



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
October 08, 2025 Business Meeting
Backup Materials for Coreshell Technologies, Incorporated**

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: 25-1008-XX

STATE OF CALIFORNIA

**STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

RESOLUTION: Coreshell Technologies, Incorporated

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-25-033 with Coreshell Technologies, Incorporated for a \$3,995,673 grant. This project will take place in Alameda County and develop silicon-lithium manganese iron phosphate battery technology from 5Ah to 60Ah and apply the upgraded technology to a pilot in an electric mobility vehicle; 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 October 08, 2025.

AYE:

NAY:

ABSENT:

ABSTAIN:

Dated:

Kim Todd
Secretariat



GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-25-033

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Jemar Roble Tan
3. MS-:None
4. Phone Number: (916) 909-2540

C. Recipient's Information

1. Recipient's Legal Name: Coreshell Technologies, Incorporated
2. Federal ID Number: 82-1674629

D. Title of Project

Title of project: Advanced metallurgical Silicon and LMFP lithium-ion batteries that deliver low cost, high range, and superior safety with 100% domestic materials

E. Term and Amount

1. Start Date: 10/25/2025
2. End Date: 05/31/2028
3. Amount: \$3,995,673.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 10/8/2025 .
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Ayat Osman
5. Time Needed for Business Meeting: 10 minutes.
6. The email subscription topic is: Electric Program Investment Charge (EPIC)

Agenda Item Subject and Description:

Coreshell Technologies, Incorporated. Proposed resolution approving agreement EPC-25-033 with Coreshell Technologies, Incorporated for a \$3,995,673 grant, and adopting staff's recommendation that this action is exempt from CEQA. This project will take place in Alameda County and develop silicon-lithium manganese iron phosphate battery technology from 5Ah to 60Ah and apply the upgraded technology to a pilot in an electric mobility vehicle. (EPIC funding) Contact: Lindsey Fransen

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

Common Sense Exemption? 14 CCR 15061 (b) (3)

No

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

Cal. Code Regs., tit 14, sec. 15301 provides that projects which consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration 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 California Environmental Quality Act (CEQA). The project will be carried out in a facility that is already permitted for the work to be performed, meaning this project will result in negligible or no expansion of use beyond that already existing. Therefore, this project falls within Section 15301 and will not have a significant effect on the environment.

Additionally, the project does not involve impacts on any particularly sensitive environment; will not impact an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the



project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

b) Agreement **IS NOT** exempt.

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

No

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

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

H. Is this project considered “Infrastructure”?

No

I. Subcontractors

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter “No subcontractors to report” and “0” to funds.

Delete any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
No subcontractors to report	\$0	\$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
Underwriters Laboratories Inc.	\$90,000	\$0
AVL Mobility Technologies, Inc.	\$0	\$30,000
Meyers Manx, LLC	\$0	\$150,000
TBD – Module Assembler	\$0	\$200,000



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 01/2024)

TBD - Cost-Performance Modeling	\$0	\$75,000
TBD - Market Research	\$0	\$50,000
TBD - QA/QC Equipment	\$0	\$250,000
TBD - Tensile Strength Tester	\$0	\$30,000
TBD - Battery Test Equipment	\$0	\$350,000
TBD - Safety Tester	\$0	\$125,000
TBD - Module Tester	\$0	\$75,000
Various - Misc. Tools	\$0	\$4,000
TBD - Battery Conferences – Attendance and exhibition expenses	\$0	\$100,000
Ferroglobe PLC	\$0	\$7,500
TBD - LMFP/Cathode Materials	\$0	\$87,550

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	24-25	301.001L	\$ 3,995,673

TOTAL Amount: \$ 3,995,673

R&D Program Area: TIEB: EDMF

Explanation for “Other” selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: N/A



M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Cicely Li

Address: 2020 Williams St Bldg B3

City, State, Zip: San Leandro, CA 94577-2335

Phone: 510-407-6178

E-Mail: cicely@coreshell.com

2. Recipient's Project Manager

Name: Daniel Chadwick

Address: 2020 Williams St Bldg B3

City, State, Zip: San Leandro, CA 94577-2335

Phone: 510-671-0547

E-Mail: daniel@coreshell.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-23-318
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



