



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
December 13, 2023 Business Meeting
Backup Materials for Agenda Item No 03b:
Rincon Band of Luiseño Indians**

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

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

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Rincon Band of Luiseño Indians

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 amendment #2 to agreement EPC-19-050 with the Rincon Band of Luiseño Indians to update the project scope, reduce the award amount by \$663,752. SDG&E is updating the distribution infrastructure to the project site within the Rincon Reservation to improve resiliency and add protective measures against grid outages to reduce the project's energy storage and solar capacity needs. The amendment reduces the scope of energy storage requirements while ensuring economic viability of the project; 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 December 13, 2023.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

Kristine Banaag
Secretariat



STATE OF CALIFORNIA

GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

Original Agreement # EPC-19-050 Amendment # 2

Division	Agreement Manager:	MS-	Phone
ERDD	Caitlin Planchard		916-637-8128

Recipient's Legal Name	Federal ID #
Rincon Band of Luiseño Indians	95-2942475

Revisions: (check all that apply)	Additional Requirements
<input type="checkbox"/> Term Extension New End Date: 3/31/2027	Include revised schedule and complete items A, B, C, & F below.
<input checked="" type="checkbox"/> Budget Augmentation Amendment Amount: \$ -663,752	Include revised budget and complete items A, B, C, D, & F below.
<input type="checkbox"/> Budget Reallocation	Include revised budget and complete items A, B, C, & F below.
<input checked="" type="checkbox"/> Scope of Work Revision	Include revised scope of work and complete items A, B, C, E, & F below.
<input type="checkbox"/> Change in Project Location or Demonstration Site	Include revised scope of work and complete items A, B, C, E, & F below.
<input type="checkbox"/> Novation/Name Change of Prime Recipient	Include novation documentation and complete items A, B, C, & F below.
<input type="checkbox"/> Terms and Conditions Modification	Include applicable exhibits with bold/underline/ strikeout and complete items A, B, C, & F below.

A) Business Meeting Information**Business Meeting approval is not required for the following types of Agreements:**☐ Minor amendments delegated to Executive Director per December 2013 ResolutionProposed Business Meeting Date 12/13/2023 ☒ Consent ☐ Discussion

Business Meeting Presenter Caitlin Planchard Time Needed: 0 minutes

Please select one list serve. EPIC (Electric Program Investment Charge)

Agenda Item Subject and Description:

Rincon Band of Luiseño Indians. Proposed resolution approving amendment #2 to agreement EPC-19-050 with the Rincon Band of Luiseño Indians to update the project scope, reduce the award amount by \$663,752, and adopting staff's determination that this action is exempt from the California Environmental Quality Act (CEQA). SDG&E is updating the distribution infrastructure to the project site within the Rincon Reservation to improve resiliency and add protective measures against grid outages to reduce the project's energy storage and solar capacity needs. The amendment reduces the scope of energy storage requirements while ensuring economic viability of the project. (EPIC Funding) Contact: Caitlin Planchard.



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GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

B) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	Budget
Prosper Sustainably, LLC	\$ 634,899
Powerflex Systems, Inc.	\$ 328,389
OurEnergy, LLC	\$ 99,990
Powerflex Systems, Inc. (Equipment)	\$ 5,655,456
TBD (Construction Management)	\$126,720
Meera Bhasin-Petroff	\$15,000
Sara Russell	\$10,000
TBD (Code Inspection)	\$35,060

C) List all key partners: (attach additional sheets as necessary)

Legal Company Name:
The Solaris Group, LLC

D) Budget Information (only include amendment amount information)

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	19-20	301.001G	\$ -663,752

R&D Program Area: ESRB: ETSI

TOTAL: \$ -663,752

Explanation for "Other" selection

Federal Agreement #:

E) California Environmental Quality Act (CEQA) Compliance

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

☒ Yes (skip to question 2)☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

Explain why Agreement is not considered a "Project":

2. If Agreement is considered a "Project" under CEQA:

a) ☒ Agreement **IS** exempt.☐ Statutory Exemption. List PRC and/or CCR section number:☒ Categorical Exemption. List CCR section number: Cal. Code Regs., tit. 14, § 15301☒ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

