



California
ENERGY COMMISSION



**California Energy Commission
October 19, 2026 Business Meeting
Backup Materials for BoxPower 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

CALIFORNIA ENERGY COMMISSION

PROPOSED RESOLUTION: BoxPower Inc.

RESOLUTION NO: 26-1019-XX

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-26-011 with BoxPower Inc. for a \$4,000,000 grant. This project will fund the development and demonstration of an advanced distributed energy resource controller for flexible interconnection to enable increased hosting capacity, faster interconnection timelines, and lower ratepayer costs while enhancing community resilience; and

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

APPROVED AND ADOPTED this 19 day of October 2026, by the following vote:

AYE:

NAY:

ABSENT:

ABSTAIN:

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 approved and adopted by affirmative vote of the CEC at a meeting held on October 19, 2026.

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-26-011

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Sean Anayah
3. MS-:None
4. Phone Number: 916-931-5044

C. Recipient's Information

1. Recipient's Legal Name: BoxPower Inc.

D. Title of Project

Title of project: INFINITE: Integrating Flexible Interconnection Technologies for Electrified Resilience

E. Term and Amount

1. Start Date: 10/19/2026
2. End Date: 9/30/2030
3. Amount: \$4,000,000.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 10/19/2026 .
3. Consent or Discussion? Consent
4. Business Meeting Presenter Name: Sean Anayah
5. Time Needed for Business Meeting: 0 minutes.
6. The email subscription topic is: Electric Program Investment Charge

Project Description:

BOXPOWER INC. Proposed resolution approving agreement EPC-26-011 with BoxPower Inc. for a \$4,000,000 grant and adopting staff's recommendation that this action is exempt from CEQA. This project will fund the development and demonstration of an advanced distributed energy resource (DER) controller for flexible interconnection to enable increased hosting capacity, faster interconnection timelines, and lower ratepayer costs while enhancing community resilience. (EPIC funding) Contact: Sean Anayah.

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: If Agreement is considered a "Project" under CEQA skip to question 2. Otherwise, provide explanation.

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?

No

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: None

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

Yes

This project is covered by the Common Sense Exemption under Cal. Code Regs., tit. 14, § 15061 (b) (3) that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.

This project will take place on tribal land, but off-reservation impacts must still be evaluated under Government Code section 12012.101(b)(2), but this project is exempt under the "common sense" CEQA exemption because the proposed project will not:

- construct on or alter any off-reservation land;
- impact local air quality;
- use groundwater resources or otherwise impact any off-reservation water resources;
- build additional transportation infrastructure;
- generate additional traffic volumes;
- increase, once the project is complete, ambient noise beyond the existing commercial activities; or
- degrade the visual character or quality of off-reservation views, including those of scenic resources or objects of aesthetic significance.

The proposed project will consist of the installation of a microgrid system at the reservation of the Colusa Tribe in Colusa, California. The microgrid system installation will be a minor alteration to an existing facility within the interior of the



reservation with no expansion beyond the reservation operation. Vehicle trips associated with the construction of the project will be temporary and the operation of the microgrid system will result in a negligible number of regular operational trips for maintenance. BMPs will be used during installation and operation of the microgrid system. Therefore, no adverse effects to offsite air or water quality will occur as a result of the project. The installation and operation of the microgrid system would not substantially degrade the existing visual character or quality of off-reservation visual resources, as the system components are not visually obtrusive.

Compared with the current supply of energy, the proposed project will improve energy resiliency for Tribal facilities and the local electric grid, as well as reduce overall energy demand on the local energy provider and lower fossil fuel usage and greenhouse gas (GHG) emissions. Because the proposed project will improve air quality and reduce GHG emissions and does not provide for any physical changes outside of the Indian reservation, it can be seen with certainty that there is no possibility that the proposed project may have a significant effect on the off reservation environment. Based on all these factors, the proposed project meets the CEQA "common sense" exemption.

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.

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

Enter None or reason why Agreement is exempt under the above section.

b) Agreement **IS NOT** exempt.

