California Energy Commission
July 08, 2026 Business Meeting
Backup Materials for Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California

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. Novation Agreement
4. Scope of Work

CALIFORNIA ENERGY COMMISSION

PROPOSED RESOLUTION: Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California

RESOLUTION NO: 26-0708-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 amendment 1 to agreement EPC-23-037. This amendment is for a novation to change the recipient from Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California to OurEnergy L.L.C., extend the term by 21 months (not beyond the liquidation deadline), site change, budget reallocation (no agreement funding augmentation), update the terms and conditions, and make minor modifications to the Scope of Work (not to purpose); 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 08 day of July 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 July 08, 2026.

Kim Todd
Secretariat

STATE OF CALIFORNIA

GRANT AMENDMENT REQUEST FORM (GARF)

CEC-277 (Revised 01/2026) CALIFORNIA ENERGY COMMISSION

Original Agreement # EPC-23-037 Amendment # 1

Division	Agreement Manager:	MS-	Phone
ERDD	Sean Anayah		916-931-5044

Recipient's Legal Name
Barona Group of Capitan Grande Band of Mission Indians of the Barona

Revisions: (check all that apply)	**Additional Requirements**
☒ Term Extension New End Date: 3/30/2030	Include revised schedule and complete items A through G below (as applicable).
☐ Budget Augmentation Amendment Amount: $ 0	Include revised budget and complete items A through G below (as applicable)
☒ Budget Reallocation	Include revised budget and complete items A through G below (as applicable)
☒ Scope of Work Revision	Include revised scope of work and complete items A through G below (as applicable)
☒ Change in Project Location or Demonstration Site	Include revised scope of work and complete items A through G below (as applicable)
☒ Novation/Name Change of Prime Recipient	Include novation documentation and complete items A through G below (as applicable)
☒ Terms and Conditions Modification	Include applicable exhibits with bold/underline/ strikeout and complete items A through G below (as applicable)

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 Resolution

Proposed Business Meeting Date 7/8/2026 ☒ Consent ☐ Discussion

Business Meeting Presenter Sean Anayah Time Needed: minutes

Please select one list serve. Select

Project Description:

Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California. Proposed resolution approving amendment 1 to grant agreement EPC-23-037, and adopting staff's recommendation that this action is exempt from CEQA. This amendment is for a novation to change the recipient from Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation, California to OurEnergy L.L.C., extend the term by 21 months (not beyond the liquidation deadline), site change, budget reallocation (no agreement funding augmentation), update the terms and conditions, and make minor

modifications to the Scope of Work (not to purpose). (EPIC funding) Contact: Sean Anayah

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

Legal Company Name:	**Budget**
Cal Poly Humboldt Sponsored Programs Foundation	$ 3,587,281
TBD – Professional Services (Vendor)	$ 994,500
TBD – Interconnection Engineering Specialist (Vendor)	$ 48,000
TBD – Technical Design/CAD Specialist (Vendor)	$ 30,000
TBD – Evironmental & Permitting Specialist (Vendor)	$ 48,000
TBD – Senior Project Engineer (Vendor)	$ 16,500
TBD – Project Engineer (Vendor)	$ 12,600
TBD – Project Engineer (Vendor)	$ 12,600
TBD – Human Resources Lead (Vendor)	$ 5,000
TBD – Controller / Financial Planning and Analysis Lead (Vendor)	$ 13,000
TBD – Accountant (Vendor)	$ 8,000
CellCube Energy Storage GmbH (Equipment Seller)	$2,135,500
Vendors and Equipment Sellers of Cal Poly Humboldt Sponsored Programs Foundation	
Schweitzer Engineering Laboratories, Inc.(Equipment Seller)	*$500,000*
Logic Software Inc. (Material & Misc.)	*$2,957*
TBD – NETA Testing (Vendor)	*$54,165*
Schweitzer Engineering Laboratories, Inc.(Vendor)	*$32,500*
TBD – Electrical Engineering (Vendor)	*$32,500*
TBD – Measurement and Verification Consultant (Vendor)	*$250,000*
TBD – Civil Engineering (Vendor)	*$586,311*

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

Legal Company Name:
CellCube Energy Storage GmbH
Yurok Tribe of the Yurok Reservation (Yurok Tribe)

D) Budget Information (only include amendment amount information)

Funding Source	**Funding Year of Appropriation**	**Budget List Number**	**Amount**
			$
			$
			$
			$
			$
			$

R&D Program Area: ESTB: ETSI TOTAL: $ 0

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:
      - ☒ Common Sense Exemption. 14 CCR 15061 (b) (3)

      Explain reason why Agreement is exempt under the above section: 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 Yurok Tribe in Weitchpec, 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.

