





California Energy Commission July 10, 2024 Business Meeting Backup Materials for Stasis Energy Group LLC

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

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

RESOLUTION NO: 24-0710-13b

STATE OF CALIFORNIA

STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Stasis Energy Group LLC

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

RESOLVED, that the CEC approves agreement EPC-24-002 with Stasis Energy Group LLC for a \$1,878,583 grant. This agreement will expand the manufacturing capabilities for a novel thermal energy storage system, which can be easily added to any existing Heating, Ventilation, and Air Conditioning (HVAC) system to dramatically reduce lateday peak air conditioning energy demand, through the design and implementation of a LRIP line at a manufacturing facility in Southern California; and

FURTHER BE IT RESOLVED, that the Executive Director or their designee shall execute the same on behalf of the CEC.

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on July 10, 2024.

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



STATE OF CALIFORNIA CALIFORNIA ENERGY COMMISSION

GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-24-002

B. Division Information

Division Name: ERDD

2. Agreement Manager: Kaitie Choo

3. MS-:51

4. Phone Number: 916-931-8010

C. Recipient's Information

1. Recipient's Legal Name: Stasis Energy Group LLC

2. Federal ID Number: 84-4183759

D. Title of Project

Title of project: Accelerating production of commercial HVAC supply-duct thermal storage system

E. Term and Amount

Start Date: 7/10/2024
 End Date: 3/31/2029
 Amount: \$1,878,583.00

F. Business Meeting Information

- Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
- 2. The Proposed Business Meeting Date: 7/10/2024.
- 3. Consent or Discussion? Discussion
- 4. Business Meeting Presenter Name: Benson Gilbert
- 5. Time Needed for Business Meeting: 10 minutes.
- 6. The email subscription topic is: EPIC (Electric Program Investment Charge).

Agenda Item Subject and Description:

Stasis Energy Group LLC. Proposed resolution approving agreement EPC-24-002 with Stasis Energy Group LLC for a \$1,878,583 grant and adopting staff's determination that this action is exempt from CEQA. This agreement will expand the manufacturing capabilities for a novel thermal energy storage system, which can be easily added to any existing heating, ventilation, and air conditioning (HVAC) system to dramatically reduce late-day peak air conditioning energy demand, through the design and implementation of a LRIP line at a manufacturing facility in Southern California. (EPIC funding) Contact: Kaitie Choo

G. California Environmental Quality Act (CEQA) Compliance

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

Yes

If yes, skip to question 2.



If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because:

2. If Agreement is considered a "Project" under CEQA answer the following questions.

a) Agreement IS exempt?

Yes

Statutory Exemption?

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number: None CCR section number: None Categorical Exemption?

Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: Cal. Code Regs., tit. 14, § 15301; 15303; 15306 Common Sense Exemption? 14 CCR 15061 (b) (3)

No

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

Cal. Code Regs., tit. 14, Sec. 15301 provides an exemption for the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing structures, facilities, mechanical equipment or topographical features involving negligible or no expansion of use beyond that existing. This project involves the design and creation of a Low-Rate Initial Production (LRIP) manufacturing line with the goal to replace rudimentary hand operated processes with refined machine operated processes with no expansion of facilities, major equipment or use beyond that existing at the time of the lead agency's CEQA determination. No changes or improvements to electrical, structural or use are necessary for the operation of proposed equipment. Equipment used for this project includes industrial grade sheet plasma cutters, roll formers and shearing equipment. We do not anticipate any permanent changes to the facility. Only minor standalone equipment will be added.

Cal. Code Regs., tit. 14, Sec.15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures, and the conversion of existing small structures from one use to another where only minor



modifications are made in the exterior of the structure, are categorically exempt from the provisions of CEQA. This project involves the design and build out of a new LRIP manufacturing line capable of producing thermal energy storage system components. There is no new construction necessary to accommodate Stasis Energy Group in the existing structure. There will be tools and small equipment installed in an existing facility with no permanent changes to the facility. Therefore, the project falls under Section 15303 and will not have significant impact on the environment.

Cal. Code Regs., tit. 14, Sec. 15306 provides that projects which consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource are categorically exempt from CEQA. This project involves basic data collection for the development and commercialization of a novel technology that will provide research and data for stakeholders such as commercial building owners, HVAC manufacturers, policy makers, researchers studying load shifting, grid flexibility and more. This work will not result in a major disturbance to an environmental resource. Therefore, the project falls under Section 15306 and will not have significant impact on the environment.

