



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
March 13, 2024 Business Meeting
Backup Materials for Mutual Housing 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 Request Form
3. Scope of Work

[PROPOSED]

RESOLUTION NO: 24-0313-14a

STATE OF CALIFORNIA

**STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

RESOLUTION: Mutual Housing California

RESOLVED, that the State Energy Resources Conservation and Development Commission (CEC) adopts the staff CEQA findings contained in the Agreement or Amendment Request Form (as applicable); and

RESOLVED, that the CEC approves agreement EPC-23-025 with Mutual Housing California for a \$9,000,000 grant to build a four-story, all-electric in-fill mixed-use development. The development will feature affordable housing for seniors with office space on the ground floor for the local nonprofit organization, STAND, to conduct community outreach and provide social services. Resiliency features will be incorporated into the development to help protect tenants against natural disasters and power shut-offs. It will also serve as a community shelter and cooling center in a historically underserved neighborhood in South Stockton; 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 March 13, 2024.

AYE:

NAY:

ABSENT:

ABSTAIN:

Dated:

Kristine Banaag
Secretariat



GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-23-025

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Jemar Roble Tan
3. MS-:None
4. Phone Number: 916-664-6563

C. Recipient's Information

1. Recipient's Legal Name: Mutual Housing California
2. Federal ID Number: 94-3093354

D. Title of Project

Title of project: Mutual Housing at Fairview Terrace

E. Term and Amount

1. Start Date: 4/1/2024
2. End Date: 6/30/2028
3. Amount: \$9,000,000.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 3/13/2024
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Jemar Roble Tan
5. Time Needed for Business Meeting: 10 minutes
6. The email subscription topic is: EPIC (Electric Program Investment Charge).

Agenda Item Subject and Description:

Mutual Housing California. Proposed resolution approving agreement EPC-23-025 with Mutual Housing California for a \$9,000,000 grant to build a four-story, all-electric in-fill mixed-use development, and adopting staff's determination that this action is exempt from CEQA. The development will feature affordable housing for seniors with office space on the ground floor for the local nonprofit organization, STAND, to conduct community outreach and provide social services. Resiliency features will be incorporated into the development to help protect tenants against natural disasters and power shut-offs. It will also serve as a community shelter and cooling center in a historically underserved neighborhood in South Stockton.

G. California Environmental Quality Act (CEQA) Compliance

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

Yes



If yes, skip to question 2.

If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because:

2. If Agreement is considered a "Project" under CEQA answer the following questions.

a) Agreement **IS** exempt?

Yes

Statutory Exemption?

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

PRC section number: None

CCR section number: None

Categorical Exemption?

Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter "None" and go to the next question.

CCR section number: Cal. Code Regs., tit. 24, § 15332

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

No

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

This project will design a mixed-use development. The activity is covered by the definition of the in-fill development categorical exemption under 24 CCR 15332 and the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment.

The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations, as the City of Stockton Community Development Department approved the Site Plan Review, Design Review, and Density Bonus application for this development of a 76-unit, four-story affordable senior housing project with ground floor commercial and associated site improvements located within the CG (Commercial, General) zoning district, and General Plan land use designation of Commercial.

The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses, as the project site consists of two parcels (1.61± acre) that compose the block bound by South Airport Way on the west, East Eighth Street on the north, South Phelps Street on the east, and East Ninth Street on the south. The project site is surrounded by residential and commercial urban uses.



The project site has no value as habitat for endangered, rare, or threatened species, as the site was previously developed with a commercial building that housed a mix of commercial uses. The building was demolished between 2011 and 2012.

The construction project is not expected to result in significant traffic, noise, air quality, or water quality effects, nor such effects above those expected from a typical building construction project. In addition, the City of Stockton presented Design Review findings that the design and layout of the proposed project will not interfere with the use and enjoyment of neighboring existing or future development and will not result in vehicular or pedestrian hazard. The resulting construction will also be a zero-emissions building that will not affect air quality.