**GRANT AMENDMENT REQUEST FORM (GARF)**

This project will involve the installation of a solar PV carport system, within an existing parking lot. The system will enable the generation of energy for onsite use. The PV system installation includes steel carport structures on new concrete pilings and electrical conduit to connect the system to a microgrid controller. Equipment associated with the PV carport system will not occupy more than 500 square feet of ground surface and will be located on the same parcel as the solar panels (APN 133-180-1500). The project does not involve a federal Clean Water Act permit; waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act; an individual take permit for species protected under the federal Endangered Species Act or the California Endangered Species Act; streambed alteration permit pursuant to the California Fish and Game Code; or removal of protected or native plants and trees. For these reasons, the PV portion of the project is statutorily exempt from CEQA under Public Resources Code, section 21080.35, provided for installation of a solar energy system on the roof of an existing building or at an existing parking lot.

This project will involve the installation of a ground mounted VRFB ESS within a fully developed property. The VRFB ESS installations will be minor alterations to already disturbed areas within the interior of the Rincon Reservation with no expansion beyond the existing casino and reservation operation. The project will not have a significant adverse effect on the environment due to unusual circumstances, result in a significant cumulative impact, damage resources within a designated state scenic highway, cause substantial adverse change to the significance of a historical resource, or be located on a listed hazardous waste site. For these reasons, the VRFB ESS portion of the project is categorically exempt from CEQA under California Code of Regulations, title 14, section 15301, as a minor alteration of existing facility.

The project consists of the installation of electrical components and infrastructure to accommodate a solar energy system and an energy storage systems at the Harrah's Casino and Resort, within the Rincon Reservation. The new systems will reduce the Rincon Community's GHG emissions. The installation of these technologies will not result in the expansion of the existing use. The reservation is approximately 4,275 acres in size. The Harrah's Casino and Resort is located within the center of the Rincon Reservation. Vehicle trips associated with the construction of the project will be temporary and the operation of the energy systems will result in a negligible number of regular operational trips for maintenance of the systems. Motorists using Center Valley Road will view the new AC solar PV carport system briefly when passing by the Harrah's Casino and Resort; however, the new system is consistent with the existing development on site (e.g. existing solar fields). No adverse effects to off-site water or air quality would occur as a result of the proposed project. Therefore, for offsite impacts the project falls under the common sense exemption listed in California Code of Regulations, title 14, section 15061(b)(3). There is no possibility the installation of the energy systems will have a significant effect on the offsite environment.

The section 15301 and 15061(b)(3) exemptions each serve as an independent basis for finding the project exempt.



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CALIFORNIA ENERGY COMMISSION

- b) ☐ Agreement **IS NOT** exempt. (consult with the legal office to determine next steps)

Check all that apply

- ☐ Initial Study
☐ Negative Declaration
☐ Mitigated Negative Declaration
☐ Environmental Impact Report
☐ Statement of Overriding Considerations

F) The following items should be attached to this GARF (as applicable)

- | | | |
|---|---|--|
| 1. Exhibit A, Scope of Work/Schedule | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 2. Exhibit B, Budget Detail | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 3. CEQA Documentation | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 4. Novation Documentation | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 5. CEC 105, Questionnaire for Identifying Conflicts | | <input checked="" type="checkbox"/> Attached |

Caitlin Planchard

Agreement Manager

9/26/2023

Date

Rey Gonzalez

Office Manager

10/2/2023

Date

Rey Gonzalez for Jonah Steinbuck

Deputy Director

10/2/2023

Date

EXHIBIT A

Scope of Work

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2	X,X,X	Design, Install, Commission, and Operate Rincon Multi-Storage LDES Solar Microgrid
3		Evaluation of Project Benefits
4		Technology/Knowledge Transfer Activities
5		Production Readiness Plan

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
DBC	Design Build Contractor
EPIC	Electric Program Investment Charge
LDES	Long Duration Energy Storage
Li-ion	Lithium-ion
MGC	Microgrid Control
Non-Li	Non-Lithium
O&M	Operation and Maintenance
PV	Photovoltaic
SDG&E	San Diego Gas & Electric
TAC	Technical Advisory Committee

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the Rincon ~~Multi-Storage~~ **Long Duration Energy Storage (LDES)** Solar Microgrid Project. This project will demonstrate two types of a non-Lithium (Non-Li) long-duration energy storage **LDES** systems (vanadium redox flow batteries and flywheel storage systems) to support sustainable energy resiliency and cost-savings requirements in a commercial solar microgrid supporting a public shelter and wastewater treatment plant.