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

b) Agreement **IS NOT** exempt.

IMPORTANT: consult with the legal office to determine next steps.

No

If yes, answer yes or no to all that applies. If no, list all as "no" and "None" as "yes".

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes



H. Is this project considered "Infrastructure"?

No

I. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter "No subcontractors to report" and "0" to funds. **Delete** any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
No subcontractors to report	\$	\$

J. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Intertek USA Inc.	\$ 0	\$ 55,000
Build Smart Group LLC	\$27,078	\$ 0
California Manufacturing Technology Consulting	\$50,000	\$ 0
PureTemp LLC*	\$ 0	\$26,250
Janda Company, Inc.	\$ 0	\$15,000
TBD – IP Legal	\$20,000	\$ 0
TBD – Electrician services	\$40,000	\$ 0
TBD – Quality system consultant and certification	\$30,000	\$ 0
TBD – Electrical control integration company	\$70,000	\$ 0
TBD – Ultrasonics welding consultant	\$10,000	\$ 0
TBD – Outreach and marketing	\$ 0	\$25,000

^{*}Contingent upon successful registration with the Secretary of State or exemption from registration requirements..

K. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name	
No key partners to report	

L. Budget Information



Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	22-23	301.001J	\$ 1,878,583

TOTAL Amount: \$ 1,878,583

R&D Program Area: ESTB: ETSI

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Rob Morton

Address: 1263 Milano Pl

City, State, Zip: Pomona, CA 91766-1004

Phone: 720-435-4550

E-Mail: rmorton@stasisenergygroup.com

3. Recipient's Project Manager

Name: Rob Morton

Address: 1263 Milano Pl

City, State, Zip: Pomona, CA 91766-1004

Phone: 720-435-4550

E-Mail: rmorton@stasisenergygroup.com

N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-21-304R2
First Come First Served Solicitation #	Not applicable
Other	Not applicable

O. Attached Items

1. List all items that should be attached to this GRF by entering "Yes" or "No".



Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	No

Approved By

Individuals who approve this form must enter their full name and approval date in the MS Word version.

Agreement Manager: Justin Scaccianoce

Approval Date: 4/25/2024

Branch Manager: Yu Hou **Approval Date:** 5/24/2024

Director: Yu Hou for Jonah Steinbuck

Approval Date: 5/24/2024

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		LRIP Manufacturing Plan
3	Х	TESS Product Manufacturing Implementation
4		Production Materials Traceability Plan
5		TESS Regulatory Compliance and Safety
6		Demonstration of Pilot Line Production
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CMTC	California Manufacturing Technology Consulting
CPR	Critical Project Review
DOE	Design of Experiments
GHG	Greenhouse Gas
HVAC	Heating, Ventilation, and Air Conditioning
LRIP	Low Rate Initial Production
OEM	Original Equipment Manufacturer
PFMEA	Process Failure Mode Effects Analysis
TAC	Technical Advisory Committee
TESS	Thermal Energy Storage System

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

A. Purpose of Agreement

The purpose of this Agreement is to expand the manufacturing capabilities of the recipient's novel Thermal Energy Storage System (TESS) through the creation of a Low-Rate Initial Production (LRIP) line. The LRIP line will advance the current manufacturing processes by replacing rudimentary hand operated processes with refined machine operated processes. This will scale manufacturing capabilities by several factors and increase the quality of production to reduce waste and deliver a more consistent product. As a first-of-its-kind

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.

product in the new market of thermal storage, this agreement will also help to increase awareness of thermal storage to reduce late-day demand and help relieve related grid issues.