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

Yes or 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
Colusa Indian Community Council	\$500,000	\$800,000

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
Evergreen Innovation Group, LLC (Vendor)	\$875,000	\$0
Tesla, Inc. (Equipment Seller)	\$463,500	\$0
Rexel USA, Inc. DBA Platt Electric Supply (Equipment Seller)	\$770,000	\$0
Maddox Industrial LLC (Equipment Seller)	\$80,000	\$0
breitGRID LLC (Equipment Seller)	\$0	\$137,690
Vendors and Equipment Sellers of Colusa Indian Community Council		
<i>Colusa Indian Energy (Equipment Seller and Vendor)</i>	<i>\$500,000</i>	<i>\$781,956</i>

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.



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 01/2026)

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	21-22	301.001I	\$ 182,750
EPIC	25-26	301.001M	\$ 3,817,250

TOTAL Amount: \$ 4,000,000

R&D Program Area: ESTB: ETSI

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Angelo Campus

Address: 12438 Loma Rica Dr Ste C

City, State, Zip: Grass Valley, CA 95945-9040

Phone: 530-802-5477

E-Mail: angelo.v.campus@boxpower.io

2. Recipient's Project Manager

Name: Alex Killam

Address: 12438 Loma Rica Dr Ste C

City, State, Zip: Grass Valley, CA 95945-9040

Phone: 530-802-5477

E-Mail: alex.killam@boxpower.io

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-24-312
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".



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 01/2026)

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

Approved By

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

Agreement Manager: Sean Anayah

Approval Date: 08/31/2026

Branch Manager: Reynaldo Gonzalez

Approval Date: 08/31/2026

Director: Reynaldo Gonzalez for Jonah Steinbuck

Approval Date: 8/31/2026

Exhibit A Scope of Work

I. TASK AND ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2	X	System Design and Engineering
3		Procurement and Construction
4	X	System Integration and Commissioning
5		Measurement and Verification
6		Flexible Interconnection Simulation and Validation
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
BESS	Battery Energy Storage System
BOM	Bill of Materials
CAM	Commission Agreement Manager
CEC	California Energy Commission
CPR	Critical Project Review
DER	Distributed Energy Resource
DERMS	Distributed Energy Resource Management System
DOE	Dynamic Operating Envelope
FAT	Factory Acceptance Testing
IEEE	Institute of Electrical and Electronics Engineers
IFC	Issued for Construction
IOU	Investor-Owned Utility
KPI	Key Performance Indicator
kW	Kilowatt
M&V	Measurement and Verification
MV	Medium Voltage
MWh	Megawatt-hour
PCC	Point of Common Coupling
PTO	Permission to Operate
RFI	Request for Information
SAT	Site Acceptance Testing
SCADA	Supervisory Control and Data Acquisition
TAC	Technical Advisory Committee
TRL	Technology Readiness Level
UL	Underwriters Laboratories

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

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 and demonstration of an advanced microgrid/distributed energy resource (DER) controller for flexible interconnection and to validate its performance using an emulated utility distributed energy resource management system (DERMS), advancing the controller from a Technology Readiness Level (TRL) 3 to TRL 7. This project will demonstrate a replicable approach to reduce interconnection timelines and costs while enhancing grid resilience for tribal and disadvantaged communities. This Agreement will also enable expansion of housing at the Colusa Indian Community, which is currently constrained by limited electricity infrastructure capacity, by enabling flexible interconnection in lieu of immediate long lead time upgrades.

B. Problem/ Solution Statement

Problem:

California faces rising electricity demand from housing, electrification, and economic development that can be challenging to power in a timely manner if served by constrained electricity infrastructure. Utilities are developing and signaling dynamic operating envelopes (DOEs) to flexible loads and other DERs, but there are few commercially available standards conformant, Institute of Electrical and Electronics Engineers (IEEE) 2030.5–native controllers available that are capable of receiving these DOE signals and enforcing limits at the point of common coupling (PCC). As a result, flexible interconnection generally remains costly and requires bespoke engineering, slowing projects and limiting the customer and grid benefits, including for tribal and disadvantaged communities. For example, at the Colusa tribe, lack of capacity on utility distribution infrastructure is delaying tribal housing expansion. A replicable, certifiable microgrid/DER controller that tracks DOE limits while reliably serving customers using storage and islanding capabilities has not been commercialized in the market.

Solution:

This project will design, deploy, and validate a DOE-capable microgrid controller paired with a 400 kW / 1.3 MWh battery energy storage system (BESS) at Colusa. The controller will natively receive DOE/limit schedules over IEEE 2030.5 and enforce time-varying import/export at the PCC. The project will use a utility DERMS emulator and hardware-in-the-loop testing to exercise multiple DOE profiles before and during field operation. Performance will be measured with simple, auditable metrics including reaction speed (targeting 60 seconds or less), setpoint-tracking accuracy, and DOE compliance (targeting 99 percent interval-level).