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

B. Problem/ Solution Statement

Problem

Non-Lithium energy storage technologies have faced several barriers to adoption by California utility customers. Flow batteries have suffered from limitations affecting scale, efficiency, and grid-forming capabilities for resilient energy microgrids. ~~Flywheel storage systems also have faced limitations in scalability and design flexibility.~~ Technology developers have worked to expand the scale and functionality of these systems, but so far have not achieved long-duration storage capabilities. As a result, customers and financiers have not considered these systems to be sufficiently mature for use in commercial microgrids. Accordingly, the project is vital to demonstrate the capabilities of flow batteries ~~and flywheel systems~~ as viable and cost-effective technology solutions to meet California Investor Owned Utility customers' requirements for long-duration, and resilient energy systems. It also is vital to demonstrate these systems' potential as safer and more durable alternatives to lithium-ion (Li-ion) batteries.

Solution

The Rincon LDES Solar Microgrid – is shovel ready, in an advanced stage of development, with in-depth feasibility assessments complete, site arrangements and approvals already obtained, utility support secured, and procurement processes initiated. Its microgrid control (MGC) systems will be specified capable of supporting control functionality required for the project. The project will enable rapid deployment of long-duration energy storage ~~technologies~~ technology for permanent installation and demonstration in a single commercial environment.

The Agreement will enable advancement and demonstration of flow battery technology ~~and flywheel technologies in combination~~ for greater scale, duration, and resilience than previously has been achieved in commercial markets or individually. It also will establish integration and control functionality to optimize the use of ~~complementary forms of storage~~ to achieve greater economic benefits.

By supplementing tribal funds that already have been allocated for construction of a solar microgrid, the project will leverage customer resources and project development capabilities and plans. This will advance ~~two non-Li energy storage technologies~~ technology toward full commercialization, maturity, and financeability.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to develop and demonstrate the following technical capabilities:

- Flow battery ~~12-hour discharge at 400 kW of electric load~~ that can provide a minimum of 10 hours of energy storage capability at a minimum rating of 400 kilowatts.
- Flow-battery grid-forming functionality
- ~~Flywheel 12-hour discharge at 400 kW of electric load~~
- ~~Flywheel design configuration to share existing ground-mounted solar site if determined to be feasible by the engineering design~~
- Multi-storage Flow battery MGC applications

EXHIBIT A

Scope of Work

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety. The project will improve reliability of electric service by protecting critical customer loads from public safety power shutoffs and other long-duration outage events. It will provide onsite distributed renewable energy resources and energy storage capacity for load shifting to reduce customer electricity costs ~~by \$625,366 in Year 1 and \$26 million over the project's 25-year lifetime. It will~~ and reduce the Rincon community's greenhouse gas footprint ~~by 1,004,898 kg of greenhouse gases in Year 1.~~ The project will increase safety for customers by providing resilient energy supplies to protect electric loads from long-duration outages to assure continued service of key public safety assets, including emergency public sheltering ~~and wastewater treatment.~~ It also will reduce local criteria pollutants attributable to diesel combustion.

More broadly, the project's technology advancements will support commercialization of a non-Li systems to provide similar reliability, economic, and safety benefits for customers of future projects, including providing safer alternatives to Li battery systems that are susceptible to fires and thermal runaway.

Technological Advancement and Breakthroughs:³ This Agreement will lead to technological advancement and breakthroughs by supporting technology developments to expand scale and improve performance, functionality, and flexibility of ~~the flow battery and flywheel technologies~~ technology. Demonstration in a solar microgrid will provide operating history to reduce perceived technology risk and improve access to cost-effective financing for future deployments.

Agreement Objectives

The objectives of this Agreement are to:

- Design and demonstrate flow battery ~~12-hour discharge at 400 kW~~ that can provide a minimum of 10 hours of energy storage capability at a minimum rating of 400 kilowatts
- Demonstrate and assess flow-battery grid-forming functionality to support black start.
- ~~Design and demonstrate flywheel storage 12-hour discharge at 400 kW.~~
- Demonstrate the microgrid in four simulated 10-hour grid outages
- Demonstrate and assess ~~multi-storage~~ LDES integration and coordination through the use of a MGC control application to support a public shelter ~~and wastewater treatment plant and result in a minimum of \$625,366 in savings~~ and reduce energy costs.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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.