Lastly, the City of Stockton Community Development Department will ensure that the site can be adequately served by all required utilities and public services. For these reasons, this project is exempt under in-fill development exemption of 24 CCR 15332.

Additionally, this project does not involve impacts on any particularly sensitive environment; does not involve any cumulative impacts of successive projects of the same type in the same place that might be considered significant; does not involve unusual circumstances that might have a significant effect on the environment; will not result in damage to scenic resources within a highway officially designated as a state scenic highway; the project site is not included on any list compiled pursuant to Government Code section 65962.5; and the project will not cause a substantial adverse change in the significance of a historical resource. Therefore, none of the exceptions to categorical exemptions listed in CEQA Guidelines section 15300.2 apply to this project, and this project will not have a significant effect on the environment.

b) Agreement **IS NOT** exempt.

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

No

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

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

H. Subcontractors

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

Delete any unused rows from the table.



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 9/2022)

Subcontractor Legal Company Name	CEC Funds	Match Funds
ARCHITECTURAL NEXUS, INC.	\$ 2,888,708	\$0
TBD Building Commissioning	\$ 99,000	\$0
TBD Mechanical Engineer	\$ 97,000	\$0
KPFF, Inc.	\$ 97,000	\$0
Community Energy Labs, Inc.	\$ 697,006	\$0
TBD Electrician	\$ 30,400	\$0
Castle Gate Engineering SLC, LLC	\$ 3,518,648	\$0
TBD Installation	\$ 388,000	\$0
TBD Structural Engineering	\$ 25,000	\$0
Shalley-Dibble, Incorporated dba The Engineering Enterprise	\$ 135,511	\$0
Cunningham Engineering Corporation	\$ 75,000	\$0
TBD Engineering Design Firm	\$ 9,580	\$0
TBD Engineering	\$ 99,000	\$0

I. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter "No vendors or sellers to report" and "0" to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
No vendors to report	\$	\$

J. Key Partners

List all key partner(s). Insert additional rows if needed. If no key partners to report, enter "No key partners to report." **Delete** any unused rows from the table.

Key Partner Legal Company Name
No key partners to report.

K. Budget Information

Include all budget information. Insert additional rows if needed. If no budget information to report, enter "N/A" for "Not Applicable" and "0" to Amount. **Delete** any unused rows from the table.



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 9/2022)

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	22-23	301.001J	\$ 9,000,000

TOTAL Amount: \$ 9,000,000

R&D Program Area: EERB: Buildings

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

L. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Danny Kolosta

Address: 3321 Power Inn Rd Ste 320

City, State, Zip: Sacramento, CA 95826-3893

Phone: 916-403-5233

E-Mail: danny@mutualhousing.com

2. Recipient's Project Manager

Name: Danny Kolosta

Address: 3321 Power Inn Rd Ste 320

City, State, Zip: Sacramento, CA 95826-3893

Phone: 916-403-5233

E-Mail: danny@mutualhousing.com

M. Selection Process Used

There are three types of selection process. List the one used for this GRF.

Selection Process	Additional Information
Competitive Solicitation #	GFO-20-305p3
First Come First Served Solicitation #	Not applicable
Other	Not applicable

N. Attached Items

1. List all items that should be attached to this GRF by entering "Yes" or "No".

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

Grant Request Form
CEC-270 (Revised 9/2022)

Item Number	Item Name	Attached
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	Yes

Approved By

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

Agreement Manager: Jemar Roble Tan

Approval Date: 1/25/24

Branch Manager: Sopitsuda Tongsopit on behalf of Anthony Ng

Approval Date: 1/26/2024

Director: Sopitsuda Tongsopit on behalf of Antony Ng on behalf of Deputy Director

