California Energy Commission
July 10, 2024 Business Meeting
Backup Materials for Sylvatex, 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

[PROPOSED]

RESOLUTION NO: 24-0710-13f

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Sylvatex, 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-24-007 with Sylvatex, Inc. for a $2,290,685 grant. This agreement will develop, in Alameda, a megawatt-hour (MWh) scale Low-Rate Initial Production (LRIP) line of high-performance, low-cost cathode active material for lithium-ion batteries suitable for use in electric vehicles (EVs) and energy storage systems; 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

CEC-270 (Revised 01/2024)

GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-24-007

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Joshua Croft
3. MS-:51
4. Phone Number: 925-452-7638

C. Recipient's Information

1. Recipient's Legal Name: Sylvatex, Inc.
2. Federal ID Number: 27-4120182

D. Title of Project

Title of project: Innovative Manufacturing Process Enabling California-based Cathode Active-material with Breakthrough Leading Economics (IMPECCABLE)

E. Term and Amount

1. Start Date: 8/1/2024
2. End Date: 3/31/2029
3. Amount: $2,290,685.00

F. Business Meeting Information

1. 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:

Sylvatex, Inc. Proposed resolution approving agreement EPC-24-007 with Sylvatex, Inc. for a $2,290,685 grant, and adopting staff's determination that this action is exempt from CEQA. This agreement will develop, in Alameda, a megawatt-hour (MWh) scale Low-Rate Initial Production (LRIP) line of high-performance, low-cost cathode active material for lithium-ion batteries suitable for use in electric vehicles (EVs) and energy storage systems. (EPIC funding) Contact: Benson Gilbert

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 ; Cal. Code Regs., tit. 14, § 15303 ; Cal. Code Regs., tit. 14, § 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.

15301: Sylvatex will use existing building facilities and will upgrade to comply with all requirements needed for the cathode process. This includes power upgrade, HVAC connections, gas delivery infrastructure and necessary permitting. There is no plan or need to add any structure for this project.

15303: There is no new construction necessary to accommodate Sylvatex in the existing structure, Sylvatex will install tools and equipment in the facility, making minor changes to convert plain spaces into cathode preparation facilities.

15306: The main purpose of this project is for Sylvatex to gather knowledge and information on process parameters that will lead our commercial efforts, and our process does not generate any waste that might harm any environmental resource.

This project does not involve impacts on any particularly sensitive environment; 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
Our Next Energy Inc.	$ 301,659	**$**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
No vendors to report	**$**	**$**

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	$ 2,290,685

TOTAL Amount: $ 2,290,685

R&D Program Area: TIEB: EDMF

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: Carlos Faz

Address: 1650 Harbor Bay Pkwy Ste 220

City, State, Zip: Alameda, CA 94502-3012

Phone:

E-Mail: cfaz@sylvatex.com

3. Recipient's Project Manager

Name: Carlos Faz

Address: 1650 Harbor Bay Pkwy Ste 220

City, State, Zip: Alameda, CA 94502-3012

Phone: 415-662-3835

E-Mail: cfaz@sylvatex.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-21-304R2-23
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	Yes

Approved By

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

Agreement Manager: Joshua Croft

Approval Date: 5/2/2024

Branch Manager: Yu Hou on behalf of Anthony Ng

Approval Date: 5/29/2024

Director: Yu Hou on behalf of Cameron (Cammy) Peterson

Approval Date: 5/29/2024

Exhibit A
Scope of Work
Sylvatex, Inc.

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Pilot Plant Commissioning, Operation, and Process Demonstration
3		Process Window Definition and Technology Support
4		Community Benefits Plan
5	x	Validation and Formulation of the recipient's Cathode Active Material into Electrodes
6		Small Format Cell Fabrication and Validation
7		Large Format Cell Fabrication and Validation
8		Evaluation of Project Benefits
9		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CBP	Community Benefits Plan
CEC	California Energy Commission
CPR	Critical Project Review
DEIA	Diversity, Equity, Inclusion, and Accessibility
EV	Electric Vehicle
ESS	Energy Storage System
GHG	Greenhouse Gas
HOP	Head of People
ICE-V	Internal Combustion Engine
LFP	Lithium Iron Phosphate
LIB	Lithium-ion battery
LRIP	Low-Rate Initial Production
MHP	Mixed Hydroxide Precipitate
MWh	Megawatt-hour
NMC	Lithium Nickel Manganese Cobalt Oxide
TAC	Technical Advisory Committee

[1] Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

Exhibit A
Scope of Work
Sylvatex, Inc.