EXHIBIT A

Scope of Work

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)**. 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 Energy Commission’s 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 or CD-ROM.

The following describes the accepted formats for electronic data and documents provided to the Energy Commission 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.
- Documents intended for public distribution will be in PDF file format.
- The Recipient must also provide the native Microsoft file format.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

EXHIBIT A

Scope of Work

○ **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 Energy Commission's Information Technology Services Branch to determine whether the exceptions are allowable.

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other Energy Commission staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

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

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

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

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Technical products (subtask 1.1);
- Progress reports and invoices (subtask 1.5);
- Final Report (subtask 1.6);

EXHIBIT A

Scope of Work

- Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
- Any other relevant topics.
- Provide an *Updated Project Schedule*, *List of Match Funds*, and *List of Permits*, 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:

- Updated Project Schedule (*if applicable*)
- Updated List of Match Funds (*if applicable*)
- Updated List of Permits (*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 Energy Commission 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 Energy Commission 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 Energy Commission.

CPR meetings generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Task List on page 1 of this Exhibit. However, the CAM may schedule additional CPR meetings as necessary. The budget will be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the Energy Commission, 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 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.
- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- 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.

EXHIBIT A

Scope of Work

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

Recipient Products:

- CPR Report(s)
- Task Products (draft and/or final as specified in the task)

CAM Products:

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- 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 Energy Commission staff to present project findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement. This meeting will be attended by the Recipient and CAM, at a minimum. The meeting may occur in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

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

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
 - Disposition of any state-owned equipment.
 - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.
 - The Energy Commission'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.

EXHIBIT A

Scope of Work

- 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 *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

Products:

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

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

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

The Recipient shall:

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

Products:

- Progress Reports
- Invoices

Subtask 1.6 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. The CAM will review the Final Report, which will be due at least **two months** before the Agreement end date. When creating the Final Report Outline and the Final Report, the Recipient must use the Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

The Recipient shall:

- Prepare a *Final Report Outline* in accordance with the *Style Manual* provided by the CAM. (*See Task 1.1 for requirements for draft and final products.*)

Recipient Products:

- Final Report Outline (draft and final)

EXHIBIT A Scope of Work

CAM Product:

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

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, 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)
 - Ensure that the document is written in the third person.
 - Ensure that the Executive Summary is understandable to the lay public.
 - Briefly summarize the completed work. Succinctly describe the project results and whether or not the project goals were accomplished.
 - Identify which specific ratepayers can benefit from the project results and how they can achieve the benefits.
 - If it's necessary to use a technical term in the Executive Summary, provide a brief definition or explanation when the technical term is first used.
 - Follow the Style Guide format requirements for headings, figures/tables, citations, and acronyms/abbreviations.
 - Ensure that the document omits subjective comments and opinions. However, recommendations in the conclusion of the report are allowed.
 - Include a brief description of the project results in the Abstract.
- 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
- Consider incorporating all CAM comments into the Final Report. 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 Final Report 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

- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

Products:

- Final Report (draft and final)
- Written Responses to Comments on the Draft Final Report

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

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

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

The Recipient shall:

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

If match funds were a part of the proposal that led to the Energy Commission 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.

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- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.8 Permits

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

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
 - The schedule the Recipient will follow in applying for and obtaining the permits.The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 Subcontracts

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

The Recipient shall:

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

Products:

- Subcontracts (*draft if required by the CAM*)

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

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

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
 - Technical area expertise;
 - Knowledge of market applications; or
 - Linkages between the agreement work and other past, present, or future projects (both public and private sectors) that TAC members are aware of in a particular area.
- Review products and provide recommendations for needed product adjustments, refinements, or enhancements.
- Evaluate the tangible benefits of the project to the state of California, and provide recommendations as needed to enhance the benefits.
- Provide recommendations regarding information dissemination, market pathways, or commercialization strategies relevant to the project products.

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.

