





California Energy Commission September 10, 2025 Business Meeting Backup Materials for Inlyte Energy, Inc.

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

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

RESOLUTION NO: 25-0910-03c

STATE OF CALIFORNIA

STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Inlyte Energy, Inc.

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-25-018 with Inlyte Energy, Inc. for a \$1,783,874 grant. This project will conduct development, production, verification testing, and analysis of a low-cost and safe iron-sodium battery technology to provide critical energy storage for both short and long duration energy storage applications at Inlyte's pilot facility in San Leandro; 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 September 10, 2025.

AYE: NAY: ABSENT: ABSTAIN:		
	Dated:	
	Kim Todd 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-25-018

B. Division Information

1. Division Name: ERDD

2. Agreement Manager: Elyse Kedzie

3. MS-:51

4. Phone Number: 279-250-8852

C. Recipient's Information

1. Recipient's Legal Name: Inlyte Energy, Inc.

2. Federal ID Number: 87-1565469

D. Title of Project

Title of project: Iron and Sodium Next Generation Battery for Long Duration Energy Storage

E. Term and Amount

Start Date: 10/1/2025
 End Date: 12/31/2028
 Amount: \$1,783,874.00

F. Business Meeting Information

- 1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
- 2. The Proposed Business Meeting Date: 9/10/2025.
- 3. Consent or Discussion? Consent
- 4. Business Meeting Presenter Name: Elyse Kedzie
- 5. Time Needed for Business Meeting: 0 minutes.
- 6. The email subscription topic is: Electric Program Investment Charge (EPIC)

Agenda Item Subject and Description:

Inlyte Energy, Inc. Proposed resolution approving agreement EPC-25-018 with Inlyte Energy, Inc. for a \$1,783,874 grant and adopting staff's recommendation that this action is exempt from CEQA. This project will conduct development, production, verification testing, and analysis of a low-cost and safe iron-sodium battery technology to provide critical energy storage for both short and long duration energy storage applications at Inlyte's pilot facility in San Leandro. (Electric Program Investment Charge (EPIC) Funding) Contact: Elyse Kedzie

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?

Nο

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;

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, § 15301 provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alternations of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion of existing or former use at the time of the lead agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act (CEQA). Examples listed in section 15301 include, but are not limited to, existing facilities of both investor and publicly owned utilities used to provide electric power, natural gas, sewerage, or other public utility services. This project will advance an iron-sodium battery system by designing and assembling a battery module and perform testing at a third-party test bed. Battery testing equipment will be purchased and will require minor electrical upgrades to the existing facility. This project will result in negligible or no expansion of use beyond that already existing infrastructure. Therefore, the project falls within section 15301 and will not have a significant effect on the environment.

Additionally, this project does not involve impacts on any particularly sensitive environment; 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 sites are 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.

Nο

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
Electric Power Research Institute, Inc.	\$ 200,000	\$0
The Regents of the University of California on behalf of the Irvine Campus	\$ 585,088	\$ 0

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
Nuvation Research Corporation	\$ 81,900	\$8,190

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	



CALIFORNIA ENERGY COMMISSION

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	24-25	301.001L	\$ 1,783,874

TOTAL Amount: \$ 1,783,874

R&D Program Area: ESTB: ETSI

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #:

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Amy Hansen

Address: 1933 Davis St, Ste 281

City, State, Zip: San Leandro, CA 94577

Phone: 415-680-4986

E-Mail: amy@inlyteenergy.com

2. Recipient's Project Manager

Name: Amy Hansen

Address: 1933 Davis St, Ste 281

City, State, Zip: San Leandro, CA 94577

Phone: 415-680-4986

E-Mail: amy@inlyteenergy.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-23-317
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: Elyse Kedzie

Approval Date: 7/31/2025

Branch Manager: Peter Chen (for Reynaldo Gonzalez)

Approval Date: 8/1/2025

Director: Jonah Steinbuck (delegated approval to Branch Manager)

Approval Date: (see Branch Manager approval)

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2	Χ	Assess Cell-Level Performance and Reliability
3		Design, Assemble and Internally Test Module
4	Χ	Test and Analyze Functionality, Performance, and Reliability of Integrated
		Module
5		Commission Lifecycle Analysis
6		Commission Technoeconomic Analysis
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
BMS	Battery Management System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
EPRI	Electric Power Research Institute, Inc.
ESS	Energy Storage System
GHG	Greenhouse Gas
GW	Gigawatt
IOU	Investor Owned Utilities
LCA	Life Cycle Analysis
LCOS	Levelized Cost of Storage
LDES	Long Duration Energy Storage
Li-ion	Lithium-ion
MMT	Million Metric Tons
RTE	Round Trip Efficiency
TAC	Technical Advisory Committee
TEA	Technoeconomic Analysis
UCI	University of California, Irvine

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 $^{^{1}}$ 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.