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) Is this project considered "Infrastructure"? No

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

1. Schedule of Products	☐ N/A	☒ Attached
2. Exhibit A, Scope of Work	☐ N/A	☒ Attached
3. Exhibit B, Budget Detail	☐ N/A	☒ Attached

4. CEQA Documentation	☒ N/A	☐ Attached
5. Novation Documentation	☐ N/A	☒ Attached
6. CEC 105, Questionnaire for Identifying Conflicts		☒ Attached
7. Terms and Conditions	☒ N/A	☐ Attached

Agreement Manager **Date**

Branch Manager **Date**

Director **Date**

Novation Agreement
for GRANT AGREEMENT NUMBER EPC-23-037

Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation (Federal ID Number 33-0015734, Transferor), OurEnergy L.L.C. (California Entity Number C202250019138, Transferee), and the California Energy Commission, hereinafter referred to as the Energy Commission, in consideration of the promises made herein, agree as follows:

1. On July 15, 2024, Transferor and the Energy Commission entered into grant agreement number EPC-23-037 (Grant Agreement) under which Transferor was to install and demonstrate a zinc bromine flow long duration energy storage technology at the Barona Band of Mission Indians Reservation in California.

2. The parties agree to substitute Transferee in place of Transferor with respect to all of the obligations described in the Grant Agreement. The total amount of the Grant Agreement is $9,000,000, of which $0 has already been paid by the Energy Commission.

3. Transferee agrees to be bound to the terms and conditions of the Grant Agreement as if Transferee was the original recipient of the Grant Agreement. The Transferee also assumes all obligations and liabilities of, and all claims against, the Transferor under the Grant Agreement as if the Transferee were the original party to the Grant Agreement.

4. The Energy Commission hereby discharges Transferor from its obligation to the Energy Commission under the Grant Agreement and that all of Transferor's rights and obligations thereunder are extinguished.

5. This Novation Agreement may be executed in counterparts, each of which shall be deemed an original and shall be deemed duly executed upon the signing of the counterparts by the parties hereto.

6. Any effort to enforce this Novation Agreement in court shall be subject to the exclusive jurisdiction of the state and federal courts located in or nearest to Sacramento, California, and the parties consent to the personal jurisdiction and venue thereof.

7. This Novation Agreement can only be modified in writing by the parties.

8. This Novation Agreement shall be interpreted in accordance with and governed in all respects by California law.

9. If any term, condition, or provision in this Novation Agreement is found to be invalid, unlawful or unenforceable to any extent, the invalid term, condition, or provision will be severed from the remaining terms, conditions and provisions, which will continue to be valid and enforceable to the fullest extent permitted by law.

10. All payments and reimbursements previously made by the Energy Commission to the Transferor, and all other previous actions taken by the Energy Commission under the Grant Agreement shall be considered to have discharged those parts of the Energy Commission's obligations under the Grant Agreement. All payments and reimbursements made by the Energy Commission after the date this Novation Agreement is executed by all parties (Effective Date) in the name of or to the Transferor shall have the same force and effect as if made to the Transferee, and shall constitute a complete discharge of the Energy

Commission's obligations under the Grant Agreement to the extent of the amounts paid or reimbursed.

11. The Transferor and the Transferee agree that the Energy Commission is not obligated to pay or reimburse either of them for, or otherwise give effect to, any costs, taxes, or other expenses, or any related increases, directly or indirectly arising out of or resulting from the transfer or this Novation Agreement, other than those that the Energy Commission in the absence of this transfer or Novation Agreement would have been obligated to pay or reimburse under the terms of the Grant Agreement.
12. To the extent allowed under California law, the Transferor and Transferee agree to indemnify, and hold harmless the state of California (including the Energy Commission) and state officers, agents, and employees from any and all claims and losses in connection with this Novation, as further provided in the indemnification provision in the Grant Agreement.

Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation (Federal ID Number 33-0015734, Transferor)

Name:_____ Title:_____

Address:_____
Signature:_____ Date:_____

OurEnergy L.L.C. (California Entity Number C202250019138, Transferee)

Name:_____ Title:_____

Address:_____
Signature:_____ Date:_____

California Energy Commission

Name:_____ Title:_____

Address: 715 P Street, Sacramento, CA 95814

Signature:_____ Date:_____

Exhibit A
Scope of Work
OurEnergy L.L.C.

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Initial Planning and Procurement
3	X	Design, Engineering, and Approvals
~~4~~	~~X~~	~~Technology Product Development~~
~~5~~ **4**	**X**	Installation, Commissioning, and Deployment
~~6~~ **5**		Operations, Testing, and Monitoring
~~7~~ **6**		Evaluation of Project Benefits
~~8~~ **7**		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
~~BEMS~~	~~Building Energy Management System~~
BESS	Battery Energy Storage System
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
DER	Distributed energy resources
DoD	Depth of discharge
EPIC	Electric Program Investment Charge
IOU	Investor-owned utility
LCOS	Levelized cost of storage
LDES	Long Duration Energy Storage
LFP	**Lithium Iron Phosphate**
Li	Lithium-ion
MGC	Microgrid Control
MW	Megawatt
MWh	Megawatt hour
Non-Li	Non-Lithium
O&M	Operation and Maintenance
TAC	Technical Advisory Committee
~~ZBF~~ **VFB**	~~Zinc Bromine Flow~~ **Vanadium Flow Battery**

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

[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
OurEnergy L.L.C.

A. Purpose of Agreement

The purpose of this Agreement is to fund **a hybrid front-of-the-meter** ~~the Barona Group of Capitan Grande Band of Mission Indians of the Barona Reservation~~ long-duration energy storage (LDES) microgrid project **at the Yurok Tribe of the Yurok Reservation (Yurok Tribe) community in** ~~Lakeside~~ **Weitchpec, CA** ~~This project seeks to overcome technological challenges that prevent~~ **that provides greater** ~~non-lithium (non-Li) LDES systems from achieving greater scale and~~ functional capabilities to support community energy resiliency **than conventional lithium-ion storage**. The project will demonstrate ~~zinc bromine~~ **vanadium** flow ~~(ZBF)~~ battery **(VFB)** LDES technology to provide resilient and economical energy supplies for essential Tribal facilities. ~~in the Recipient's community..~~

B. Problem/ Solution Statement

Problem

Energy storage capacity reserved to support energy resiliency for essential facilities generally cannot also be used for energy-cost management or other services during grid-connected operations without impairing the resiliency functions of that storage capacity. Most commercially available battery energy storage system (BESS) technologies are not designed to serve both high-power short-duration and lower power long-duration use cases. As a result, BESS technologies have not been fully developed or demonstrated for use cases that require both high power capacity for short durations (to manage islanding transitions and inrush currents), while also delivering economic optimization and grid-infrastructure benefits with LDES capacity.

The current market-leading energy storage technology for energy resiliency – lithium-ion (Li) batteries – exemplifies these limitations and poses other challenges. For example, Li batteries generally cannot be discharged beyond 70 percent depth of discharge (DoD) without drastically reducing durability. This impairs the performance of Li batteries for functions that require frequent and deep discharge, including energy cost management, grid infrastructure services, and resiliency for longer durations. Additionally, Li batteries contain hazardous materials, ~~generally cannot be recycled~~, and pose safety hazards, including potential for thermal runaway and fires. Finally, Li batteries experience self-discharge over time, reducing their operating efficiency and effectiveness for resiliency use cases.

These drawbacks create increased costs and siting constraints that necessitate the rapid development and demonstration of more effective and sustainable LDES BESS technologies to serve California investor-owned utility (IOU) ratepayers' resilient sustainable energy needs, and for meeting California's energy and environmental goals.