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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 shall include the expertise of each proposed TAC member and the value to the project. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

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

Subtask 1.11 TAC Meetings

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

The Recipient shall:

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

The TAC shall:

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

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Products:

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

IV. TECHNICAL TASKS

TASK 2: DESIGN, INSTALL, COMMISSION, AND OPERATE RINCON ~~MULTI-STORAGE~~ LDES SOLAR MICROGRID

Subtask 2.1 Initial Planning and Procurement

The goals of this subtask are to perform initial planning and procurement for the project. Initial planning includes finalizing the project design plans, specifications, and requirements for the proposed technology systems and for project financing. Procurement processes include developing solicitations, obtaining proposals, selecting contractors, and finalizing contracts to provide project equipment, ~~and services,~~ and financing. Recipient must receive CAM written approval prior to procuring equipment and materials.

The Recipient shall:

- Finalize *Preliminary Project Design Documentation* including plans, specifications, and requirements.
- Obtain CAM written approval prior to procuring equipment and materials.
- Prepare or update and issue a Request for Proposal(s) for the Rincon ~~Multi-Storage~~ LDES Solar Microgrid that reflects the final preliminary project design documentation and inform the CAM when the request for proposals ~~are~~ is issued.
- Review and evaluate Rincon ~~Multi-Storage~~ LDES Solar Microgrid proposals and select design build contractor (DBC).
- Finalize or update *Design Build Contract* for Rincon ~~Multi-Storage~~ LDES Solar Microgrid engineering, installation, and deployment.
- Solicit one or more proposal(s) for the Rincon Solar Microgrid third party financing.
- Review and evaluate Rincon Solar Microgrid financing proposal(s) and select financier or determine to proceed without 3rd party financing.
- Finalize or update 3rd Party Financing Contract for Rincon Solar Microgrid financing, if applicable.
- Prepare *Initial Planning and Procurement Presentation* that summarize the steps taken, lessons learned, and best practices to finalize the Rincon ~~Multi-Storage~~ LDES Solar Microgrid engineering design, planning, financing, and other pre-construction activities.

Products:

- Preliminary Project Design Documentation
- Design Build Contract
- Initial Planning and Procurement Presentation

Subtask 2.2 ~~Multi-Storage~~ LDES Solar Microgrid Design, Engineering, and Approvals

The goals of this subtask are to complete the engineering designs and obtain approvals enabling construction to proceed. Design goals include completing system design and engineering

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documents for the project and preparing a construction and installation plan. Approvals include applying for and obtaining required site permits, completing San Diego Gas and Electric (SDG&E) interconnection applications, completing required interconnection studies, and finalizing a utility interconnection application for the project.

The Recipient shall:

- Issue ~~Engineering Notice to Proceed~~ **Engineering Notice to Proceed** that authorizes the DBC to proceed with engineering design.
- Conduct cyber security *assessment* for the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid
- Prepare *Design Report* to be consistent with the engineering design documents, cyber security assessment, and interconnection process, and may include appendices with such materials as integrated engineering plans, specifications for Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid and interconnection agreement application.
- Obtain applicable permits and provide copies to the CAM (consistent with Task 1.8).
- Prepare and submit an SDG&E Interconnection Application and initiate an interconnection study with SDG&E for the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid and inform the CAM about activities.
- Complete interconnection study and execute *Interconnection Agreement* with SDG&E in compliance with Rule 21 and inform the CAM about activities.
- Prepare a *Construction and Installation Plan* that describes, but is not limited to, how equipment, components, hardware, materials, and supplies will be purchased, delivered, and stored at the project site, how all activities will be performed to construct, install, and integrate all components, hardware, and software, and provides a detailed schedule for these activities. The Construction and Installation Plan shall also include an appendix with the Construction Quality Control Plan that includes quality control procedures, quality assurance reviews, inspections, and code check.
- Prepare *Engineering Design Presentation* that summarizes the steps taken, lessons learned, and best practices to finalize the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid engineering design, planning, and other pre-construction activities.
- Obtain CAM written approval prior to procuring equipment and materials.
- Prepare *CPR Report #1* in accordance with subtask 1.3 (CPR Meetings).
- Participate in a CPR #1 meeting.