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the development, production, verification testing, and analysis of a low-cost and safe iron-sodium battery module. Over the course of the project, the Recipient will integrate large format cells at a technology readiness level of 4/5 into an innovative battery module, collaborate with California-based testbeds, and perform in-depth life cycle analysis (LCA) and technoeconomic analysis (TEA) with industry partners to advance the product towards commercialization. When deployed, these battery modules will serve as critical energy storage systems for short and long duration energy storage.

B. Problem/ Solution Statement

Problem

California's grid faces a confluence of major challenges in the coming decades: 1) meeting ambitious climate goals including carbon neutrality by 2045, while also 2) reducing costs to ratepayers who have seen bills rise substantially in recent years, and at the same time 3) creating a resilient and equitable power system despite the effects of climate change which increases wildfire risk and adverse weather events.

Currently, lithium-ion (Li-ion) cell chemistries are the primary option available for utility scale short and long duration energy storage (LDES). Unfortunately, Li-ion has significant raw material supply chain risk, intolerance to variations in temperature, high cost at long duration, and safety concerns. To serve California's needs, an energy storage system with cost parity to Li-ion or better, improved safety, and a secure and sustainable raw material supply chain must be developed and deployed.

Solution

The Recipient will address these problems by developing and commercializing iron-sodium batteries, which have a projected pathway to <\$0.05/kWh levelized cost of storage (LCOS) while retaining performance in any climate and with an exceptional safety profile. Inlyte's technology is built on the 40-year commercial history of the sodium metal halide battery technology platform and carries relatively little technical risk. With help from this project, the Recipient will perform the analysis and validation on components and mature module designs necessary to bring this technology to market in California.

The Recipient's core innovations have enabled a switch from a nickel-based to iron-based cathode, dramatically reducing the cost of the technology. However, current cell designs are projected to have a LCOS of ~\$0.36/kWh at gigawatt (GW) production scale. To address this, several lower cost, large format designs are currently being developed. Module design presents a large opportunity for potential innovation. As such, this project will focus on integrating advanced mechanical and thermal management approaches to maximize performance and minimize LCOS.

Once the module is developed, it will be manufactured and undergo third party testing with a focus on validating performance targets such as a nominal round trip efficiency of 80%,

efficiency loss of <0.2% over 200 cycles (feasible 1 year to project up to 30 year target service life), operating temperatures of -30°C to +50°C, daily cycling durations of 4-12 hours, and deep discharge resilience cycle durations >20 hours. The testing data will be used to perform an indepth technoeconomic analysis to validate a pathway to a LCOS performance target of \$0.045/kWh-cycle. The short-term target (2029 projection) will be a \$0.077/kWh-cycle LCOS to exceed the state of the art for commercial Li-ion, with further optimizations expected beyond the scope of this project. Additionally, a third-party life cycle analysis demonstrating the long-term sustainability and reliability of this technology will be performed using data from the preliminary module design. The technology's low cost and system reliability will enable California to address the immediate short-term need for a cost competitive alternative to Li-ion and save ratepayers >\$382M per year relative to Li-ion from 2045.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Produce a market ready prototype of an iron-sodium battery module
- Conduct a third-party techno-economic analysis evaluating status and feasibility of ironsodium battery pathway to \$0.045/kWh-cycle levelized cost of storage
- Evaluate performance and reliability of the iron-sodium battery module under a range of commonly accepted performance tests and use case scenarios
- Evaluate the capability of the iron-sodium battery to be able to deliver both daily cycling of 4-12 hour and occasional deep discharge (estimated at >20-hour duration)
- Evaluate the sustainability of product lifecycle for the iron-sodium battery

Ratepayer Benefits: Sodium-iron batteries can contribute to California's energy storage procurement needs to support renewable integration and grid reliability at a lower cost and greenhouse gas (GHG) emission impact compared to Li-ion batteries. The new low-cost sodium-iron chloride module designed and developed in this project targets an LCOS of <\$0.077/kWh for daily energy storage when produced commercially (assuming 100MW of annual production), and <\$0.05/kWh when produced at future GW-scale. Assuming the technology meets 10% of California's projected 52 GW / 312 GWh energy storage system (ESS) market by 2045 with an average LCOS of \$0.045/kWh, it could deliver forecasted annual bill savings for ratepayers of \$382M by reducing energy storage costs compared to Li-ion, which is assumed to stall at a higher LCOS of \$0.08/kWh.