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 01/2024)

Approved By

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

Agreement Manager: Jemar Roble Tan

Approval Date: 8/27/2025

Branch Manager: Anthony Ng

Approval Date: 8/29/2025

Director: Jonah Steinbuck delegated to Branch Manager

Approval Date: 8/29/2025

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		Scaling Si-LMFP Battery capacity to 5Ah
3	X	Scale Si-LMFP from 5Ah to 60Ah pouch cells
4		Validate System-Level Performance of Automotive Representative Cell in Electric Mobility Module
5		Evaluation of Project Benefits
6		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
Ah	Ampere-hour
ARC	Accelerating Rate Calorimeter
ATV/UTV	All-terrain vehicle / utility task vehicle
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
CPUC	California Public Utilities Commission
ECAMS	Energy Commission Agreement Management System
EPIC	Electric Program Investment Charge
EUCAR	European Council for Automotive Research & Development
EV	Electric vehicle
HL	Hazard Level
LIB	Lithium-ion battery
LFP	Lithium-iron phosphate
LMFP	Lithium manganese iron phosphate
NMC/NCA	Nickel manganese cobalt / nickel cobalt aluminum oxide
Recipient	Coreshell Technologies, Inc.
SEI	Solid electrolyte interface
Si-LMFP	Silicon-lithium manganese iron phosphate
TAC	Technical Advisory Committee
TR	Technical Requirement
UN	United Nations

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
Coreshell Technologies, Incorporated

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 of the Recipient's Silicon-Lithium Manganese Iron Phosphate (Si-LMFP) battery technology from 5Ah to 60Ah and apply the upgraded technology to a pilot in an electric mobility vehicle.

B. Problem/ Solution Statement

Problem

Electric vehicles (EVs) present significant cost barriers to end consumers. They are currently priced over 30 percent higher than conventional vehicles, making them largely inaccessible for public use and individual consumers, particularly low-income Californians. Additionally, EVs have limited vehicle range and long charging times, contributing to impracticality for many uses, and range and charge anxiety among users. Addressing these issues necessitates affordable battery innovations that improve range and charging speed. The current reliance on imported, often unethically sourced materials such as cobalt for lithium-ion battery (LIB) production is an additional challenge, as these materials raise environmental and ethical concerns. EV batteries also have safety issues, and events such as deadly e-bike fires and numerous EV recalls highlight the safety limitations of current battery technology.

While many proposed solutions to either EV battery cost or range and performance issues exist, no current EV battery technologies solve all issues in a single product. Synthetic silicon offers a domestically produced and higher energy density alternative to imported graphite-based anodes, but the production of this alternative is prohibitively expensive. Lithium-iron phosphate (LFP) and lithium manganese iron phosphate (LMFP) batteries are safer than leading alternatives but often reduce the achievable range.

Solution

The successful completion of this project will result in an affordable, safer, high-performing EV battery that enables the production of lower-cost EVs in California. The battery, the Recipient's Si-LMFP battery will use the Recipient's proprietary nanocoated low-cost metallurgical silicon anodes. These anodes provide a domestically sourced, cost-effective alternative to graphite and synthetic silicon-based anodes while delivering competitive range and performance. The nanocoating addresses the primary challenge with silicon anodes: electrode surface degradation caused by swelling during charging, which fractures the solid-electrolyte interphase (SEI) and leads to capacity loss. Unlike standard methods, the Recipient's solution uses an artificial SEI, a lithium-permeable, elastic polymer that prevents silicon particles from detaching and maintains electrochemical stability. This innovation enables the adoption of 100 percent active-material silicon anodes, achieved through a low-cost, high-yield liquid-phase deposition process that maintains energy density while ensuring mechanical integrity.