Solution

The project seeks to address ~~LDES~~ **these** technological challenges by demonstrating ~~ZBF~~ **VFB** LDES technology capable of supporting both long-duration discharge for economic, environmental, and resiliency benefits, while also supporting higher-than nameplate discharge rates for managing short-duration islanding transitions and critical peak loads. The proposed ~~ZBF~~ **VFB** BESS, with a nameplate capacity of approximately ~~1~~**0**.5 megawatt (MW) / ~~6.6~~ **3.0** megawatt hour (MWh), will be designed, configured, and deployed with the ability to discharge at least 100 kW for long durations up to 24 hours, and as much as ~~3~~ **0.52** MW for short-

durations – *e.g.,* ~~100~~ **65** percent greater than the ~~ZBF~~ **VFB** BESS's nameplate **8-hour** steady-state capacity of **311 kW.**[2] Demonstrating these capabilities at a commercial scale will deliver greater resiliency and grid-infrastructure benefits as well as lifetime energy cost savings than could be achieved using competing BESS technologies with an equivalent nameplate capacity.

Moreover, the project will demonstrate an LDES technology that is more flexible to operate, allowing 100 percent DoD without impairing BESS capacity or lifespan, and achieving MWh-scale battery hibernation to substantially eliminate self-discharge. Finally, the demonstrated ~~ZBF~~ **VFB** BESS technology will avoid the safety, flammability, and recyclability drawbacks that characterize Li BESS technologies. The **microgrid will integrate solar photovoltaic generation as well as a lithium-ion battery for blackstart and power capabilities,** demonstrating the ability for hybrid LDES and lithium-ion storage systems to be optimized for multiple functions.

In these ways, project objectives aim to increase the value of onsite energy storage for California IOU customers **and ratepayers broadly.**

C. Goals and Objectives of the Agreement

Agreement Goals
The goal of this project is to demonstrate **a hybrid front-of-the-meter microgrid with** multi-MWh non-Li LDES BESS that provides features and benefits to advance the technology's commercialization and widespread adoption, including:

- Long-duration discharge capabilities with **distributed energy resource (DER) integration and** microgrid islanding functionality;
- Short-duration peak-power discharge capabilities; and
- Energy cost savings that result in a competitive levelized cost of storage (LCOS).

Ratepayer Benefits:[3] This Agreement will result in ratepayer benefits including: greater electricity reliability, lower costs, and increased safety by ~~developing and~~ demonstrating ~~ZBF~~ **VFB** LDES technology capable of supporting both long-duration discharge for economic, environmental, and resiliency benefits, while also supporting higher-than nameplate discharge rates for managing short-duration islanding transitions and critical peak loads. The project will ~~also~~ demonstrate **an LDES technology that can achieve** 100 percent DoD capability w~~ithout impairing BESS capacity or lifespan, while~~ **and that avoids** ~~avoiding~~ the safety, flammability, and recyclability drawbacks that characterize Li BESS technologies. The Agreement will further result in ratepayer benefits by reducing the impact of public safety power shut off events affecting vital community loads; reducing emissions by displacing consumption of diesel fuel during outages and grid events; and supporting the scale-up of fully featured flow battery system technologies to drive down the LCOS for non-Li LDES products.

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[2] These power and energy ratings are direct current ratings, not alternating current.

[3] **These power and energy ratings are direct current ratings, not alternating current.**
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).

Technological Advancement and Breakthroughs:[4] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by **designing, deploying and** ~~developing and~~ demonstrating **megawatt-scale**, **front-of-the-meter** ~~advanced long-duration discharge and~~ microgrid ~~functionality of~~ **with** ~~non-Li BESS at 1 t~~**hat features an integrated hybrid battery energy storage system comprised of a vanadium flow battery (approximately 0**.5 MW / ~~6.6~~ **3.0** MWh**) to provide long duration energy storage (i.e., 8 hours or more)** ~~scale~~ **lithium iron phosphate BESS that will enable seamless transitions and black start capability.** ~~in an operating commercial environment.~~

Project ~~technology development~~ scope includes **pairing a VFB LDES system with a lithium-ion battery storage system to better utilize the unique features of each technology for MW-scale commercial applications while also demonstrating the following capabilities of the LDES technology:** ~~1) BESS design and functional advancements, including upgraded enclosure systems, battery management system enhancements, and added module energy capacity to core ZBF battery designs; 2~~ **1)** ~~Design and operational development to demonstrate~~ **P** ~~p~~eaking discharge capacity approximately ~~100~~ **65** percent greater than nameplate capacity ~~at a larger BESS scale than previously implemented in a commercial microgrid; 3~~ **2)** ~~Expanding ZBF~~ **VFB** BESS hibernation capacity to the MWh scale to maximize charging and discharging flexibility for various use cases; and 4 **3**) **D**eveloping microgrid control (MGC) system functionality to optimize the operational and economic value of ~~distributed energy resources (DER) including two different forms of energy storage – ZBF~~ **VFB** batteries and ~~existing thermal energy storage~~ **microgrid resources**.