The Recipient's iron-sodium battery may also provide GHG emissions benefits relative to Li-ion batteries, whose production has a carbon intensity of approximately 150-200 kg of CO₂ per kWh produced.³ If 52 GW of Li-ion batteries is deployed in California, the estimated embodied carbon would be 47-62 million metric tons (MMT) CO₂. Pending a detailed LCA as part of this project,

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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 Romare, et al. "<u>The Life Cycle Energy Consumption and Greenhouse Gas Emissions from Lithium-Ion Batteries</u>".2017.

achieving a 25% reduction in embodied carbon per kWh and capturing 10% market share would reduce emissions by 1.2-1.6 MMTCO₂.

Technological Advancement and Breakthroughs:⁴ 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 increasing the technology readiness level and product maturity of the Recipient's iron-sodium batteries. This will be achieved through design and testing of a market representative battery module. The module will be evaluated against a target to achieve round trip cycle efficiency of 80%, operable temperature limits of -30°C to +50°C, energy storage capability within daily cycling durations of 4-12 hours, and maximum energy delivered over durations >20 hours.

The technoeconomic analysis performed by project partners will demonstrate a LCOS of \$0.077/kWh with commercial production starting 2029 as well as a pathway to a LCOS of \$0.045/kWh with further manufacturing scaling and cathode cost improvements. The lifecycle analysis performed by project partners will demonstrate the long-term sustainability and GHG reduction potential of the proposed technology. This analysis will drive market interest in the product and maximize impact across the entire California ESS value chain.

Agreement Objectives

The objectives of this Agreement are to:

- Compare a minimum of two large format cell designs advance an optimal design to modular integration
- Develop, configure, and assemble an improved and market viable iron-sodium battery module for the chosen cell design
- Validate the technical performance of a module with a third-party test bed, focusing on the following metrics:
 - Round trip efficiency (RTE) of >80%
 - RTE loss of <0.2% over 200 cycles
 - Operable temperature limits of -30°C to +50°C
 - Maximum accessible energy delivery within daily cycling durations of 4-12 hours
 - Maximum accessible energy delivery over durations >20 hours
- Conduct a LCA evaluating the lifecycle environmental impacts of the technology
- Generate a techno-economic analysis evaluating the Recipient's projected LCOS \$0.077/kWh and the path to target of <\$0.05/kWh-cycle

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⁴ 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.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V)**. All products submitted which will be viewed by the public, must comply with the accessibility requirements of Section 508 of the federal Rehabilitation Act of 1973, as amended (29 U.S.C. Sec. 794d), and regulations implementing that act as set forth in Part 1194 of Title 36 of the Federal Code of Regulations. All technical tasks should include product(s). Products that require a draft version are indicated by marking "(draft and final)" after the product name in the "Products" section of the task/subtask. If "(draft and final)" does not appear after the product name, only a final version of the product is required. With respect to due dates within this 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 Layers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
- Microsoft SQL Reporting Services. Recommend 2008 R2.
- XML (external interfaces).

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

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

 Attend a "Kick-off" meeting with the CAM, and other CEC staff relevant to the Agreement. The Recipient's Project Manager and any other individuals deemed necessary by the CAM or the Project Manager shall participate in this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., Teams, Zoom), with approval of the CAM.