Products:

- ~~Engineering Notice to Proceed~~
- Design Report
- Interconnection Agreement
- Construction and Installation Plan
- Engineering Design Presentation
- CPR Report #1

Subtask 2.3 Technology Product Development

The goals of this subtask are to define and develop the product advancements required for the project. Task activities will include updating and finalizing project requirements for flow batteries, flywheels, and MGC controls; developing and executing product development plans; and updating the construction and installation plan.

The Recipient shall:

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- Update and define ~~flywheel and~~ flow battery product development requirements that meet the project engineering design technical requirements including ~~long duration (up to 12-10 hour) discharge~~ **a minimum of 10 hours of energy storage capability at a minimum rating of 400 kilowatts**, grid formation, and microgrid integration advancements. Update and define MGC system application requirements to support ~~flywheel and~~ flow battery monitoring and dispatch in grid-connected and island operating modes. Prepare a *Technology Development Memo* that summarizes these requirements.
- Prepare the approach to meet the requirements in the Technology Development Memo to include approaches to confirm technology performance quality for each component in the Technology Development Memo. Summarize the approaches in a *Technology Product Development and Quality Control Plan*.
- Develop technology product advancements in accordance with the *Technology Product Development and Quality Control Plan*.
- Prepare *Updated Construction and Installation Plan*, if needed as a result of product advancements.
- Prepare *Technology Product Development Report and Presentation* that summarizes the steps taken, lessons learned, and best practices to develop the ~~Multi-Storage~~ and MGCs advancements.
- Prepare *CPR Report #2* in accordance with subtask 1.3 (CPR Meetings).
- Participate in a CPR #2 meeting.

Products:

- Technology Development Memo
- Technology Product Development and Quality Control Plan
- Updated Construction and Installation Plan
- Technology Product Development Report and Presentation
- CPR Report #2

Subtask 2.4 ~~Multi-Storage~~ **LDES** Solar Microgrid Installation, Commissioning, and Deployment

The goals of this subtask are to complete project installation and commissioning. Task efforts include issuing the notice to proceed with project construction; coordinating procurement and delivery of equipment and supplies; completing project construction and installation; and developing communication and control protocols for system integration. The task also will include commissioning and interconnecting the project to the utility distribution system.

The Recipient shall:

- Issue *Construction Notice to Proceed* that authorizes the DBC to proceed with the construction, installation, and integration of the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid.
- Coordinate procurement and delivery of equipment, components, hardware, materials, and supplies to project site with DBC in accordance with the Construction and Installation Plan.
- Construct, install, and integrate all components, hardware, and software including ~~flywheel system,~~ flow battery system, solar photovoltaic (PV) system, MGC, electrical infrastructure, and other system components in accordance with the Construction and Installation Plan.
- Provide *CAM Pictures of Installed Equipment* with nameplate capacities in progress report

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- Prepare a *Construction and Installation Activities Memo* that documents the steps taken, needed changes, lessons learned, and best practices during the construction, installation, and integration activities.
- Develop and install MGC in accordance with the Technology Development Plan.
- Prepare a *Controls Development and Installation Activities Memo* that will document the steps taken, needed changes, lessons learned, and best practices during the MGC development and installation activities.
- Develop communication and control protocols for interfacing the ~~Multi-Storage~~, solar PV system, and other microgrid subsystems and produce a ~~Multi-Storage~~ **LDES** *Solar Microgrid System Interfacing Memo* which will describe each interface in the microgrid and how the MGC coordinates all subsystems in the microgrid.
- Prepare a *Testing and Commissioning Plan* that outlines in detail the testing and commissioning steps that will be conducted to test, refine, and validate operational performance of the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid. The Testing and Commissioning Plan will include, but not be limited to:
 - Acceptance tests (application of external power to equipment to prove integrity) for power transformers, switchboard, protective relays and controls, instrument transformers, grounding, power metering, and network devices and software;
 - Functional tests (complete operational check of installed assemblies) for protective relays and controls, control circuits, power metering devices, and lighting systems;
 - Coordination study for circuit breakers;
 - Visual inspection for physical damage, clean equipment, insulation resistance and continuity tests, and verify proper equipment connection and conductor connection torque values;
 - Data network testing;
 - Each distributed energy resource element inspection and testing;
 - Automatic transfer switch testing for dielectric test, mechanical test, electrical operation, control wiring test, and polarity test;
 - Cyber security testing; and
 - Operational testing of each equipment component, microgrid subsystems, and the full microgrid system, including of communication and control protocols.
- Test and commission ~~Multi-Storage~~ **LDES** Solar Microgrid in accordance with Testing and Commissioning Plan.
- Prepare a *Testing and Commissioning Activities Memo* that documents the steps taken, needed changes, lessons learned, and best practices during the ~~Multi-Storage~~ and **LDES** Solar Microgrid testing and commissioning activities.
- Obtain system interconnection approval from SDG&E, complete interconnection in compliance with Rule 21, and synchronize Rincon ~~Multi-Storage~~ and **LDES** Solar Microgrid and inform the CAM .
- Prepare a ~~Multi-Storage~~ **LDES** *Solar Microgrid Installation Report and Presentation* that summarizes the system construction, installation, integration, testing, commissioning, deployment steps, and Rule 21 lessons learned, and best practices.
- Prepare *CPR Report #3* in accordance with subtask 1.3 (CPR Meetings).
- Participate in a CPR #3 meeting.