B. Problem/ Solution Statement

Problem

California is facing challenges to supply adequate energy during periods of peak demand. This challenge manifests in two ways. First, sustainable energy is plentiful during the middle of the day, but diminishes in the late afternoon, just as customer demand is reaching its daytime peak. Second, there are not adequate energy storage options on the grid to store that plentiful, mid-day, sustainable energy. The state recognizes these challenges and has mandated a load shift of 7,000MW of late-day demand by 2030, demonstrated by Senate Bill 846. This strategy is endorsed by the CEC and the adoption of the SB 846 Load Shift Goal (resolution number: 23-0531-08)

Efforts to increase sustainable energy to alleviate grid stress have been very successful. Midday energy is largely served by renewable resources but later in the day, when demand rises dramatically, requires the addition of carbon-fueled energy as wind and solar contribution decreases. The state has identified the period of 4-9 pm as the peak energy period and mandated a shift of energy usage from peak to off-peak. While load shifting is an effective strategy to reduce late-day grid stress, adding the ability to store mid-day sustainable energy and then deploy it later in the day is the elegant solution to the problem. Energy use for air conditioning can be as much as 40% of the total energy used during a typical summer day, and accounts for the largest addressable load placed on the grid. Reducing the load demand from air conditioning systems across California during peak hours would have a dramatic impact on total peak energy demands. However, there are few, if any, products or technologies available that can address this need. The Recipient is ready to capitalize on this opportunity and can make a significant impact, though current TESS production capacity is very limited.

Solution

TESS technology has the potential to dramatically reduce late-day peak air conditioning energy demand, statewide. From late morning until mid-afternoon, during normal HVAC cooling operations, the TESS is charged by cold supply air as the occupied space is cooled. The TESS is fully charged by the start of peak energy periods (typically 4-9pm) and uses stored thermal energy cooling in lieu of mechanically conditioned air, reducing compressor usage by a minimum of 60% during peak periods. The thermal storage material deployed in TESS is bio-based, has a very high latent heat storage capacity, and acts like a battery to store and release thermal energy.

TESS has been proven, in several CEC or CPUC funded studies, to reduce late-day demand by 60%, shift 55% of energy from peak to off-peak periods, and reduce energy consumption by 13%.

While similar benefits could be argued for electrochemical batteries, it should be noted that thermal storage technology, like TESS, has a much longer expected useful life, does not destroy the environment due to massive strip mining to source rare earth elements necessary for batteries, and does not suffer from conversion losses when converting energy from DC to AC.

This agreement will result in the plan, design, and build of a LRIP manufacturing line that will enable and accelerate market adoption of first-of-its-kind thermal storage technology. California stakeholders can benefit from TESS' flexible load shift capabilities, especially those in hard-to-reach, disadvantaged communities.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Design and implement a TESS LRIP line incorporating Lean Manufacturing methodologies while adhering to strict and industry accepted regulatory, compliance, and safety guidelines.
- Establish comprehensive quality assurance and quality control plans for both procured materials and the final work product utilizing empirical test metrics and traceability documentation
- Publish a Project Case Study Plan establishing a roadmap for scaling to high volume manufacturing.
- Implement appropriate Tech Transfer plan and strategies identified in prior CEC BRIDGE grant award.
- Identify pathways to increase market penetration, such as licensing of technology and partnering with OEM HVAC manufacturers.

Ratepayer Benefits:2

This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety by reducing peak energy demands during the most critical periods of the year, summer afternoon and evening cooling hours, through permanent shifting of cooling load to earlier in the day.

Reliability: This Agreement will result in greater grid reliability by reducing current levels of grid stress and diminishing the need for brownouts to the grid. TESS allows for more sustainable energy to be input into the grid during midday, as use of TESS stores energy, which is later deployed during periods of high demand when the primary source of energy is carbon-based energy. At scale, TESS can facilitate more sustainable energy use during

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).

mid-day and less carbon-based energy use later in the day, resulting in a more balanced and reliable grid.

Cost: This Agreement will result in lower energy bills for adopters of TESS technology. Under current tariffs, savings can be immediately achieved from existing IOU tariffs. Additional financial benefits may be found as benefits of load flexibility are monetized and promoted by the CPUC and IOUs.

Safety: This Agreement will result in a safer method of energy storage than traditional electrochemical chemical batteries because it is not subject to thermal runaway or dangerous off gassing, and the TESS is fire rated for plenum applications. Furthermore, there is much less environmental impact than traditional batteries. TESS does not pose end of life concerns and is 100% recyclable.

Additional Benefits: This Agreement will help reduce the need to fund peaker plants and hold them in reserve all year for occasional operation and thus reduces the cost of electrical service for all ratepayers. It may also reduce the need to build out transmission infrastructure and help improve reliability by reducing the threat of peak period brownouts. There will also be benefits to disadvantaged and low-income communities in terms of jobs for Recipient and installing contractors, and utility cost savings to businesses located in DAC/LICs. Most importantly, all ratepayers will benefit from 86% reduced peak period GHG emissions in summer as part of achieving California's net zero and GHG reduction goals by utilizing renewable energy as a method to charge the thermal storage.