Agreement Objectives

The objectives of this Agreement are to:

- Demonstrate long-duration discharge supporting at least 100 kW of load for 24 hours;
- Demonstrate ~~ZBF~~ **VFB** BESS grid-forming capability;
- Demonstrate peak discharge capacity approximately ~~100~~ **65** percent greater than nameplate steady-state capacity;
- Demonstrate battery hibernation functionality at the MWh scale; and
- Demonstrate **integrated design and** coordinated control of multiple DERs, including ~~ZBF~~ **VFB** BESS and ~~existing thermal energy storage system via existing building energy management systems (BEMS)~~**lithium-ion BESS.**

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

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

The Recipient shall:

For products that require a draft version, including the Final Report Outline and Final Report

- Submit all draft products to the CAM for review and comment in accordance with the Project Schedule (Part V). The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt, unless otherwise specified in the task/subtask for which the product is required.
- Consider incorporating all CAM comments into the final product. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product.
- Submit the revised product and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period, or approves a request for additional time.

For products that require a final version only

- Submit the product to the CAM for acceptance. The CAM may request minor revisions or explanations prior to acceptance.

For all products

- Submit all data and documents required as products in accordance with the following:

Instructions for Submitting Electronic Files and Developing Software:

- **Electronic File Format**
  - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the California Energy Commission's (CEC) software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick.

The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

- **Software Application Development**
  Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:
  - Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
  - Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
  - Visual Studio.NET (version 2008 and up). Recommend 2010.
  - C# Programming Language with Presentation (UI), Business Object and Data Layers.
  - SQL (Structured Query Language).
  - Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
  - Microsoft SQL Reporting Services. Recommend 2008 R2.
  - XML (external interfaces).

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

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

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

  The administrative portion of the meeting will include discussion of the following:
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Administrative products (subtask 1.1);

- CPR meetings (subtask 1.3);
- Match fund documentation (subtask 1.7);
- Permit documentation (subtask 1.8);
- Subcontracts (subtask 1.9); and
- Any other relevant topics.

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

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Technical products (subtask 1.1);
- Progress reports (subtask 1.5);
- Final Report (subtask 1.6);
- Technical Advisory Committee meetings (subtasks 1.10 and 1.11); and
- Any other relevant topics.

- Provide *Kick-off Meeting Presentation* to include but not limited to:
  - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
  - Project schedule that identifies milestones
  - List of potential risk factors and hurdles, and mitigation strategy

- Provide an *Updated Project Schedule, Match Funds Status Letter,* and *Permit Status Letter*, as needed to reflect any changes in the documents.

The CAM shall:

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

Recipient Products:

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

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

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

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

The Recipient shall:

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

The CAM shall:

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

Recipient Products:

- CPR Report(s)

CAM Products:

- CPR Agenda(s)
- Progress Determination

Subtask 1.4 Final Meeting

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

The Recipient shall:

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

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

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
  - Disposition of any procured equipment.
  - The CEC's request for specific "generated" data (not already provided in Agreement products).
  - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
  - "Surviving" Agreement provisions such as repayment provisions and confidential products.
  - Final invoicing and release of retention.

- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:

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

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices

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

The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.

- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Funds and in-state expenditures.

Products:

- Progress Reports

- Invoices

Subtask 1.6 Final Report

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

Subtask 1.6.1 Final Report Outline

The Recipient shall:

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

Recipient Products:

- Final Report Outline (draft and final)

CAM Product:

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

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments on Draft Final Report* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:

  - Comments the recipient proposes to incorporate.
  - Comments the recipient does not propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

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

CAM Product:
- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

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

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

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

  If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter:
  - A list of the match funds that identifies:
    - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
    - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is

equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
    - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.
- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

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

Subtask 1.8 Permits
The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement, with the exception of costs incurred by University of California recipients. Permits must be identified and obtained before the Recipient may incur any costs related to the use of the permit(s) for which the Recipient will request reimbursement.