The project will quantify the cost savings and improved timelines relative to conventional infrastructure upgrades, the increase in hosting-capacity on the distribution feeder, and the resilience benefits to the community from islanding capabilities. Results, sizing methods, and firm/non-firm guidance will be embedded in the Recipient's planning software to create a repeatable design and decision framework.

Exhibit A

Scope of Work

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Demonstrate a DOE-capable, IEEE 2030.5–native, UL 3141-aligned microgrid/DER controller at the Colusa site.
- Unlock Colusa’s housing expansion by providing local capacity via flexible interconnection as an alternative to conventional infrastructure upgrades.
- Reduce interconnection timelines and costs to accelerate electrification and housing development compared with conventional infrastructure upgrades.
- Increase hosting capacity and reliability, validate setpoint tracking at the PCC, and validate islanding capabilities to mitigate the community impact of grid outages.
- Create a replicable framework, including sizing methods, firm/non-firm guidance, and cost-benefit tools within the Recipient’s planning software tools.
- Advance equity by validating technology solutions that are usable by tribal, disadvantaged, and low-income communities without cost-shifting or degraded service quality.

Ratepayer Benefits:²

This Agreement will result in the ratepayer benefits of *greater electricity reliability* and *lower costs* through installation of a new 400 kW / 1.3 MWh BESS and controller capable of flexibly following DOEs. The controller enforces time varying import/export limits at the PCC and shapes net load, allowing utilities to avoid or defer upgrades while connecting new housing and electrified loads sooner. It also improves safety and reliability by preventing overloads and providing islanding and resynchronization during outages. Benefits will be measured with simple, auditable metrics including interconnection timeline and cost compared to construction of new infrastructure, controller compliance with DOEs at the PCC, BESS reaction speed, increased hosting capacity, and reduced customer outages from islanding. Collectively these benefits can enable lower costs for Investor-Owned Utility (IOU) ratepayers, faster connections for customers, and improved reliability.

Technological Advancement and Breakthroughs:³ This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California’s statutory energy goals by validating an advanced controller in a representative pilot setting (TRL 7) from the lab scale (TRL 3). The controller can help address interconnection bottlenecks and increase DER hosting capacity on the grid. The advanced controller demonstrated in this project can coordinate BESS charging and discharging to maintain grid stability in near-real-time. Dynamic control allows feeders to safely accommodate much more DER capacity by managing DER output rather than waiting for full network upgrades.⁴

² California Public Resources Code, Section 25711.5(a) requires projects funded by the Electric Program Investment Charge (EPIC) to result in ratepayer benefits. The California Public Utilities Commission, which established the EPIC in 2011, defines ratepayer benefits as greater reliability, lower costs, and increased safety (See CPUC “Phase 2” Decision 12-05-037 at page 19, May 24, 2012, http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF).

³ California Public Resources Code, Section 25711.5(a) also requires EPIC-funded projects to lead to technological advancement and breakthroughs to overcome barriers that prevent the achievement of the state’s statutory and energy goals.

⁴ Hashmi, Md Umar et al. “DER Hosting capacity for distribution networks: definitions, attributes, use-cases and challenges.” *arXiv*, 2024, <https://arxiv.org/html/2501.15339v1>.

Exhibit A

Scope of Work

Agreement Objectives

The objectives of this Agreement are to:

- Design, install, and commission a minimum 400 kW / 1.3 MWh BESS-enabled microgrid with fully functional grid-connected, non-export, export-limited (if applicable), and islanding operating modes.
- Demonstrate a flexible interconnection architecture—including a utility DERMS emulator and a Underwriters Laboratories (UL) 3141-compliant site controller—to validate time-varying interconnection limits and DOE-style control.
- Reduce interconnection timelines compared to conventional infrastructure enhancements and quantify potential ratepayer savings.
- Improve the resilience and reliability of customer service at Colusa through microgrid islanding .
- Generate a validated dataset and decision-support analysis showing potential avoided upgrade costs, hosting-capacity improvements, and utility planning implications for flexible interconnections.
- Produce a public-facing evaluation and knowledge-transfer package to support broader utility adoption of flexible interconnection.