Products:

- Construction Notice to Proceed
- Pictures of Installed Equipment
- Construction and Installation Activities Memo

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- Controls Development and Installation Activities Memo
- ~~Multi-Storage~~ **LDES** Solar Microgrid System Interfacing Memo
- Testing and Commissioning Plan
- Testing and Commissioning Activities Memo
- ~~Multi-Storage and~~ **LDES** Solar Microgrid Installation Report and Presentation
- CPR Report #3

Subtask 2.5 Operations, Testing, and Monitoring

The goals of this subtask are to train operations staff, complete the first full year of project operations,⁴ and to collect and report information about system performance. Data will be collected from monitoring systems during live operation of the commissioned project, and through performance testing to demonstrate long-duration discharge, microgrid island integration, and ~~multi-storage~~ control and optimization functionalities. The team will analyze and report Year 1 system Operation and Maintenance (O&M), test procedures and performance results on metrics defined for the project.

The Recipient shall:

- Prepare O&M Manual that provides the training and procedures for responsible personnel to perform onsite and remote operations and maintenance activities.
- Conduct O&M training for responsible personnel in accordance with the O&M Manual.
- Produce *O&M Documentation* that includes lessons learned and best practices regarding the ~~Multi-Storage~~ system, solar PV system, controls, and other system equipment, software, and components, and training and procedures.
- Operate the microgrid system for at least one (1) year⁵ during the Agreement term.
- Prepare a *Measurement and Verification Plan* for the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid assets that will include the collection and measurement and verification (M&V) of data on the installation over the **one-year demonstration period** and cover normal, grid-connected operations and unplanned islanding events. M&V includes, but is not limited to:
 - Description of the systems and performance metrics to be monitored.
 - Description of the data collection methodology, including:
 - Data collection protocols; and
 - Data collection schedule.
 - Information storage and retention plan;
 - Expected performance; and
 - Plots of charge/discharge power levels, storage efficiencies, ambient temperatures, and PV output as a function of time.
- Develop a *Long Duration Discharge Simulation Data Monitoring and Analysis Plan* to conduct at least four (4) long-duration (up to 12-hour **a minimum of 10 hours of energy storage capability at a minimum rating of 400 kilowatts**) discharges under simulated islanding conditions that includes:
 - Description of the systems and performance metrics to be tested and monitored;

⁴ The Rincon Band intends to provide public access to information about project performance over its full 25-year lifespan. Public information portals and displays are expected to provide information about near-real-time operating performance as well as historic data, as well as annual, 5-year, and lifetime performance summary reports over the course of the project's 25-year lifespan.

⁵ RBLI intends to operate the ~~multi-storage~~ solar microgrid for 25 years.