The Recipient shall:
- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If <u>no permits</u> 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~~ Obtain and Execute Subawards and Agreements with Site Hosts

The goal of this task is to ensure quality products and to execute subrecipients and site host agreements, as applicable, required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement and contracting policies and procedures.

The Recipient shall:

- **Execute and manage subawards and coordinate subrecipient activities.**
- **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.**
- **Submit a 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 to the CAM for review.**
- **If requested by the CAM, submit a final copy of each executed subaward and any site host agreement.**
- **If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM.**

Products:

- **Letter describing the subawards needed, or stating that no subawards are required**
- **Draft subaward (if requested)**
- **Final subaward (if requested)**
- **Draft site host agreement (if requested)**
- **Final site host agreement (if requested)**

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

~~**The Recipient shall:**~~

- ~~Manage and coordinate subcontractor activities in accordance with the requirements of this Agreement.~~

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

~~**Products:**~~

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

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

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

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

- Researchers knowledgeable about the project subject matter;
- Members of trades that will apply the results of the project (e.g., designers, engineers, architects, contractors, and trade representatives);
- Public interest market transformation implementers;
- Product developers relevant to the project;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.11.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

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

Subtask 1.11 TAC Meetings

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

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.
- Review and provide comments to proposed project performance metrics.
- Review and provide comments to proposed project Draft Technology Transfer Plan.

Products:

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

Subtask 1.12 Project Performance Metrics

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

The Recipient shall:

- Complete and submit the project performance metrics 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 an explanation why.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- Discuss the *Project Performance Metrics Results* at the Final Meeting.

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

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

TASK 2: INITIAL PLANNING AND PROCUREMENT

The goals of this task 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; performing community engagement; and considering potential project tax-equity financing.[5] Procurement processes include developing solicitations, obtaining proposals, selecting contractors, and finalizing contracts to provide project equipment, services, and financing. Recipient must receive CAM written approval prior to procuring equipment and materials.

The Recipient shall:

- Develop and submit a *Preliminary Project Design Report* that shall include:
  - The LDES ~~system~~ **microgrid** conceptual design (preliminary project description, site and system diagrams, energy loads ~~and meters to be served~~, principal system assets including LDES and other storage, generation, distribution, and control systems to be integrated).
  - Owner's criteria (Recipient's initial requirements for system capacity, functionality, and technical specifications; planned and existing assets to be integrated; design and operational objectives and constraints; environmental and economic goals; and regulatory and other program requirements).
- Develop and submit a *Community Engagement Strategy*.
  - The executed strategy shall include preparation and dissemination of information supporting community understanding and engagement, and community engagement activities to gather inputs from community members and stakeholders including the identified Community Based Organization.
- Prepare or update, issue for bid, and submit to CAM a *Request for Proposals Document* for the LDES **Microgrid** System.
  - The Request for Proposal(s) document shall reflect the final preliminary project design report and inform the CAM when the request for proposals is issued.
- Review and evaluate LDES **Microgrid** System proposals and select engineering, procurement, and construction contractor.
- Finalize and submit ~~an~~ *Engineering, Procurement, and Construction Subcontract**s*** for LDES **Microgrid** engineering, installation, and deployment.
- ~~Provide *Schedule for LDES System Milestone Payments*.~~

[5] ~~The Recipient has committed to providing its cost-share commitment in cash. Project scope includes exploration of potential third-party financing to capture additional economic benefits for the Recipient.~~

- ~~Solicit one or more proposals for LDES System third-party tax equity financing, if desired by Recipient.~~
- ~~Review and evaluate financing proposal(s) and select financier or determine to proceed without third-party financing, if applicable.~~
- ~~Finalize and submit *Third-party Financing Contract* for financing, if applicable.~~

Products:

- Preliminary Project Design Report
- Community Engagement Strategy (draft and final)
- Request for Proposals Document
- Engineering, Procurement, and Construction Subcontract
- ~~Schedule for LDES System Milestone Payments~~
- ~~Third-Party Financing Contract (if applicable)~~

TASK 3: DESIGN, ENGINEERING, AND APPROVALS

The goals of this task are to complete the engineering designs and obtain approvals enabling construction to proceed.