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.

Exhibit A

Scope of Work

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.

Exhibit A Scope of Work

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

The CAM shall:

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

Recipient Products:

- Kick-off Meeting Presentation
- Updated Project Schedule (*if applicable*)

Exhibit A

Scope of Work

- Match Funds Status Letter (Subtask 1.8) (*if applicable*)
- Permit Status Letter (Subtask 1.9) (*if applicable*)

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

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

The Recipient shall:

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

The CAM shall:

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

Recipient Products:

- CPR Report(s)

Exhibit A

Scope of Work

CAM Products:

- CPR Agenda(s)
- Progress Determination

Subtask 1.4 Final Meeting

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

The Recipient shall:

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

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

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

Products:

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

MONTHLY CALLS, REPORTS AND INVOICES

Subtask 1.5 Monthly Calls

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

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly

Exhibit A Scope of Work

calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

The CAM shall:

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

The Recipient shall:

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

Product:

- Email to CAM concurring with call summary notes.

Subtask 1.6 Quarterly Progress Reports and Invoices

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

The Recipient shall:

- Submit a *Quarterly Progress Report* to the CAM. Each progress report must:
 - Summarize progress made on all Agreement activities as specified in the scope of work for the reporting period, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Progress reports are due to the CAM the 10th day of each January, April, July, and October. The Quarterly Progress Report template can be found on the ECAMS Resources webpage available at: <https://www.energy.ca.gov/media/4691>
- Submit a monthly or quarterly *Invoice* on the invoice template(s) provided by the CAM.

Recipient Products:

- Quarterly Progress Reports
- Invoices

CAM Product:

- Invoice template

Subtask 1.7 Final Report

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

Subtask 1.7.1 Final Report Outline

The Recipient shall:

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

Exhibit A

Scope of Work

Recipient Products:

- Final Report Outline (draft and final)

CAM Products:

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

Subtask 1.7.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
 - 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*)

Exhibit A Scope of Work

- Final Report

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBAWARDS

Subtask 1.8 Match Funds

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

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

The Recipient shall:

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

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

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

Products:

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

Exhibit A

Scope of Work

Subtask 1.9 Permits

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

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
 - 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.
- Execute and manage site host agreements, and ensure the right to use the project site throughout the term of the Agreement, as applicable. A site host agreement is not required if the Recipient is the site host.
- 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.

Exhibit A

Scope of Work

- Incorporate this Agreement by reference into each subaward.
- Include any required Energy Commission flow-down provisions in each subaward, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subaward terms.
- Submit a *Subaward and Site Letter* to the CAM describing the subawards and any site host agreement needed or stating that no subawards or site host agreements are required.
- If requested by the CAM, submit a draft of each *Subaward* and any *Site Host Agreement* required to conduct the work under this Agreement.
- If requested by the CAM, submit a final copy of each executed *Subaward* and any *Site Host Agreement*.
- Notify and receive written approval from the CAM prior to adding any new subrecipient (see the terms regarding subrecipient additions in the terms and conditions).

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.11 Technical Advisory Committee (TAC)

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

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

Exhibit A

Scope of Work

- 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;
- IOU 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

- 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

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2 System Design and Engineering

The goal of this task is to complete detailed engineering and construction documents for installation and integration of the BESS, medium-voltage (MV) distribution and interconnection upgrades, protection and controls, site controller, and interconnection.

Subtask 2.1 Project Engineering and Design

The goal of this subtask is to complete the detailed engineering and construction documents plans for all equipment to be installed and for the interconnection application.

The Recipient shall:

- Create and deliver *Construction Documents Package at 10 percent design, 30 percent design, 90 percent design and final Issued for Construction*, that include but are not limited to:
 - Electrical design, including:
 - Single-line and three-line diagrams for BESS, MV interconnection, and low-voltage interfaces.
 - Grounding and bonding diagrams for BESS and MV equipment, compliant with relevant codes and standards as well as manufacturer requirements.
 - Cable, raceway, and conduit schedules; tray layouts; terminations; and labeling.
 - Equipment schedules and data sheets for BESS, switchgear, transformers, protective devices, and site controller hardware.
 - Civil / structural design:
 - Foundation and pad details for equipment.
 - Equipment layout and clearances, including fire and maintenance access, consistent with applicable codes and standards.
 - Site layout:
 - General arrangement for BESS and interconnection equipment, including access roads, fencing, and safety/egress.
 - Conduct power flow studies to inform design safety, utility review, and flexible interconnection analysis, including:
 - Power flow analysis for peak and minimum load conditions in grid-connected and islanded operations.
 - Short-circuit and equipment duty studies.
 - Protection coordination studies and relay settings including overcurrent, ground fault, islanding detection, etc.) consistent with relevant engineering standards and utility requirements.
 - Arc flash hazard analysis and labeling in accordance with relevant codes and standards.
- Develop *Communications and Controls Architecture* for the site controller and other installed assets, including one-line diagrams showing protocols and interfaces between the BESS controller, protective relays, metering, and site controller; the utility DERMS

