to the location of the Online Buyer's Guide.

- Publish and periodically update the Online Buyer's Guide (on the Cal-EPE Hub website), as each evaluation phase is completed and product category evaluation results become available. More frequent updates will be made as needed to ensure information is current and accurate.
- Prepare and periodically update (as required) *Outreach Materials* for dissemination. The *Outreach Materials* may include, but are not limited to, the *Online Buyer's Guide*, a *Summary of the Online Buyer's Guide* as described in the annual reports requirements, the *Online Buyer's Guide User's Manua*l, generic brochures, and presentations.
- Disseminate the Online Buyer's Guide by:
  - Direct marketing to customer contacts; and
  - Conducting outreach activities at existing customer events (e.g. conferences); and
  - Coordinating with the CAM and other recipients of solicitation and project partners to best inform target customers of advanced DER technologies.
- Prepare four annual reports, for years 1 to 4 of the project, with the following respective titles: *Annual Report Year 1, Annual Report Year 2, Annual Report Year 3,* and *Annual Report Year 4.* The annual reports shall summarize Cal-EPE's activities and accomplishments for the prior year and include:
  - A summary of the status of the Online Buyer's Guide, including a list of the products included within the Online Buyer's Guide, a brief description of what the Online Buyer's Guide contains, and the web address that points to the location of the Online Buyer's Guide; and
  - A description of outreach activities conducted, related details (e.g. locations and audiences for presentations) and outreach materials used (e.g. brochures, presentations).

Products:
- Cal-EPE Hub Website Development and Outreach Guide (draft and final)
- Buyer's Guide Outline (draft and final)
- Online Buyer's Guide User's Manual (draft and final)
- Outreach Materials
- Annual Report Year 1 (draft and final)
- Annual Report Year 2 (draft and final)
- Annual Report Year 3 (draft and final)
- Annual Report Year 4 (draft and final)

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.
  - 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 as 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.

The Recipient shall:
- Prepare an *Initial Fact Sheet* at the 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(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.
- 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)

- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

RESOLUTION NO: 18-0321-5d

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: UNIVERSITY OF CALIFORNIA, DAVIS

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-17-034 from GFO-17-301 with The Regents of the University of California, on behalf of the Davis campus's Western Cooling Efficiency Center for a $10,993,646 grant to develop a rating system and associated testing methodologies to evaluate and compare emerging technology products for distributed energy resources based on criteria important to purchasing decisions by large institutional and commercial customers. As part of this agreement, the recipient will conduct on-going testing of product offerings from various original equipment manufacturers and publish the results in a web-based Buyer's Guide; 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 March 21, 2018.

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

Cody Goldthrite,
Secretariat