Approval Date: 1/26/2024

Exhibit A Scope of Work

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		Construction Documents and Administration
3	X	Construction Financing Closing
4	X	Procurement, Construction, and Commissioning
5		Community Engagement
6	X	Measurement and Verification
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CPR	Critical Project Review
EPIC	Electric Program Investment Charge
EVSE	Electric Vehicle Supply Equipment
HVAC	Heating, Ventilation, and Air Conditioning
M&V	Measurement and Verification
OAC	Owner Architect Contractor
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 remove traditional market driven barriers and fund an integrated and collaborative design, research, and build process to address the critical need for mixed-use affordable senior housing. This integrated approach will elevate the current model of affordable mixed-use housing through the construction of a 76-unit development in South Stockton and incorporation of innovative emerging clean

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

energy technologies, cutting edge tools and advanced design and construction techniques. Integration of all-electric, zero-emission designs with innovative, grid-interactive software and hardware solutions will yield a regenerative model for housing which is scalable, affordable, equitable, emissions-free, highly efficient, and climate-resilient.

B. Problem/ Solution Statement

Problem

The need for affordable housing throughout California is critical. There is no greater need than in Stockton; one of the state's poorest communities. Nearly 16 percent of its 320,000 residents live in poverty – higher than the 12.2% State average.² Per the City's Housing Element, 64% of Stockton's 20,000 senior renter households experience housing-cost burden.³

This challenge presents a unique opportunity to pair need with innovation. Building systems are typically static binary systems; in simple terms, they are either “on” or “off.” When a tenant feels hot, they adjust the thermostat and the heating, ventilation, and air conditioning (HVAC) system switches from off to on. Many variables, including human behavior or personality, could influence this action which leads to energy use. Energy use, which is often priced on a sliding scale based on demand, has a high demand load during specific times during the day. Individuals also have unique, yet predictable routines and energy use patterns. These patterns, established at both the individual and community level, are not yet factored into refining efficiency of energy use of individual tenants. Today, sustainably generated power is often not stored on site. Much of this energy is gathered through photovoltaic cells and is collected during daylight hours. Any excess is pushed back to the main electrical grid at that instant. When energy storage is included on site, an opportunity for efficiency through communication between the main grid and the local micro-grid remains untapped. Additionally, climate change and extreme weather events have been increasing in frequency with dramatic influences on the main energy grid. The emergency preparedness and resiliency of residential communities to respond and survive is incomplete or missing.

In order to address these severe challenges facing California, an improved approach to mixed-use affordable housing is needed.

Solution

The Mutual Housing at Fairview Terrace project is designed as an all-electric 55+ Senior Affordable Housing and Mixed-Use Development. The development will include approximately seventy-six residential units that are deed-restricted to low-/very low-income households, a non-residential community nonprofit office space, a community courtyard, urban agriculture and a community resiliency center.

² U.S. Census Bureau. (n.d.). QuickFacts. Retrieved January 16, 2024, from <https://www.census.gov/quickfacts/fact/table/CA/PST045223>

³ Placemarks, City of Stockton 2023-2031 Housing Element, Revised Public Draft, June 2023.

Exhibit A

Scope of Work

For this project, the Recipient will complete design and construction of the Mutual Housing at Fairview Terrace development, in collaboration with the City of Stockton and STAND (Stocktonians Taking Action to Neutralize Drugs). This project holds much promise in terms of providing healthy, affordable, and supportive housing to seniors in South Stockton, a community with severe need in this regard.

Fairview Terrace will include advanced technologies such as a microgrid with energy management software, solar PV, battery energy storage system (BESS), bi-directional electric vehicle charging, connection to transactive energy markets, demand response, sensors and automatic controls, as well as other innovations such as vampire switch technology to manage plug loads. The introduction of these advanced technologies will underscore their potential to reduce living expenses for residents and operating expenses for owners and serve as a catalyst for their adoption in the affordable housing industry.