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 introducing load flexibility technology that shifts HVAC consumption and demand from peak to off-peak periods. This new technology can immediately be deployed against the large inventory of existing HVAC units, as well as offering solutions for new HVAC units to help the state reduce grid stress and promote a more balanced grid. This will help the state reach its mandated 2030 goal of shifting 7,000MW of peak consumption to off-peak. Furthermore, this technology can optimize energy time of use, by using smart controls to charge and discharge in response to a dynamic pricing structure, as the state moves to a real-timepricing landscape, targeted as a ratepayer option by 2027 and mandated by 2030.

Agreement Objectives

The objectives of this Agreement are to:

- Design and build an LRIP pilot line for recipient's thermal energy storage system.
- Execute Design of Experiment (DOE) process optimization using Six Sigma statistical analysis.
- Demonstrate LRIP line capability of manufacturing encapsulated panels at a rate of at least 50 panels per hour while exceeding 95 percent yield.
- Certify product robustness through ASTM-E84/UL723/NFPA 285 fire and safety testing.

- Generate a Production Materials Traceability Plan for tracking incoming material quality, supplier quality ratings, and delivered product installation base.
- Identify all hazardous materials and regulatory compliance standards and create a proactive action plan outlining the management of each item.
- Establish a roadmap of technology advancements required to further scale the LRIP line to high volume manufacturing through a Tech Transfer Plan.
- Achieve greater than 95% yield of product through the creation of product manufacturing, training, and implementation plans.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

The Recipient shall:

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

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

For products that require a final version only

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

For all products

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

<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 California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

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

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

Software Application Development

Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:

- Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
- Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
- Visual Studio.NET (version 2008 and up). Recommend 2010.
- C# Programming Language with Presentation (UI), Business Object and Data Lavers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures. Recommend 2008
 R2
- Microsoft SQL Reporting Services. Recommend 2008 R2.
- XML (external interfaces).

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

MEETINGS

Subtask 1.2 Kick-off Meeting

The goal of this subtask is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

 Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting.

Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

The administrative portion of the meeting will include discussion of the following:

- Terms and conditions of the Agreement;
- Invoicing and auditing procedures;
- Administrative products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Match fund documentation (subtask 1.7);
- Permit documentation (subtask 1.8);
- Subcontracts (subtask 1.9); and
- Any other relevant topics.

The technical portion of the meeting will include discussion of the following:

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Technical products (subtask 1.1);
- Progress reports (subtask 1.5):
- Final Report (subtask 1.6);
- o Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
- Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
 - Project overview (i.e., project description, goals and objectives, technical tasks, expected benefits, etc.)
 - Project schedule that identifies milestones
 - List of potential risk factors and hurdles, and mitigation strategy
- Provide an Updated Project Schedule, Match Funds Status Letter, and Permit Status Letter, as needed to reflect any changes in the documents.

The CAM shall:

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

Recipient Products:

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

CAM Product:

Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR

meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

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

The Recipient shall:

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

The CAM shall:

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

Recipient Products:

• CPR Report(s)

CAM Products:

- CPR Agenda
- Progress Determination

Subtask 1.4 Final Meeting

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

The Recipient shall:

Meet with CEC staff to present project findings, conclusions, and recommendations. The

final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
 - Disposition of any procured equipment.
 - The CEC's request for specific "generated" data (not already provided in Agreement products).
 - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
 - "Surviving" Agreement provisions such as repayment provisions and confidential products.
 - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a Schedule for Completing Agreement Closeout Activities.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:

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

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

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

The Recipient shall:

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

Products:

- Progress Reports
- Invoices

Subtask 1.6 Final Report

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

Subtask 1.6.1 Final Report Outline

The Recipient shall:

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

Recipient Products:

• Final Report Outline (draft and final)

CAM Product:

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

Subtask 1.6.2 Final Report

The Recipient shall:

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

- Develop and submit a *Summary of TAC Comments* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:
 - o Comments the recipient proposes to incorporate.
 - Comments the recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:

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

CAM Product:

• Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

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

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

The Recipient shall:

 Prepare a Match Funds Status Letter that documents the match funds committed to this Agreement. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state this in the letter.