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the build-out, operation, and validation of a California-based, Megawatt-hour (MWh) scale production line of high-performance cathode active material for lithium-ion batteries (LIBs) suitable for use in electric vehicles (EVs) and energy storage systems (ESS). This material will be produced using the recipient's proprietary process, which is cheaper and has lower environmental impact (with respect to water usage, waste production, and carbon intensity) than conventional cathode active material manufacturing while maintaining quality and performance.

B. Problem/ Solution Statement

Problem

Demand for LIBs is rapidly increasing both within the US and abroad, and the cathode represents a substantial fraction of both the cost (>30% of battery pack cost) and greenhouse gas (GHG) emissions (50%). Reducing both, as well as establishing US-based manufacturing for LIB materials, is critical to US green energy deployment and energy independence and being able to reach California's executive order of all new vehicles sold by 2035 to be zero emission and to be 100% clean energy by 2045. One contributor to the high cost of the cathode is the requirement for a highly refined feedstock. These more expensive feedstocks are normally required for cathode active material production as co-precipitation requires metal sulfates for cathode production. In addition, high performance LIB cathodes often require the use of expensive and supply constrained minerals such as nickel and cobalt, which will continue to be in high demand as the need for energy storage increases, especially in the EV sector.

Solution

The recipient has developed a novel synthetic process that uses an organic waste additive that allows for fast, green, economical production of cathode active material for lithium-ion batteries, including high performance lithium nickel manganese cobalt oxides (NMCs) and increasingly inexpensive lithium iron phosphate (LFP) materials, with no water usage or liquid waste production. This system uses off-the-shelf manufacturing equipment, making it readily scalable without the need for specialty tools. In addition, this system can utilize a variety of feedstocks, including less refined metal sources and even recycled material. This capability will allow further reduction in costs and environmental impact.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this agreement are to:

- Build an LRIP pilot line capable of using the recipient's manufacturing process.
- Validate the quality of the cathode active material by testing it in industry relevant cells and comparing the performance to commercial materials.
- Procure and install a jet mill and air classification system capable of controlling the particle size of cathode active material powders at the micron scale.

- Demonstrate the production of statistically consistent in-spec cathode active material by the pilot line.

Ratepayer Benefits:[2]

This Agreement will result in ratepayer benefits of greater reliability and lower costs in transportation in the state of California by supporting the growth of the EV sector with cheap, high-quality cathode active material for battery production. By lowering the cost of cathode active material production, this project will help lower the barrier to continued EV adoption and promote further developments in green technology while also being environmentally friendly itself.

Technological Advancement and Breakthroughs:

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 promoting the continued growth of the EV and energy storage sector, driving further advances in electrification. In addition, advances in energy storage materials, and the manufacturing thereof, have the potential to drive further innovation in grid scale storage technologies, allowing for increased use of renewable energy in the power grid. As the cathode is the costliest and most carbon intensive component of the LIB, and thus the EV and ESS, the recipient's solution will help California to meet its statutory energy goals by lowering cathode active material costs by 25% (over 60% lower processing cost); reducing required capital by more than 40%; and reducing environmental impact and CO_2e by up to 75%.

Agreement Objectives

The objectives of this Agreement are to:

- Validate the performance of the recipient's NMC and LFP material in large-format pouch cells and prismatic cells with capacities of over 200mAh/g and 150mAh/g respectively.
- Demonstrate production of 10 kg/day of cathode active material
- Assess jet milling and air classification for control of cathode active material powders at the micron scale

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

[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).

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:

Instructions for Submitting Electronic Files and Developing Software:

- **Electronic File Format**
  - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the 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, 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);
  - 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(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 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:
  - 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.
  - Comments the recipient does not 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 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.
    - 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;
  - 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 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

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

Subtask 1.11 TAC Meetings

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

Exhibit A
Scope of Work
Sylvatex, Inc.

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 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 1.12 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.