Exhibit A

Scope of Work

emulator and utility-facing interfaces; and Supervisory Control and Data Acquisition (SCADA)/historian and data acquisition systems.

- Define SCADA / historian configuration and data requirements to support Measurement and Verification (M&V) and decision-support analysis tools described in later tasks.
- Document process quantifying interconnection time, cost, and other metrics (as agreed upon from stakeholder engagement outlined in Task 6.1) to establish a baseline for conventional utility interconnections.
- Conduct design reviews and request for information with the site host, equipment vendors, and utilities at 10 percent, 30 percent and 90 percent design stages to gather feedback and maintain a decision log.
- Maintain and submit the *Design Review & Request for Information(RFI)/Decision Log* to the CAM as design progresses.

Products:

- Construction Documents Packages (10 percent draft, 30 percent draft, 90 percent draft, and Issued for Construction final)
- Communications and Controls Architecture
- Design Review & RFI/Decision Log

Subtask 2.2 Medium-Voltage Distribution Construction Documents

The goal of this task is to complete the detailed engineering for safe, code-compliant MV interconnection, distribution, protection, and controls systems.

The Recipient shall:

- Complete design and deliver a *MV Distribution Construction Document Package (10 percent draft, 30 percent draft, 90 percent draft, and Issued for Construction final)* that include but are not limited to site layout, trenching, conduit arrangement, pull boxes, foundations, MV equipment, power distribution.
- Coordinate MV distribution design with BESS and protection/controls design from Subtask 2.1 to ensure:
 - Consistent grounding and fault-current assumptions.
 - Appropriate voltage regulation and power-quality performance at end-use loads.
 - Clear definition of the PCC and any sectionalizing for microgrid/island operation.
- Prepare a *CPR #1 Report* that:
 - Summarizes progress on Task 2 relative to the Agreement goals and objectives, including BESS, MV distribution, and interconnection design status.
 - Highlights key design decisions, risks (technical, permitting, interconnection, cost), and proposed mitigation strategies.
 - Updates baseline interconnection metrics and any changes to assumed hosting capacity or grid constraints.
 - Identifies any recommended modifications to later tasks, schedule, or budget based on 90% design findings.
 - Prepare CPR Report #1 in accordance with Subtask 1.3 (CPR Meetings).
 - Participate in a CPR #1 meeting.

Exhibit A

Scope of Work

Products:

- Medium-Voltage Distribution Construction Documents Package (10 Percent Design, 30 Percent Design draft, 90 Percent Design draft, and Issued for Construction (IFC) (final)
- CPR #1 Report

Subtask 2.3 Interconnection Application

The goal of this subtask is to prepare, submit, and obtain approval from the utility providing service for interconnection of the project, including completion of any required studies, inspections, and receipt of permission to operate (PTO).

The Recipient shall:

- Complete an Interconnection Application with the utility providing service, including but not limited to, the following:
 - Interconnection feasibility and siting review.
 - Technical design and compliance engineering, specific to interconnection application.
 - Interconnection application development and submission.
 - Review Utility studies and screening reports.
 - Interconnection inspection, testing, and PTO readiness
- Develop an *Observed Interconnection Metrics and Baseline Benchmarks Report* that includes but is not limited to:
 - Timeline metrics: elapsed days per interconnection stage, including application preparation and submission, utility studies, review cycles, construction, and PTO.
 - Cost metrics: application and study fees and required utility upgrade costs.
 - Capacity metrics: feeder hosting capacity and available headroom at the point of interconnection.
 - Process metrics: number of utility study and request-for-information cycles.