The anodes are paired with LMFP cathodes, which are safer, lower-cost, and easier to source than other cathode technologies. LMFP cathode batteries have an 80 percent lower fire risk

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

than nickel manganese cobalt / nickel cobalt aluminum oxide (NMC/NCA) batteries and do not depend on expensive, imported cobalt and other minerals for production. The LMFP cathode is also superior to the LFP cathode because the LMFP cathode has a 0.45V higher nominal voltage, enabling a 15-20 percent higher energy density compared to LFP.

This Si-LMFP chemistry will deliver a 300+ mile range, a cost reduction of up to 33 percent, and enhanced thermal safety with an increase of up to 200°C over current graphite-based LIBs, all while relying exclusively on domestically sourced critical materials. The project will assemble 60Ah Si-LMFP prototype battery cells into commercially relevant electric mobility battery modules in collaboration with an electric mobility partner. The battery module specifications for the electric mobility vehicle closely align with those of EVs, offering commercial validation that reduces risk while showcasing the superior performance and cost efficiency of the Si-LMFP battery, paving the way for broader transportation electrification.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Fund a lithium-ion battery capable of using 100 percent domestically sourced materials
- Fund the development of the Recipient's synthetic Si-LMFP battery; and
- Pilot the Si-LMFP battery in an electric mobility vehicle and demonstrate the safety, reliability, and performance of the Si-LMFP battery.

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits of lower costs and increased safety by developing the Si-LMFP battery technology, which offers significant cost and safety benefits for EV applications.

The initial application of this technology in small electric mobility sectors demonstrates the potential of the technology to reduce operating costs significantly. For example, gas-powered all-terrain vehicles / utility task vehicles (ATV/UTV) cost about \$5.38 per hour to operate³—\$2.00 of which is gasoline. Assuming the average ATV/UTV is used in farming and industrial applications at a rate of 100-150 hours/month⁴, gasoline costs approximately \$200-\$300/month. In contrast, the cost to charge an electric ATV/UTV, using the Si-LMFP battery, would be \$20/month³—a savings of \$3,360 over the lifetime of a single ATV/UTV. For commercial users managing fleets of 5–10 vehicles, such as those on California farms, this translates to yearly savings between \$15,000 and \$30,000 per fleet manager.

As EV adoption increases, the deployment of lithium-ion batteries raises fire risks, with traditional NMC/NCA chemistries contributing to concerns. While only 1 in 10 million batteries

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 Winkel, N. 2021. “Breakdown of costs over the life of an electric ATV vs a gas ATV.” DRR USA. <https://www.drrusa.com/post/breakdown-of-costs-over-the-life-of-an-electric-atv-vs-a-gas-atv>

⁴ Adams, N. 2022. “How many miles is a lot for an ATV?” Weller Recreation. <https://www.wellerrec.com/blog/how-many-miles-is-a-lot-for-an-atv>

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

ignites⁵, each EV contains 2,000-3,000 batteries, equating to one fire in every 3,333-5,000 vehicles. Electrifying California's 30+ million vehicles by 2035 would require 60–90 billion batteries, potentially causing 6,000–9,000 fires annually, which are significantly harder to extinguish than those in gas vehicles. Si-LMFP battery technology reduces fire risks by 80 percent, potentially preventing 4,800–7,200 EV fires annually.

Technological Advancement and Breakthroughs:⁶ 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 optimizing and scaling the low-cost silicon anode-based LMFP battery.

The Recipient's Si-LMFP battery is designed to enhance energy storage solutions by leveraging silicon anodes and LMFP cathodes. This innovation will achieve 33 percent lower costs compared to conventional lithium-ion batteries while improving safety standards, thereby making EVs more accessible. By transitioning to LMFP cathodes, the Recipient's Si-LMFP battery enhances energy density and performance, facilitating over 300 miles of EV range at reduced costs, thus breaking financial barriers to wider EV adoption.

Scaling production in California enables the Recipient to maximize the state's economic benefits by bolstering the local battery supply chain. Additionally, this technology supports California's clean energy mandate by offering a domestically sourced solution, significantly reducing import dependencies. The widespread application of the Si-LMFP battery across electric vehicles and e-mobility solutions exemplifies a formidable step towards decarbonization and energy independence, underscoring a strategic alignment with California's climate objectives.