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- Justification for the tests.
- Description of the testing and data collection methodology, including:
 - Testing and data collection protocols; and
 - Testing and data collection schedule.
- Information storage and retention plan;
- Expected performance; and
- Other areas as determined by the CAM.
- Collect and analyze data for the Rincon ~~Multi-Storage~~ **LDES** Solar Microgrid in accordance with the M&V Plan upon commissioning and monthly thereafter for one-year testing and evaluation period. The duration of data collection may be reduced with prior CAM written approval. In addition, collect and analyze data immediately from all islanding events.
- Prepare *Data Analysis Reports* to the CAM on the monthly field data collected and performance analysis that includes:
 - Technical data;
 - Operational data;
 - Economic data;
 - Environmental data; and
 - Other areas and metrics as determined by the CAM.
- Conduct at least four long-duration (up to 12-hour **a minimum of 10 hours of energy storage capability at a minimum rating of 400 kilowatts**⁶) discharges in accordance with Long Duration Discharge Simulation Data Monitoring and Analysis Plan.
- Prepare a *Final ~~Multi-Storage~~ **LDES** Solar Microgrid Performance Report* that includes:
 - Complete field data collection and performance analysis; and
 - Description of steps taken, needed changes, lessons learned, and best practices during the 1-year data collection and analysis period.
 - A discussion of whether the metrics described in the agreement goals and objectives were met.

Products:

- O&M Documentation
- Measurement and Verification Plan (Draft and Final)
- Long Duration Discharge Simulation Data Monitoring and Analysis Plan
- Data Analysis Reports
- Final ~~Multi-Storage~~ **LDES** Solar Microgrid Performance Report

TASK 3: EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

⁶ Each of the non-Li storage systems is sized to support **minimum of** 400 kW for **at least 10** hours. Performance testing will verify maximum discharge capacity.

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- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include:
 - For Product Development Projects and Project Demonstrations:
 - Published documents, including date, title, and periodical name.
 - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
 - Greenhouse gas and criteria emissions reductions.
 - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
 - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.
 - A discussion of project product downloads from websites, and publications in technical journals.
 - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
 - Additional Information for Product Development Projects:
 - Outcome of product development efforts, such copyrights and license agreements.
 - Units sold or projected to be sold in California and outside of California.
 - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.
 - Investment dollars/follow-on private funding as a result of Energy Commission funding.
 - Patent numbers and applications, along with dates and brief descriptions.
 - Additional Information for Product Demonstrations:
 - Outcome of demonstrations and status of technology.
 - Number of similar installations.
 - Jobs created/retained as a result of the Agreement.
 - For Information/Tools and Other Research Studies:
 - Outcome of project.
 - Published documents, including date, title, and periodical name.
 - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
 - The number of website downloads.
 - An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
 - An estimate of energy and non-energy benefits.
 - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.

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- A discussion of project product downloads from websites, and publications in technical journals.
- A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

The Energy Commission may send the Recipient similar questionnaires after the Agreement term ends. Responses to these questionnaires will be voluntary.

Products:

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire

TASK 4: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers.

The Recipient shall:

- Prepare an *Initial Fact Sheet* at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a *Technology/Knowledge Transfer Plan* that includes:
 - An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
 - A description of the intended use(s) for and users of the project results.
 - Published documents, including date, title, and periodical name.
 - Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the documents were disseminated.
 - A discussion of policy development. State if project has been or will be cited in government policy publications, or used to inform regulatory bodies.
 - The number of website downloads or public requests for project results.
 - Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop *Presentation Materials* for an Energy Commission-sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission.
- 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 site or related project photographs.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities

EXHIBIT A

Scope of Work

conducted during the project.

Products:

- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

TASK 5: PRODUCTION READINESS PLAN

The goal of this task is to determine the steps that will lead to the manufacturing of technologies developed in this project or to the commercialization of the project's results.

The Recipient shall:

- Prepare a *Production Readiness Plan*. The degree of detail in the plan should be proportional to the complexity of producing or commercializing the proposed product, and to its state of development. As appropriate, the plan will discuss the following:
 - Critical production processes, equipment, facilities, personnel resources, and support systems needed to produce a commercially viable product.
 - Internal manufacturing facilities, supplier technologies, capacity constraints imposed by the design under consideration, design-critical elements, and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes."
 - The estimated cost of production.
 - The expected investment threshold needed to launch the commercial product.
 - An implementation plan to ramp up to full production.
 - The outcome of product development efforts, such as copyrights and license agreements.
 - Patent numbers and applications, along with dates and brief descriptions.
 - Other areas as determined by the CAM.

Products:

- Production Readiness Plan (draft and final)

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.