The Recipient shall:

- Complete and submit the project performance metrics from 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 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

III. TECHNICAL TASKS

TASK 2: PILOT PLANT COMMISSIONING, OPERATION, AND PROCESS DEMONSTRATION

The goal of this task is to scale up cathode active material production process by installing a pilot line with an initial target productivity of 10 kg/day of in-spec product. This will require the installation and startup of three major pieces of equipment: milling/mixing; a rotary kiln for the calcination process; and a jet mill/classifier to reduce particle size, as needed, and classify material to meet required customer specifications.

Subtask 2.1: Milling and Mixing Process Demonstration
The goal of this subtask is to establish procedures for creating a homogenous mix of raw material powders with similar particle sizes before the calcination step.

The Recipient shall:

- Complete tests of milling equipment to ensure adequate performance.
- Perform experiments with milling and mixing of raw materials to relate the variables surrounding raw material preparation (such as average particle size, raw material feed rate, and raw material concentration in the feedstock) to their expected impacts on material performance to determine the optimal conditions for use in the calcination step.
- Create a standard operating procedure for preparing raw materials for each of the targeted cathode active materials.
- Create a *Milling and Mixing Process Development Report*. This report will:
    - Describe the tests of milling equipment including the testing and the results of testing
    - Describe the experiments and learnings of the milling and mixing of raw materials and their impacts on performance
    - 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:

- Milling and Mixing Process Demonstration Report

Subtask 2.2: LFP - Kiln Process Demonstration
The goal of this subtask is to establish procedures for the use of the kiln to consistently produce high quality LFP material. This includes both parameters relating to the calcination process and safety procedures for the operation of the kiln.

The Recipient shall:

- Develop a standard operating procedure for the kiln outlining the safety procedures and regulations needed to ensure that the kiln is operated with minimal risk of injury to personnel or damage to the equipment.
- Perform experiments with LFP material calcination relating the variables surrounding this process (such as powder flow rates, residence times, zone temperatures, and process gas flow rates) to their expected impacts on material performance in order to determine the optimal conditions to produce LFP material of equivalent or superior quality to commercial material.

- Create a standard operating procedure for LFP production that outlines the optimized thermal treatment parameters for producing LFP meeting or exceeding the physical and electrochemical property targets.
- Complete tests using equipment of different materials of construction to identify the effect, if any, of metal contamination in the final product to help select materials for future scale-up purposes.
- Produce an *LFP Process Validation Report* demonstrating the ability of the rotary kiln procedure to consistently produce in-spec LFP material.

Products:

- LFP Process Validation Report

Subtask 2.3: NMC - Kiln Process Development

The goal of this subtask is to establish procedures for the use of the rotary kiln to consistently produce high quality NMC material. This includes both parameters relating to the calcination process and safety procedures for the operation of the rotary kiln.

The Recipient shall:

- Perform experiments with NMC material calcination relating the variables surrounding this process (such as powder flow rates, residence times, zone temperatures, and process gas flow rates) to their expected impacts on material performance to determine the optimal conditions to produce NMC material of equivalent or superior quality to commercial material.
- Create a standard operating procedure for NMC production that outlines the optimized thermal treatment parameters for producing NMC meeting or exceeding the physical and electrochemical property targets.
- Produce an *NMC Process Validation Report* demonstrating the ability of the rotary kiln procedure to consistently produce in-spec NMC material.

Products:

- NMC Process Validation Report

Subtask 2.4: Jet Mill and Classifier Evaluation

The goal of this subtask is to complete milling and classifying tests at vendors' sites to help select adequate equipment that delivers cathode material that meets particle size distribution according to customer specifications. During this subtask, the Recipient will also operate the Jet Mill and Classifier safely at different conditions to generate operating parameters that deliver in-spec NMC and LFP products at high yields.

The Recipient shall:

- Complete tests of milling & classifying equipment at vendors’ sites to ensure their performance is adequate before purchasing.
- Work with local contractors to complete the evaluation of the jet mill, including ensuring that the gas supply and emissions are properly managed and that electrical connections meet local codes.
- Create a standard operating procedure for the jet mill outlining the safety procedures and regulations needed to ensure that the mill is operated with minimal risk of injury to personnel or damage to the equipment.