Products:

- Observed Interconnection Metrics and Baseline Benchmark Report

TASK 3 Procurement and Construction

The goal of this task is to procure all major equipment and complete construction of the BESS, MV interconnection, and MV distribution at the demonstration site following the IFC drawings developed in Task 2.

Subtask 3.1 Equipment Procurement

The goal of this task is to procure major equipment, including BESS, MV protection and distribution equipment, site controller/communications, and metering to deliver a code-compliant installation ready for integration and commissioning.

The Recipient shall:

- Submit a *Bill of Materials* (BOM, draft) of all non-confidential equipment, components, sub-assemblies, and quantities required for system completion based in the design in Task 2. Update the BOM and submit a Final version that reflects the equipment purchased. Key components include but are not limited to:
 - BESS with interlocks, protection interfaces, UL listings, SCADA/control integration, and auxiliary loads documentation.

Exhibit A

Scope of Work

- MV electrical/protection with recloser or MV circuit breakers, relays, MV switch(s), sectionalizing cabinets, metering, pad mount transformer(s), main switchboard, and utility communications interface.
- Controls and communications including site controller hardware and software, gateways, time sync, networking, meters, and data logging and storage components.
- Develop a *Procurement Plan* that describes the approach, criteria, and schedule for vendor and equipment selection, including review of submittals, quality assurance/quality control, and logistics for delivery to the demonstration site.
 - Select vendors and products based on the BOM and construction drawings, including any sequencing for long lead time items.
 - Competitive solicitation approach: request and document a target of two to three quotes for each major equipment package where multiple qualified suppliers exist.
 - Maintain a Submittal Register, review/approve shop drawings, and track delivery schedules.

Products:

- Bill of Materials (draft and final)
- Procurement Plan

Subtask 3.2 Construction: BESS, MV Interconnection, and MV Distribution

The goal of this task is to complete construction of the BESS and MV interconnection in accordance with IFC drawings.

The Recipient shall:

- Develop and implement a safety plan including lock out tag out procedures, energized work restrictions, inspection/test plans (ITPs) and results, and vendor submittal approvals.
- Construct equipment pads, install BESS enclosures, install MV interconnection gear/switches, interconnection meters, terminate power/control cables, wire protection and comms, and label assets.
- Oversee installation of MV feeders, sectionalizing cabinets, pad mount transformers, secondary services, and AMI devices consistent with Tribal ownership and rights of way.
- Maintain construction redline drawings (field-marked deviations from IFC drawings, used to produce as-builts in Subtask 3.3) and daily construction reports (work completed, crews on site, inspections, safety events, and issues).
- Provide QA/inspection and conformance documentation.
- Summarize the processes, including any challenges faced, lessons for future similar projects, and changes made in *Construction and Equipment Testing Results Report*

Products:

- Construction and Equipment Testing Results Report

Subtask 3.3 As-built Construction Drawing Package

The goal of this task is to create a as-built construction drawing package for the project's BESS, MV Interconnection, and MV Distribution for operational use and record keeping.

Exhibit A

Scope of Work

The Recipient shall:

- Update all construction drawings to reflect the final as-built system for the BESS, MV interconnection, MV distribution, and metering installed and tested in Task 3. Create a *As Built Construction Document Package* and share with the site host and CAM.
 - Provide asset registry containing inventory of installed equipment with make/model, serial numbers, firmware versions, settings, and warranty information.
- Assemble all construction and testing documentation: Cable, including cable and equipment test records (insulation resistance, continuity, and manufacturer test certifications); construction test, and inspection results (equipment pads, grounding, terminations, and utility and authority having jurisdiction inspection sign-offs); and *Pre-Commissioning Checklists* (verification of torque, terminations, insulation/continuity tests, grounding, and labeling prior to energization).
- Asset registry.

Products:

- As-Built for BESS & MV Interconnection Construction Documents Package
- As-Built for MV Distribution Construction Documents Package
- Pre-Commissioning Checklists

TASK 4 System Integration and Commissioning

The goal of this task is to integrate the site controller and communications, complete functional and protection testing, and perform Site Acceptance Testing (SAT) validating safe operation of the BESS, MV protection, communications, and control modes required for flexible-interconnection demonstrations.

Subtask 4.1 Controller Integration

The goal of this subtask is to integrate the site controller, edge gateways, and utility-facing RTU emulator.