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

- o The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Terms and conditions of the Agreement;
- Invoicing and auditing procedures;
- Travel:

- Equipment purchases;
- Administrative and Technical products (subtask 1.1);
- CPR meetings (subtask 1.3);
- Monthly Calls (subtask 1.5)
- Quarterly Progress reports (subtask 1.6)
- Final Report (subtask 1.7)
- Match funds (subtask 1.8);
- Permit documentation (subtask 1.9);
- Subawards(subtask 1.10);
- Technical Advisory Committee meetings (subtasks 1.11 and 1.12);
- Agreement changes;
- Performance Evaluations; and
- Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
 - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
 - Project schedule that identifies milestones
 - List of potential risk factors and hurdles, and mitigation strategy
- Provide an *Updated Project Schedule, Match Funds Status Letter*, and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

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

Recipient Products:

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

CAM Product:

Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the 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 may be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

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

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient's input.
- Send the Recipient a CPR Agenda with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda may include a discussion of match funding and permits.
- Conduct and make a record of each CPR meeting. Provide the Recipient with a schedule for providing a Progress Determination on continuation of the project.
- Determine whether to continue the project, and if so whether modifications are needed to the tasks, schedule, products, or budget for the remainder of the Agreement. A determination of unsatisfactory progress This may result in project delays, including a potential Stop Work Order, while the CEC determines whether the project should continue.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

Recipient Products:

CPR Report(s)

CAM Products:

- CPR Agenda(s)
- Progress Determination

Subtask 1.4 Final Meeting

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

The Recipient shall:

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

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

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

Products:

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

MONTHLY CALLS. REPORTS AND INVOICES

Subtask 1.5 Monthly Calls

The goal of this task is to have calls at least monthly between the CAM and Recipient to verify that satisfactory and continued progress is made towards achieving the objectives of this Agreement on time and within budget.

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

The CAM shall:

- Schedule monthly calls.
- Provide questions to the Recipient prior to the monthly call.
- Provide call summary notes to Recipient of items discussed during call.

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

Product:

Email to CAM concurring with call summary notes.

Subtask 1.6 Quarterly Progress Reports and Invoices

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

The Recipient shall:

- Submit a Quarterly Progress Report to the CAM. Each progress report must:
 - Summarize progress made on all Agreement activities as specified in the scope of work for the reporting period, 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. Progress reports are due to the CAM the 10th day of each January, April, July, and October. The Quarterly Progress Report template can be found on the ECAMS Resources webpage available at: https://www.energy.ca.gov/media/4691
- Submit a monthly or quarterly *Invoice* on the invoice template(s) provided by the CAM.

Recipient Products:

- Quarterly Progress Reports
- Invoices

CAM Product:

Invoice template

Subtask 1.7 Final Report

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

Subtask 1.7.1 Final Report Outline

The Recipient shall:

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

Recipient Products:

Final Report Outline (draft and final)

CAM Products:

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

Subtask 1.7.2 Final Report

The Recipient shall:

- Prepare a Final Report for this Agreement in accordance with the approved Final Report
 Outline, Energy Commission Style Manual, and Final Report Template provided by the
 CAM with the following considerations:
 - o Ensure that the report includes the following items, in the following order:
 - Cover page (required)
 - Credits page on the reverse side of cover with legal disclaimer (required)
 - Acknowledgements page (optional)
 - Preface (required)
 - Abstract, keywords, and citation page (required)
 - Table of Contents (required, followed by List of Figures and List of Tables, if needed)
 - Executive summary (required)
 - Body of the report (required)
 - References (if applicable)
 - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
 - Bibliography (if applicable)
 - Appendices (if applicable) (Create a separate volume if very large.)
 - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments on Draft Final Report* received on the Executive Summary. For each comment received, the Recipient will identify in the summary the following:
 - Comments the Recipient proposes to incorporate.
 - o Comments the Recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:

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

CAM Product:

• Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBAWARDS

Subtask 1.8 Match Funds

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

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:

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

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

- A list of the match funds that identifies:
 - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
 - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
 - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a Supplemental Match Funds Notification Letter to the CAM of receipt of additional match funds.
- Provide a Match Funds Reduction Notification Letter to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.9 Permits

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

The Recipient shall:

- Prepare a Permit Status Letter that documents the permits required to conduct this
 Agreement. If 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 1.10 Obtain and Execute Subawards and Agreements with Site Hosts

The goals of this subtask are to: (1) procure and execute subrecipients and site host agreements, as applicable, required to carry out the tasks under this Agreement; and (2) ensure that the subrecipients and site host agreements are consistent with the Agreement terms and conditions and the Recipient's own contracting policies and procedures.