- Perform experiments with cathode active material milling relating the variables surrounding this process (such as milling times, milling intensity, and target particle size) to their expected impacts on material performance to determine the optimal conditions for producing each of the targeted cathode active materials with properties meeting or exceeding those outlined in the corresponding Performance Metric documents.
- Create a standard operating procedure for the optimized milling parameters for the two targeted cathode active materials.
- Produce a *Jet Mill and Classifier Process Report* that:
    - Discusses the lessons learned and findings related to the process
    - Discusses the innovative or potentially interesting aspects of the standard operating procedure (if any)
    - 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:

- Jet Mill and Classifier Process Report

TASK 3: PROCESS WINDOW DEFINITION AND TECHNOLOGY SUPPORT

The goal of this task is to utilize the recipient's existing research experience to support the resolution of technical issues at the pilot scale. Work will include creating a database of the physical properties of all feedstocks pertinent to the production process, establishment of procedures, and creation and analysis of small-format pouch cells.

Subtask 3.1: Material Analysis

The goal of this subtask is to generate a complete database of relevant physical properties for all feedstock and intermediate materials and to analyze variabilities to yield optimal electrochemical performance.

The Recipient shall:

- Create a material property database that includes relevant physical property data (such as particle size and distribution, density and heat capacity, and reaction enthalpy) for all materials involved in the production process, as well as detailed calculations of mass balance for all chemical reactions expected during the production process.
- Develop a procedure for sampling material from different segments of a given batch for comparative analysis.
- Create a statistical process control chart outlining the range of targeted parameters for batch properties (such as elemental composition, phase purity, particle size and distribution, and cation exchange) that yield optimal electrochemical performance.
- Create a statistical process control chart outlining the range of targeted parameters for feedstock properties (such as metal reagent particle size and distribution, and distribution and concentration of additives) that yield optimal electrochemical performance.
- Create a statistical process control chart outlining the range of targeted parameters for process gas flow (such as process gas composition and purity, and flow rate) that yield optimal electrochemical performance.
- Produce a *Material and Process Consistency Report* that:
    - Compiles the major findings from this subtask

- Demonstrates the ability of the manufacturing process to produce consistent material with acceptable electrochemical performance.
- 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.

Products:
- Material and Process Consistency Report

Subtask 3.2: Material Failure Analysis
The goal of this subtask is to perform failure mode analysis of cells made using the process windows defined in the prior subtasks, including post-mortem analysis of cathode active material if that is deemed the likely cause of cell failure.

The Recipient shall:
- Evaluate the causes of cell failure for cells made using material produced by the recipient's pilot line and potential process changes to address these causes if necessary.
- Produce a *Material Failure Analysis Report* that:
  - Discusses the probable cause(s) of cell failures and process changes that were evaluated.
  - 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:
- Material Failure Analysis Report

Subtask 3.3: Feedstock Impurity Tolerance
The goal of this subtask is to research and quantify the ability of the production process for NMC to tolerate impurities found in lower purity feedstocks such as MHP and NMC material from recycled cells for possible use as a feedstock.

The Recipient shall:
- Perform experiments testing the properties of different lower purity feedstocks (such as type and concentration of impurity species, particle size and distribution, and physical properties) and their impact on material performance.
- Create a statistical process control chart outlining the range of parameters (such as balance of different feedstocks and maximum impurity levels) that yield NMC material with acceptable electrochemical performance.
- Produce a *Feedstock Impurity Tolerance Report* detailing the impacts of known and likely impurities on the quality of NMC material and the resulting viability of different less refined feedstocks for use in the recipient's process.

Products:
- Feedstock Impurity Tolerance Report

Subtask 3.4: Cathode Active Material Performance Improvement Research
The goal of this subtask is to research and apply a surface coating to NMC, if required, in an attempt to improve battery performance via surface stabilization. During this subtask, the

recipient will develop procedures for including coating materials, such as lithium tantalum oxide, aluminum oxide, or others with varying thicknesses.