The Recipient shall:

- Develop a *Controls Commissioning and SAT Plan* (draft and final) that describes the steps and methods planned for integration of the site controller and edge gateway(s) to implement control modes, including islanded, grid connected non export, and import/export limited where applicable.
- Enable authority arbitration, I/O maps, alarms, time sync, historian, and cybersecurity baseline.
- Install and integrate interface for communicating with the emulated utility DERMS and verify end-to-end communications including communications protocol mapping, commands, telemetry, event logging, latency.

Products:

- Controls Commissioning and SAT Plan (draft and final)

Subtask 4.2 Protection System Testing

The goal of this subtask is to configure and validate that protection system characteristics match the design and function properly.

Exhibit A

Scope of Work

The Recipient shall:

- Perform protection system testing, including:
 - Secondary injection or equivalent testing of installed relays and other protection equipment.
 - Verification of relay settings, time-current curves, reclosing coordination, and trip logic.
 - Demonstration of trip/close operations and SCADA indications/alarms for protection events.
- Describe the methods and results in a *System Protection Test Report*.

Products:

- System Protection Test Report

Subtask 4.3 System Level Functional Testing

The goal of this task is complete functional testing of the integrated system to ensure it is operating safely and as designed prior to commencement of M&V.

The Recipient shall:

- Develop a *Functional Test Procedures and Results Summary* that describes the methods and results of system functional testing including, but not limited to, the following:
 - BESS charge and discharge behavior, power limits, import and export management at the PCC, and response to dispatch profiles.
 - Safe performance in scenarios of communications failure and time-sync loss, including safe fallback behavior, alarm propagation, and historian data completeness.
 - Basic flexible-interconnection behaviors including response to updated limits as practicable prior to full demonstrations.

Products:

- Functional Test Procedures and Results Summary

Subtask 4.4 MV Distribution Commissioning

The goal of this task is to ensure the installed MV distribution equipment is functional and meets requirements for safe operation.

The Recipient shall:

- Oversee commissioning of MV distribution infrastructure including testing of cables, transformer voltages, configuration, and characteristics relative to design, and verification of mechanical installation (e.g., torque) and marking of cables and systems.
- Describe the methods and results in a *MV Distribution Commissioning Report*

Products:

- MV Distribution Commissioning Report

Subtask 4.5 System Commissioning and SAT

The goal of this subtask is to perform system-level commissioning and SAT to validate that the installation is safe and operates as designed under normal and islanded conditions.

Exhibit A

Scope of Work

The Recipient shall:

- Develop a *Site Acceptance Testing Summary Report* that summarizes the methods and results of testing the integrated system, covering the sequence of operations, protection, communications, controller modes, and safe transitions from grid connected to island modes and back.
- Record power quality, voltage/frequency excursions, and transition times at the PCC.
- Participate in a CPR #2 meeting.

Products:

- Site Acceptance Testing Summary Report
- CPR Report #2

TASK 5 Measurement and Verification

The goal of this task is to develop a measurement and verification (M&V) approach and baseline metrics used to evaluate project performance and benefits.

The Recipient shall:

- Prepare a *Measurement and Verification Plan* (draft and final) that describes the instruments, methods, and protocols for collecting operational data from the site for a minimum of one year. The duration of data collection may be reduced with written approval from the CAM. The M&V Plan will include, but not be limited to, the following:
 - Description of the systems and performance metrics to be monitored, including, at a minimum: BESS charge and discharge power and duration, energy throughput (kWh), power and energy imported or exported at the PCC, compliance with DOE, accuracy of setpoint tracking, reaction speed, system performance in islanding and resync transitions.
 - Approach for estimating energy cost savings for the host site and broader ratepayer savings, increased hosting capacity on distribution infrastructure, and reductions in timelines for energization relative to construction of new utility distribution infrastructure.
 - Expected performance targets for each metric, with thresholds and acceptance criteria, and the basis used to derive them.
- Prepare a *Measurement and Verification Report* (draft and final) that describes measured system performance, validated qualitative impacts and benefits, data sources, analytical methodologies and verification approaches used and whether the goals of the metrics described in the M&V Plan were met. Costs and benefits will be evaluated from the perspective of the tribal community and IOU ratepayers.

Products:

- Measurement and Verification Plan (draft and final)
- Measurement and Verification Report (draft and final)

TASK 6 Flexible Interconnection Simulation and Validation

The goal of this task is to design, implement, and validate a utility DERMS emulator and flexible interconnection signaling and control schemes to generate datasets, key performance indicators (KPIs), and decision-support outputs for utilities, regulators, and planners.