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

- Submit a Subaward and Site Letter to the CAM describing the subawards and any site
 host agreement needed or stating that no subawards or site host agreements are
 required.
- If requested by the CAM, submit a draft of each *Subaward* and any *Site Host Agreement* required to conduct the work under this Agreement.
- If requested by the CAM, submit a final copy of each executed *Subaward* and any *Site Host Agreement*.
- Notify and receive written approval from the CAM prior to adding any new subrecipient (see the terms regarding subrecipient additions in the terms and conditions).

Products:

- Subaward and Site Letter
- Draft Subawards (if requested by the CAM)
- Draft Site Host Agreement (if requested by the CAM)
- Final Subawards (if requested by the CAM)
- Final Site Host Agreement (if requested by the CAM)

TECHNICAL ADVISORY COMMITTEE

Subtask 1.11 Technical Advisory Committee (TAC)

The goal of this subtask is to create an advisory committee for this Agreement. The TAC should be composed of diverse professionals. The composition will vary depending on interest, availability, and need. TAC members will serve at the CAM's discretion. The purpose of the TAC is to:

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
 - Technical area expertise;
 - Knowledge of market applications; or
 - Linkages between the Agreement work and other past, present, or future projects
 (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.
- Help set the project team's goals and contribute to the development and evaluation of its statement of proposed objectives as the project evolves.
- Provide a credible and objective sounding board on the wide range of technical and financial barriers and opportunities.
- Help identify key areas where the project has a competitive advantage, value proposition, or strength upon which to build.
- Advocate, to the extent the TAC members feel is appropriate, on behalf of the project in its effort to build partnerships, governmental support, and relationships with a national spectrum of influential leaders.
- Ask probing questions that ensure a long-term perspective on decision-making and progress toward the project's strategic goals.

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

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. 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 1.12.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

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

Subtask 1.12 TAC Meetings

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

- 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 ensure a long-term perspective on decision-making and progress toward the project's strategic goals.
- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:

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

Subtask 1.13 Project Performance Metrics

The goal of this subtask is to finalize key performance targets for the project based on feedback from the TAC and report on final results in achieving those targets. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic metrics that provide the most significant indicator of the research or technology's potential success.

- Complete and submit the project performance metrics section of the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task, to the CAM.
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
 - TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
 - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- Discuss the Project Performance Metrics Results at the Final Meeting.

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2: Assess Cell-Level Performance and Reliability to Support Cell Selection

The goal of this task is to select a final cell format to include in battery modules. The project team will review internal data and cell format before prototyping and testing.

The Recipient shall:

- Compare prototypes of at least two different large format cells optimized for 4-12 hour vs >20-hour duration LCOS operation and ease of manufacturing by varying specifications such as:
 - Cell diameter
 - Cell height
 - Cathode thickness and configuration (inside vs outside of beta alumina solid electrolyte)
- Test and evaluate cell designs based on:
 - Maximum accessible energy delivery within daily cycling durations of 4-12 hours
 - Maximum accessible energy delivery over durations >20 hours
 - Round trip efficiency
 - Projected material and manufacturing costs
- Prepare Cell Selection Report Outline, describing the parameters, variables, and performance metrics used for cell selection
- Prepare and deliver the *Cell Selection Report*, which shall include, but is not limited to, the following data:
 - Cell format specifications
 - Cell testing results
 - Preliminary cost projections
- Prepare and submit a *CPR Report #1* and participate in a CPR meeting in accordance with subtask 1.3 (CPR Meetings).

Products:

- Cell Selection Report Outline
- Cell Selection Report (draft and final)
- CPR Report #1

TASK 3: Design, Assemble, and Internally Test Battery Module

The goal of this task is to design the battery module, produce the requisite cells, assemble modules, integrate with the battery management system (BMS) and perform first pass quality checks.

- Finalize a battery module design based on the selected cell considering advanced structural and thermal management features, potentially integrating:
 - Integrated phase change materials
 - Low-cost insulation materials
 - Larger modules (up to 300 cells)

- Vertical cell packing designs (1-3 layers of cells stacked)
- New cell packing designs (square vs hexagonal)
- Battery management system improvements (state of charge, state of health, fault management, data logging and data visualization)
- Complete production of cells at existing pilot facility
- Complete production of battery modules at existing pilot facility
- Integrate battery modules with the BMS
- Perform quality acceptance testing
- Produce *Preliminary Module Specification Table* based on initial internal module testing, which shall include, but is not limited to, the following data:
 - Electrical, performance, and mechanical specifications, including values and definitions of the key parameters
 - Component evaluations
 - Initial cycle testing
 - Engineering drawings or photos of the module

Products:

Preliminary Battery Module Specification Table

TASK 4: Test and Analyze Functionality, Performance, and Reliability of Integrated Battery Module

The goal of this task is to evaluate the performance of the prototype battery module based on several key performance metrics.