If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter:

- A list of the match funds that identifies:
 - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
 - The amount of each in-kind contribution, a description of the contribution type

(e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.

- If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a Supplemental Match Funds Notification Letter to the CAM of receipt of additional match funds.
- Provide a Match Funds Reduction Notification Letter to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.8 Permits

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

The Recipient shall:

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

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

- If during the course of the Agreement additional permits become necessary, then provide
 the CAM with an *Updated List of Permits* (including the appropriate information on each
 permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a Copy of Each Approved Permit.

• If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 Subcontracts

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

The Recipient shall:

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

Products:

• Subcontracts (draft if required by the CAM)

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;
 - o Knowledge of market applications; or
 - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.

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

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

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

The Recipient shall:

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

Products:

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

Subtask 1.11 TAC Meetings

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

The Recipient shall:

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

The TAC shall:

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

Products:

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

Subtask 1.12 Project Performance Metrics

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

The Recipient shall:

- Complete and submit the draft *Project Performance Metrics Questionnaire* to the CAM prior to the Kick-off Meeting.
- Present the draft *Project Performance Metrics Questionnaire* at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:

- o TAC comments the recipient proposes to incorporate into the final *Project Performance Metrics Questionnaire*.
- TAC comments the recipient does not propose to incorporate and explanation why.
- Submit a final Project Performance Metrics Questionnaire with incorporated TAC feedback.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the recipient met each of the performance metrics in the final *Project Performance Metrics Questionnaire*.
- Discuss the final *Project Performance Metrics Questionnaire* and *Project Performance Metrics Results* at the Final Meeting.

Products:

- Project Performance Metrics Questionnaire (draft and final)
- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2: LRIP MANUFACTURING PLAN

The goal of this task is the design of an LRIP line capable of producing TESS panel units.

The Recipient shall:

- Establish a manufacturing and materials handling plan (LRIP Manufacturing Plan) through collaboration with California's Manufacturing Technology Consulting (CMTC) that includes industry accepted and forward leaning concepts for all critical manufacturing processes and all workstations. The LRIP Manufacturing Plan should:
 - Reduce costs through implementation of Lean Manufacturing and Facilities Management.
 - Ensure LRIP adheres to all regulatory and compliance requirements.
 - Ensure LRIP adheres to all safety requirements.
 - Adopt and implement Process Failure Modes Effects Analysis.
- Establish a Quality Control Plan that outlines a plan for the following:
 - Procured materials quality assurance.
 - Workstation quality inspection.
 - Product test metrics.
 - Product traceability reporting and documentation.
- Generate an LRIP Manufacturing Plan Report that includes but is not limited to:
 - Discussion on LRIP workflow, Process Failure Modes Effects Analysis, regulatory compliance challenges, and other aspects of the LRIP Manufacturing Plan.
 - Discussion on quality inspection, assurance and control procedures, product test methods, and other aspects of the Quality Control Plan.
 - This report will be 5-15 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience, and include lessons learned during this phase in the project.

Products:

LRIP Manufacturing Plan Report (Draft and Final)

TASK 3: TESS PRODUCT MANUFACTURING IMPLEMENTATION

The goal of this task is to deploy the LRIP Manufacturing Plan through equipment procurement and commissioning.

The Recipient shall:

- Procure workstation equipment necessary for LRIP line
- Install and commission workstation and demonstrate:
 - Functionality of equipment
 - Manufacturability of product in accordance with LRIP Manufacturing Plan
- Execute Six Sigma process optimization utilizing multiple DOEs
- Create Standard Operating Procedures for all work stations
- Establish a Preventative Maintenance Plan that includes recommended spare parts
- Obtain certification of product against ASTM-E84 Fire Safety Testing
- Generate an LRIP Commissioning Report that includes but is not limited to:
 - A discussion on the manufacturing and demonstration process including:
 - Testing of the product
 - Technical challenges
 - Standard Operating Procedures
 - Preventative Maintenance Plan
 - Lessons learned for this phase in the project
 - This report will be 10-15 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.
- Prepare a CPR Report #1 in accordance with subtask 1.3 (CPR Meetings).
- Participate in a CPR meeting.