Exhibit A

Scope of Work

Subtask 6.1 Stakeholder Engagement and Test Matrix Definition

The goal of this subtask is to define measurable parameters, test scenarios, and decision-support outputs in collaboration with key stakeholders.

The Recipient shall:

- Conduct literature reviews, interviews, and other engagement activities with key stakeholders including utility planners and operators, the site host and other potential customers, and regulators to define the data needs, test matrix, event scripts, and decision-support outputs (e.g., avoided upgrade cases, export-limit behaviors, feeder headroom signals).
- Document the findings, including details on what engagements were completed, key priorities for different stakeholders, and implications for testing and data collection in a *Stakeholder Engagement Summary and Test Matrix Report* (draft and final).

Products:

- Stakeholder Engagement and Test Matrix Report (draft and final)

Subtask 6.2 Utility DERMS Emulator Design and Build

The goal of this subtask is to design and build the utility DERMS emulator that will be used to simulate and validate flexible interconnection operations executed by the controller.

The Recipient shall:

- Develop a *DERMS Emulator Design Specifications Report* (draft and final) that identifies the key functionalities and properties of the DERMS emulator with representative communication protocols, set point lists, timing and latency, and failure modes.
- Design, build, and test in a laboratory setting the utility DERMS emulator following the design specifications
- Develop and test the integration of the DERMS emulator with the site controller including telemetry, command exchange, scheduling, and other key functionalities, and integrate the emulator with the data historian.
- Implement test scenarios for import-only, export-limited, DER headroom signaling, automated islanding and resynchronization, and abnormal conditions including loss of communications loss and device failure.
- Conduct factory acceptance testing (FAT) including scripted communications, timing, and failover tests with witness sign-offs. Resolve any defects or deficiencies in expected performance and retest until performance meets the design specifications.
- Summarize the capabilities, improvements made, and final performance of the DERMS emulator in a *DERMS Emulator FAT Report*

Products:

- DERMS Emulator Design Specification (draft and final)
- DERMS Emulator FAT Report

Subtask 6.3 Flexible Interconnection Simulation and Validation

The goal of this subtask is to execute controlled simulations and field validation of the controller performance in flexible interconnection operations and to compare and extrapolate the potential benefits of this approach relative to conventional interconnection and upgrade processes as a baseline.

Exhibit A

Scope of Work

The Recipient shall:

- Execute simulation and validation activities including, but not limited to, the test matrix developed in Sub Task 6.1.
- Collect data at the PCC and device level as described in the M&V plan and as needed to validate the performance of the controller and to extrapolate the benefits of flexible interconnection operations.
- Quality-check the datasets and compute KPIs related to flexible interconnection and prepare *Decision-Support Methods and Documentation* describing the replicable inputs for planning-oriented decision-support including but not limited to:
 - Validated datasets and computed KPI results from simulation and field validation activities.
 - BESS sizing methods and firm versus non-firm interconnection guidance derived from the observed and simulated results.
 - Avoided-cost model inputs, and interconnection timeline impacts suitable for use in distribution planning and avoided-upgrade analyses, as embedded in the Recipient's planning software.
 - Intended users and the decisions informed, including utility distribution planners weighing conventional upgrades against flexible interconnection, distributed energy resource developers, and community and Tribal energy planners sizing storage.

Compare baseline (conventional) vs. flexible-interconnection scenarios to validate attachment 10 metrics.

- Develop a *Flexible Interconnection Validation Report* (draft and final) that describes the methods used for evaluation, results, benefits, issues experience and lessons learned, and recommendations for scale-up and alignment with utility planning processes.

Products:

- Flexible Interconnection Validation Report (draft and final)
- Decision-Support Methods and Documentation

TASK 7 Evaluation of Project Benefits

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

The Recipient shall:

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

Exhibit A

Scope of Work

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](http://www.energizeinnovation.fund) (www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

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

TASK 8 Technology/Knowledge Transfer Activities

The goal of this task is to conduct activities that will accelerate the commercial adoption of the technology being supported under this agreement. Eligible activities include, but are not limited to, the following:

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

The Recipient Shall:

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

Exhibit A

Scope of Work

- When directed by the CAM, develop presentation materials for an CEC- sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the CEC.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

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

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.