The Recipient shall:

- Ship module to partner test facility
- Define and deliver a *Battery Module Test Plan* based off feedback from project partners and customer needs and requirements, primarily evaluating:
 - RTE of >80%
 - o RTE loss of <0.2% over 200 cycles
 - Operable ambient temperature limits of -30°C to +50°C
 - Max accessible energy delivery within daily cycling durations of 4-12 hours
 - Max accessible energy delivery over durations >20 hours
- Execute Battery Module Test Plan on system at partner facility
- Summarize module performance with a *Module Test Report* in conjunction with project partners
- Prepare and submit a *CPR Report #2* and participate in a CPR meeting in accordance with subtask 1.3 (CPR Meetings).

Products:

- Battery Module Test Plan (draft and final)
- Battery Module Test Report
- CPR Report #2

TASK 5: Lifecycle Analysis (LCA)

The goal of this task is to perform a full cradle-to-grave analysis of the manufacturing, processing, transportation, operations, waste disposal and recycling for the Recipient's iron-sodium battery system.

The Recipient shall:

- Deliver the Battery Module Test Report to project partners for use in the LCA assumptions and calculations
- Perform environmental life cycle assessment to evaluate how the iron-sodium battery contributes to reduced environmental impacts for the current prototype module as well as a future scaled module
- Evaluate supply chain robustness and identify any impact hotspots for the current prototype module as well as future scaled module
- Develop the life cycle inventory for the battery energy storage module leveraging the bill
 of materials alongside background LCA data from modeling tools and industry data from
 project partners
- Perform environmental life cycle impact assessment using a life cycle assessment software platform
- Generate a Lifecycle Analysis Report summarizing the findings of the lifecycle analysis

Products:

Lifecycle Analysis Report (draft and final)

TASK 6: Technoeconomic Analysis (TEA)

The goal of this task is to perform a comprehensive technoeconomic analysis on the iron-sodium battery informed by the results generated on the test module.

The Recipient shall:

- Compare the near term LCOS (based on prototype module) to target of \$0.077/kWh based on:
 - Bill of materials
 - Operating expenses
 - Capital expenses
 - Performance testing
 - System install costs
 - System operations and maintenance
 - End of life / decommissioning costs
- Evaluate pathways and strategies to achieve the long-term target of \$0.045/kWh LCOS, including low-cost iron cathodes and economies of scale
- Evaluate economic outlook and product-market fit of iron-sodium battery energy storage for both commercial and industrial and utility-scale deployment
- Compare the near term and long term LCOS performance to fueled generators, Li-ion energy storage systems, and other leading competitive energy storage technologies
- Compile results in Technoeconomic Report

Products:

Technoeconomic Report (draft and 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 conduct activities that will accelerate the commercial adoption of the technology being supported under this agreement. Eligible activities include, but are not limited to, the following:

- Scale-up analysis including manufacturing analysis, independent design verification, and process improvement efforts.
- Technology verification testing, or application to a test bed program located in California.
- Legal services or licensing to secure necessary intellectual property to further develop the technology
- Market research, business plan development, and cost-performance modeling.
- Entry into an incubator or accelerator program located in California.

The Recipient Shall:

- Develop and submit a Technology Transfer Plan that identifies the proposed activities
 the recipient will conduct to accelerate the successful commercial adoption of the
 technology.
- Present the draft *Technology Transfer Plan* to the TAC for feedback and comments.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the Draft Technology Transfer Plan. This document will identify:
 - TAC comments the Recipient proposes to incorporate into the final *Technology Transfer Plan*.
 - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Submit the final *Technology Transfer Plan* to the CAM for approval.
- Implement activities identified in final Technology Transfer Plan.
- Develop and submit a Technology Transfer Summary Report that includes high level summaries of the activities, results, and lessons learned of tasks performed relating to implementing the Final Technology Transfer Plan. This report should not include any proprietary information.
- When directed by the CAM, develop presentation materials for an 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:

- Technology Transfer Plan (draft and final)
- Summary of TAC Comments
- Technology Transfer Summary Report (draft and final)
- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.