The Recipient shall:

- Obtain applicable permits.
- Prepare and submit an ~~SDG&E~~ **utility** Interconnection Application.
- Initiate an interconnection study with ~~SDG&E~~ **the utility** for the LDES **Microgrid** System and inform the CAM about activities in monthly calls and quarterly progress reports.
- Complete an interconnection study and submit a copy of the executed *Interconnection Agreement* with ~~SDG&E~~ **the utility** in compliance with ~~Rule 21~~ **applicable rules and requirements** and inform the CAM about activities.
- Prepare and submit a *Construction and Installation Plan*.
    - The plan shall describe how equipment, hardware, materials, and supplies will be purchased, delivered, and stored at the project site; how the construction and installation activities will be performed; how quality assurance will be managed; and the schedule for these activities.
- Prepare *Engineering Design Report* and *Engineering Design Presentation*.
    - The report and presentation shall summarize the results of engineering design activities including LDES **Microgrid** System development engineering, cyber security assessment, site surveys, and deployment planning.
- Prepare *CPR Report #1* and participate in a CPR meeting, in accordance with subtask 1.3 (CPR Meetings).

Products:

- Interconnection Agreement
- Construction and Installation Plan
- Engineering Design Report (draft and final)
- Engineering Design Presentation (draft and final)
- CPR Report #1

~~**TASK 4: TECHNOLOGY PRODUCT DEVELOPMENT**~~

~~The goals of this task are to define and develop the product advancements required for the project.~~

~~**The Recipient shall:**~~

- ~~Update and define LDES system product development requirements that meet the project engineering design technical requirements including long-duration (up to 24-hour) discharge, 100 percent greater-than-nameplate power discharge, grid formation, hibernation functionality, and microgrid integration advancements. Update and define MGC system application requirements to support LDES System monitoring and dispatch in grid-connected and island operating modes.~~
- ~~Define the approach to meet LDES System product development requirements to include approaches to confirm technology performance quality for each component.~~
- ~~Develop technology product advancements to meet LDES System product development requirements.~~
- ~~Prepare *Technology Product Development Report* and *Technology Product Development Presentation*.~~
    - ~~The report and presentation shall summarize activities, outcomes, and best practices applied in developing the LDES System advancements.~~
- ~~Prepare *CPR Report #2* and participate in a CPR meeting in accordance with subtask 1.3 (CPR Meetings).~~

~~**Products:**~~

- ~~Technology Product Development Report (draft and final)~~
- ~~Technology Product Development Presentation (draft and final)~~
- ~~CPR Report #2~~

TASK ~~5~~ 4: INSTALLATION, COMMISSIONING, AND DEPLOYMENT

The goals of this task 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 engineering, procurement, and construction subcontractor to proceed with the construction, installation, and integration of the LDES **Microgrid** System.
- Coordinate procurement and delivery of equipment, components, hardware, materials, and supplies to project site with engineering, procurement, and construction subcontractor.
- Construct, install, and integrate all components, hardware, and software including BESS, MGC, electrical infrastructure, ~~BEMS, any existing DER~~, and other system components.
- Develop, install, and configure MGC.
- Integrate communications and controls for the LDES **Microgrid** System, ~~BEMS, existing DERs~~, and other subsystems.

- Prepare an *Installation and Commissioning Plan* that outlines in detail the installation and commissioning steps that will be conducted to deploy, test, and commission the LDES **Microgrid** System, and to refine and validate operational performance. The Installation and Commissioning Plan will include, but not be limited to:
  - Installation plans including site mobilization, construction, and equipment deployment;
  - 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 DER 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, subsystems, and the full LDES **Microgrid** System, including of communication and control protocols.
- Provide CAM *Photos of Installed Equipment* with nameplate capacities in progress report.
- Install, test, and commission LDES **Microgrid** System in accordance with Installation and Commissioning Plan.
- Obtain and submit *Proof of System Interconnection Approval* from ~~SDG&E~~ **the utility**, complete interconnection in compliance with ~~Rule 21~~ **applicable rules and requirements,** synchronize LDES **Microgrid** System, and inform the CAM.
- Prepare *Installation and Commissioning Report* and *Installation and Commissioning Presentation*.
  - The report and presentation shall summarize the system construction, installation, integration, testing, commissioning, deployment steps, and ~~Rule 21~~ **applicable rules and requirements**, lessons learned, and best practices.
- **Prepare *Technology Product Demonstration Report* and *Technology Product Demonstration Presentation*.**
  - **The report and presentation shall summarize activities and outcomes in demonstrating the LDES Microgrid System advancements.**
- **Prepare *CPR Report #2* and participate in a CPR meeting in accordance with subtask 1.3 (CPR Meetings).**