Agreement Objectives

The objectives of this Agreement are to:

- Use 100 percent domestically sourced materials
- Advance the Recipient's synthetic Si-LMFP battery from 5Ah to 60Ah.
- Progress the Si-LMFP battery from TRL 3 to TRL 6 by piloting in an electric mobility vehicle and demonstrating the safety, reliability, and performance of the Si-LMFP battery.

⁵ Evelyn, K. 2022. "Lithium-ion batteries, used in electric bikes, pose fire risks." The New York Times. <https://www.nytimes.com/2022/11/14/us/lithium-ion-ebike-battery-fires.html>

⁶ 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.

Exhibit A
Scope of Work
Coreshell Technologies, Incorporated

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:

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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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:

- 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;

Exhibit A
Scope of Work
Coreshell Technologies, Incorporated

- 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*.

The 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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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.

The 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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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 the 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 the Recipient of items discussed during call.

The Recipient shall:

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

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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.

The 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.

The 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

Exhibit A
Scope of Work
Coreshell Technologies, Incorporated

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:
 - 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 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

Exhibit A Scope of Work Coreshell Technologies, Incorporated

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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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 1.10 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.

The Recipient shall:

- Execute and manage subawards and coordinate subrecipients activities in accordance with the requirements of this Agreement.
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the project site cannot be acquired or can no longer be used for the project.
- 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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

- 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 (*if requested by the CAM*)
- 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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

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.

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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

- Prepare *TAC Meeting Summaries* for each TAC Meeting 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.

The Recipient shall:

- 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.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

*Products that require a draft version are indicated by marking “(draft and final)” after the product name in the “Products” section of the task/subtask. If “(draft and final)” does not appear after the product name, only a final version of the product is required. **Subtask 1.1 (Products)** describes the procedure for submitting products to the CAM.*

TASK 2 SCALE Si-LMFP BATTERY CAPACITY TO 5AH

The goal of this task is to demonstrate equivalent performance of a 5Ah multi-layer pouch cell using a Si-LMFP chemistry. The Recipient has already demonstrated performance of this configuration in 3-5mAh coin cells. The next step in development is to verify scaled performance at 5Ah level before the more resource-intensive step task of scaling to 60Ah automotive-scale pouch cells.

The Recipient shall:

- Develop cell design for a 5Ah Si-LMFP cell with a cathode material manufacturer, taking into consideration the following challenges associated with LMFP compared to LFP:
 - Dispersibility into homogeneous cathode slurry
 - Adhesion/cohesion with aluminum current collector
 - Increased cathode thickness required to achieve 3.5 mAh/cm² areal capacity
- Build a 5Ah Si-LMFP cell for testing.
- Submit a Test Plan, outlining the required tests, protocols and conditions for each test, and quantity of cells per test. The plan will be 3-10 pages and include figures, graphics, and an executive summary for a non-technical audience. The plan will not disclose any confidential information.
- Validate cell performance and design for the following metrics:
 - Cycle life
 - Areal power density
 - Pulse power
 - Internal resistance
- Validate cell performance against typical automotive safety standards as listed below. Cell should be able to achieve a European Council for Automotive Research & Development (EUCAR) hazard rating of Hazard Level (HL) less than or equal to 4.
 - Overheat
 - Overcharge / overcurrent
 - Short circuit
 - Nail penetration
 - United Nations (UN) 38.3
- Simulate cell performance in large form factor using cell simulation software.
 - Using results from 5Ah tests, cell performance at 60Ah can be predicted.
 - Simulation will ensure cell will meet required Technical Requirements (TR) prior to scaling to 60Ah form factor.
- Document and submit findings about the production and testing of at least 10 5Ah Si-LMFP prototype multi-layer pouch cells in a Scale-up Report, documenting information related to meeting performance and safety specifications. The report will be 3-10 pages

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

and include figures, graphics, and an executive summary for a non-technical audience. The report will not disclose any confidential information.