The Recipient shall:

- Perform experiments attempting cathode active material coating using different targeted materials (including any required changes to standard feedstock preparation, material calcination, or milling procedures) and evaluating their effect on material performance.
- Produce a *Cathode Active Material Performance Improvement Report* that:
    - Discusses the probable cause(s) of cell failures and process changes that were evaluated.
    - 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:

- Cathode Active Material Performance Improvement Report

TASK 4: COMMUNITY BENEFITS PLAN

The goal of this task is to hire a well-qualified, degreed individual with a relevant background in personnel management, Diversity, Equity, Inclusion, and Accessibility (DEIA), and human resources to serve as Head of People (HOP).

The Recipient shall:

- Recruit and hire a qualified HOP,and provide an *HOP Recruitment Confirmation* verifying this event and serving to introduce the HOP to the CAM.
- Develop and implement a DEIA program under the guidance of the HOP, including steps such as affinity group creation, anti-bias training, the creation of internship and mentorship programs to promote DEIA initiatives, and the creation of internal HR procedures related to DEIA. Additionally, the HOP will be in charge of community and labor engagement, and the buildout of an internal DEIA advisory board.

Products:

- HOP Recruitment Confirmation

TASK 5: VALIDATION AND FORMULATION OF CATHODE ACTIVE MATERIAL INTO ELECTRODES

The goal of this task is to evaluate the material characteristics relevant for each type of cathode active material produced with the recipient's process and optimize formulation of electrodes using cathode active material that passes quality control targets.

The Recipient shall:

- Establish testing methods to demonstrate:
    - Cathode active material characteristics
    - Electrode performance
    - Product quality

- Create a test plan for the recipient's cathode active material characterization and electrode formulation that includes an outline of:
    - Material characterization tests
    - Target material characteristics for quality control
    - Electrode formulation tests
    - Target electrode performance for quality control
- Prepare a *Cathode Materials Characterization Report* for the recipient's cathode active material that includes results from planned tests and critical measurements for the following:
    - Scanning electron Microscope (SEM)
    - X-ray diffraction (XRD)
    - Elemental analysis
    - Tap and press density
    - 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.
- Prepare a *Positive Electrode Performance Report* for battery electrode formulation that includes:
    - Formulation testing and optimization for quality control
    - Electrode mechanical performance
    - Electrode dimensional performance
    - 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.
- Prepare a *CPR Report #1*
- Participate in a CPR Meeting

Products:

- Cathode Materials Characterization Report
- Positive Electrode Performance Report
- CPR Report #1

TASK 6: SMALL FORMAT CELL FABRICATION AND VALIDATION

The goal of this task is to fabricate small format multi-layer pouch cells of approximately 2 - 20 Ah capacity to demonstrate electrochemical performance of the cathode material.

The Recipient shall:

- Establish testing methods to demonstrate:
    - Electrochemical cell performance in small format multi-layer pouch cell
- Create a test plan for fabricated cells that includes an outline of:
    - Pouch cell performance tests to be performed such as galvanostatic cycling, rate, power performance, and calendar life
    - Target pouch cell electrochemical performance
- Prepare a *Pouch Cell Performance Report* for multi-layer pouch cells that includes:

- Chemistry composition of cell
- Pouch cell fabrication process
- Pouch cell electrochemical performance
- Potential post-mortem teardowns to identify any associated failure modes related to a specific cell component.

- 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:

- Pouch Cell Performance Report

TASK 7: LARGE FORMAT CELL FABRICATION AND VALIDATION

The goal of this task is to fabricate large format prismatic cells of approximately 120 - 240 Ah capacity to demonstrate electrochemical performance of the material as an electrode in a production relevant cell format.

The Recipient shall:

- Establish testing methods to demonstrate:
  - Electrochemical cell performance in large format prismatic cell
- Create a test plan for fabricated cells that includes an outline of:
  - Prismatic cell performance tests to be performed such as galvanostatic cycling, rate, power performance, and calendar life
  - Target prismatic cell electrochemical performance
- Prepare a *Prismatic Cell Performance Report* for 120 – 240 Ah prismatic cells that includes:
  - Chemistry composition of cell
  - Prismatic cell fabrication process
  - Prismatic cell electrochemical performance
    - Potential post-mortem teardowns to identify any associated failure modes related to a specific cell component
  - A subset of cells will be tested for abuse tolerance including nail penetration, thermal abuse, and overcharge testing.

  - 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.

Products:

- Prismatic Cell Performance Report

TASK 8: 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 9: 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.
    - 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.
    - 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

IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.