Products:

- Construction Notice to Proceed
- Installation and Commissioning Plan (draft and final)
- Photos of Installed Equipment
- Proof of System Interconnection Approval
- Installation and Commissioning Report (draft and final)

- Installation and Commissioning Presentation (draft and final)
- **Technology Product Demonstration Report (draft and final)**
- **Technology Product Demonstration Presentation (draft and final)**
- **CPR Report #2**

TASK ~~6~~ 5: OPERATIONS, TESTING, AND MONITORING

The goals of this task are to train operations staff, complete the ~~first full year of~~ project operations 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, peak-discharge capacity, islanding functionality, hibernation functionality, and integrated 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 and submit a *Training and Procedural Manual*.
    - The manual shall include training and procedural requirements for responsible personnel to perform onsite and remote operations and maintenance activities, including safety measures.
- Conduct O&M training for responsible personnel.
- Produce *O&M Documentation* that summarizes training and operational activities and outcomes, as well as best practices applied in training and O&M.
- Operate the LDES **Microgrid** System for at least one (1) year[6] during the Agreement term.
- Prepare a *Measurement and Verification Plan* for the LDES **Microgrid** System 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, including, at a minimum:
        - LDES **Microgrid** System discharge duration[7];
        - Energy use (kWh); and
        - Energy cost savings.
    - 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, and ambient temperatures as a function of time.
- Collect and analyze data for the LDES **Microgrid** System in accordance with the M&V Plan upon commissioning and monthly thereafter for one-year testing and evaluation

[6] The Recipient intends to operate the LDES **Microgrid** System for a total of at least 20 years.

[7] The LDES **Microgrid** System is sized to support ~~200~~ **100** kW (Direct Current) of load for ~~33~~ **30** hours. Performance testing will verify maximum discharge capacity.

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.
- Conduct at least one (1) demonstration of 24-hour discharge.
- Prepare an *Operating 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:
- Training and Procedural Manual
- O&M Documentation
- Measurement and Verification Plan (Draft and Final)
- Operating Performance Report

TASK ~~7~~ 6: EVALUATION OF PROJECT BENEFITS
The goal of this task is to report the benefits resulting from this project.

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

Products:
- Initial Project Benefits Questionnaire
- Annual Survey(s)
- Final Project Benefits Questionnaire

- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK ~~8~~ 7: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES – TECHNOLOGY DEMONSTRATION AND DEPLOYMENT

The goal of this task is to ensure the technological learning that resulted from the demonstration(s) is captured and disseminated to the range of professions that will be responsible for future deployments of this technology or similar technologies.

The Recipient Shall:

- Develop and submit a *Project Case Study Plan* that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The Project Case Study Plan should include:
    - An outline of the objectives, goals, and activities of the case study.
    - The organization that will be conducting the case study and the plan for conducting it.
    - A list of professions and practitioners involved in the technology's deployment.
    - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
    - Presentations/webinars/training events to disseminate the results of the case study.
- Present the draft *Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the draft *Project Case Study Plan*. This document will identify:
    - TAC comments the recipient proposes to incorporate into the final *Technology Transfer Plan*.
    - TAC comments the recipient does not propose to incorporate with an explanation why.
- Submit the final *Project Case Study Plan* to the CAM for approval.
- Execute the final Project Case Study Plan and develop and submit a Project Case Study.
- When directed by the CAM, develop presentation materials for a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California CEC.
- Provide at least (6) six High Quality Digital Photographs (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

- Project Case Study Plan (draft and final)
- Summary of TAC Comments
- Project Case Study (draft and final)

- High Quality Digital Photographs

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.