Products:

- Test Plan
- Scale-up Report

TASK 3 SCALE SI-LMFP FROM 5Ah TO 60Ah POUCH CELLS

The goal of this task is to scale the technology from 5Ah to 60Ah automotive-scale production cells. This requires fabrication of approximately 300 to 600 60Ah cells to establish process parameters across all production tools, gradually improving yield through iterative optimization and consecutive production runs. Performance and safety testing, including propagation cluster testing, will be completed with the built 60Ah cells.

The Recipient shall:

- Build approximately 300 to 600 60Ah prototype cells on the pilot line. Of these, 88 cells will be used for module builds. These 88 cells will be characterized and tested under the Cell Manufacturing Report and Test Report listed below.
- Submit a Cell Manufacturing Report for the 88 produced 60Ah cells required for module-level testing. The report will be 3-10 pages and include figures, graphics, and an executive summary for a non-technical audience. The report will not disclose any confidential information. The report will include but not be limited to a summary of the pass / fail results for the sampled cells as compared to metrics of the quality check criteria. These checks may include but not be limited to metrics such as throughput and cell characteristics.
- Submit a Test Report about the 88 produced 60Ah cells. The report will be 3-10 pages and include figures, graphics, and an executive summary for a non-technical audience outlining the summary of the pass / fail results of the 60Ah cells for the series of validation tests completed. The validation test criteria may include but not be limited to metrics such as capacity, voltage curves, cycle life, and rate capability. The report will not disclose any confidential information.
- Prepare a CPR Report and participate in a CPR Meeting, per subtask 1.3. The report will not disclose any confidential information.

Products:

- Cell Manufacturing Report
- Test Report
- CPR Report

TASK 4 VALIDATE SYSTEM LEVEL PERFORMANCE OF AUTOMOTIVE REPRESENTATIVE CELL IN ELECTRIC MOBILITY VEHICLE MODULE

The goal of this task is to design, build, and test a system-level integration of the Recipient's cells in an automotive representative battery module. During this task, the Recipient will work with a California-based electric mobility partner to assemble the cells into a module that meets commercial specifications for electric road-capable mobility vehicles with similar battery performance requirements as passenger cars. The module-level validation will include safety, electrical performance, capacity, and cycle life using a California-based test house.

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

The Recipient shall:

- Work with a California-based electric mobility partner to design a module that meets or exceeds the TRs. Module TRs are derived from the electric mobility partner battery pack-provided TRs.
- Submit a Validation Plan for the module-level system to ensure TRs are achieved, outlining required tests, protocols for each test, and which prototype sample will be used for each test. The plan will be 3-10 pages and include figures, graphics, and an executive summary for a non-technical audience. The plan will not disclose any confidential information.
- Build 8 prototype modules.
- Validate the performance of the modules against outlined TRs. Validation tests include but are not limited to the following:
 - Module capacity per International Organization for Standardization (ISO) 62660 with C/10 discharge
 - Volumetric and gravimetric energy density calculations
 - Electrical performance
 - Voltage, current capability, direct current internal resistance
 - Evaluated at standard temperature (25°C) and elevated temperature (40°C)
 - Cycle Testing
 - Safety
 - Thermal stability
 - Accelerating Rate Calorimeter (ARC) test
 - UN 38.3
- Submit a Validation Report about the findings from the module validation testing, outlining the summary of the pass / fail results of the module testing in comparison to the intended TRs. These tests may include but are not limited to metrics such as capacity, calculated energy density, electrical performance, cycle life, and safety performance. The report will be 3-10 pages and include figures, graphics, and an executive summary for a non-technical audience. The report will not disclose any confidential information.

Products:

- Validation Plan
- Validation Report

TASK 5: 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

Exhibit A

Scope of Work

Coreshell Technologies, Incorporated

- 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 the Recipient directory on the [Energize Innovation website](#), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and the Recipient directory on the [Energize Innovation website](#), 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 6: 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. Proposed *Technology Transfer Plan* activities include:
 - Battery conferences
 - Cost-Performance Modeling
 - Market Research
- 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.

Exhibit A
Scope of Work
Coreshell Technologies, Incorporated

- Submit the final *Technology Transfer Plan* to the CAM for approval.
- Implement activities identified in the 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 the 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 Project Schedule Excel spreadsheet.