Products:

- Copy of ASTM-E84 Fire Safety Testing certifications
- LRIP Commissioning Report (Draft & Final)
- CPR Report #1

TASK 4: PRODUCTION MATERIALS TRACEABILITY PLAN

The goal of this task is to establish tiered suppliers for materials pertinent to the final product, create an inventory of those materials, and publish a Traceability Report documenting the lifecycle of the deployed product.

The Recipient shall:

- Define product or materials required specifications
- Establish supplier qualifications
- Conduct supplier scouting and sourcing interviews
- Order materials as required
- Create materials acceptance specifications
- Perform supply chain optimization in accordance with product demand scheduling
- Generate Traceability Plan outlining source of materials, quality of manufactured product, and deployment location
- Generate a Materials Traceability Report that includes but is not limited to:
 - A discussion on the Materials and Traceability Plan including:

- Preferred suppliers of product materials
- Logistical and inventory challenges
- Lessons learned for this phase in the project
- This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:

Materials Traceability Report (Draft & Final)

TASK 5: TESS REGULATORY COMPLIANCE AND SAFETY

The goal of this task is to establish the processes and procedures for maintaining regulatory compliance specifically addressing waste management and workforce training.

The Recipient shall:

- Create hazardous materials collection and disposal action plan
- Develop emergency response plan
- Generate workforce training and retention plan
- Generate a Regulatory Compliance and Safety Report that includes but is not limited to:
 - A discussion of the following:
 - Potential for hazardous materials
 - Collection and disposal of collected materials
 - Identification of potential safety issues with manufacturing product and emergency response plan
 - Workforce training and retention
 - This report will be 3-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:

Regulatory Compliance and Safety Report (Draft & Final)

TASK 6: DEMONSTRATION OF PILOT LINE PRODUCTION

The goal of this task is to demonstrate the performance metrics achieved by the LRIP line defined by the Agreement including, but not limited to, desired production rate, yield goal product traceability and successful fire testing.

The Recipient shall:

- Collaborate with CMTC on the implementation of advanced automation systems such as robots and material transfer systems.
- Create *High Volume Manufacturing Roadmap* to identify efforts required to scale the developed LRIP line to high volume manufacturing.
- Demonstrate LRIP line capability of:
 - Manufacturing encapsulated panels at a rate of at least 50 panels per hour while exceeding 95% yield of product.
- Generate a Production Quantity and Quality Report that includes but is not limited to:
 - Discussion and review of manufacturing target production rate and actual production rate

- Discussion and review of manufacturing target production quality and actual production quality
- Steps taken to ensure both quality and rate of production are being met
- This report will be 5-10 pages, will include graphics and figures, and will have an executive summary that is written for a non-technical audience.

Products:

- High Volume Manufacturing Roadmap (Draft & Final)
- Production Quantity and Quality Report (Draft & Final)

TASK 7: EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

- Complete the *Initial Project Benefits Questionnaire*. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the Annual Survey by January 31st of each year. The Annual Survey includes but is not limited to the following information:
 - Technology commercialization progress
 - New media and publications
 - Company growth
 - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund) and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

- Initial Project Benefits Questionnaire
- Annual Survey(s)
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK 8: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the learning that resulted from this project is captured and disseminated so that similar efforts build on the lessons learned.

The Recipient shall:

- Develop and submit a *Project Case Study Plan* that outlines how the Recipient will document the planning, establishment, and operation of the project. The *Project Case Study Plan* should include:
 - An outline of the objectives, goals, and activities of the case study.
 - o The organization that will be conducting the case study and the plan for conducting it.
 - A list of professions and practitioners involved in the project's development.
 - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
 - o Presentations/webinars/training events to disseminate the results of the case study.
- Present the Draft Project Case Study Plan to the TAC for review and comment.
- Develop and submit a Summary of TAC Comments that summarizes comments received from the TAC members on the draft Project Case Study Plan. This document will identify:
 - TAC comments the recipient proposes to incorporate into the *Final Technology Transfer Plan*.
 - TAC comments the recipient does not propose to incorporate and explanation why.
- Submit the final Project Case Study Plan to the CAM for approval.
- Execute the final *Project Case Study Plan* and develop and submit a *Project Case Study* (draft and final)
- When directed by the CAM, develop presentation materials for a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the CEC.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

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

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.