C. Goals and Objectives of the Agreement

Agreement Goals

The goal of this Agreement is to:

- Generate and realize construction documents for the buildout of an all-electric, zero-emission, mixed-use, 76-unit residential project that benefits a disadvantaged and low-income vulnerable community and integrates passive, active, and interactive emerging technologies, innovative building features, and advanced construction practices to meet EPIC Challenge goals.
- Reduce the tenants' net energy use between 4 and 9 PM while still maintaining reliable, renewable electricity from on-site sources for critical Tier 1 loads, which account for 10% of the community's overall energy consumption.
- Obtain building permit(s) needed to commence construction and certificate of occupancy to complete construction.
- Obtain financing commitments in addition to Build Phase funding to fund the total development costs required for project feasibility.
- Collect operational data to measure and verify the project performance metrics are attained.
- Demonstrate how a high-tech, zero-emission residential development can provide affordable housing that serves some of the most vulnerable populations

Ratepayer Benefits:⁴ This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety by incorporating passive, active, and interactive emerging technologies. Passive emerging technologies such as green

⁴ 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).

Exhibit A

Scope of Work

screens and invert window shading will help cool the building. Active emerging technologies such as IcarusRT solar optimization, onsite PV, Model Predictive Control, Heatpump HVAC units, and vertical solar panels increase onsite energy production and reduce reliance on the grid, therefore directly reducing resident utility costs and improving reliability through the creation of a self-sufficient microgrid. As compared to a 26% reduction in tenant's energy bills from a code minimum required PV design, the proposed design for Fairview Terrace provides more than 85% reduction in tenant electricity bills. Interactive emerging technologies such as low flow and smart shower heads, Vampire Switches, and piezoelectric flooring allow residents greater autonomy and participation in reducing their utility costs. The battery energy storage system, grid-interactive EV chargers, and plug load management enable Fairview Terrace to be grid-independent in the event of an outage and will serve as a community cooling center improving safety for not just ratepaying occupants of the building but the surrounding community as well.

Technological Advancement and Breakthroughs:⁵ 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 building a net positive energy affordable housing community that powers building loads without the use of fossil fuels and produces more energy onsite than it uses from the existing energy grid.

Agreement Objectives

The objectives of this Agreement are to:

- Achieve a minimum of 17% lower embodied carbon emissions than a Title 24-2022 Part 6 standard design.
- Reduce hard costs throughout the build phase by conducting further research and value engineering, with the goal of keeping them at or below the cost of a minimally-code compliant build
- Achieve low levels of envelope exfiltration and infiltration of approximately 0.10 cfm/sf at 75 Pascals.
- Achieve approximately 30% of building's peak demand reduction through grid interactions using Intelligent Building Load Control and a microgrid
- Achieve resilience to power outages using on-site energy resources and major climate and environmental hazards while achieving aesthetic integration of advanced energy features into the form and function of the development
- Promote passive livability (e.g., up to 7 days) through passive cooling design measures
- Gauge and aim for at least 80% occupant satisfaction through occupant survey results after lease-up
- At a minimum, the build-out will provide an 85% reduction in tenant electricity bills. Achieve an average of \$20 per unit per month electricity billing for all households during a period of stabilized operations

Exhibit A Scope of Work

- Achieve high market outreach and transformation through the submission of case studies to at least 5 industry organizations

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:

Exhibit A

Scope of Work

Instructions for Submitting Electronic Files and Developing Software:

- **Electronic File Format**

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

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

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

- **Software Application Development**

Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:

- Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
- Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
- Visual Studio.NET (version 2008 and up). Recommend 2010.
- C# Programming Language with Presentation (UI), Business Object and Data Layers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
- Microsoft SQL Reporting Services. Recommend 2008 R2.
- XML (external interfaces).

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

Exhibit A Scope of Work

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

- Attend a “Kick-off” meeting with the CAM, 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.

Exhibit A Scope of Work

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.

Exhibit A

Scope of Work

- 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
- 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.

Exhibit A

Scope of Work

- “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

Exhibit A

Scope of Work

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* received on the Executive Summary. For each comment received, the recipient will identify in the summary the following:
 - Comments the recipient proposes to incorporate.

Exhibit A Scope of Work

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

Products:

- Summary of TAC Comments
- 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:

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

Products:

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

Subtask 1.8 Permits

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

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:

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- A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
- The schedule the Recipient will follow in applying for and obtaining the permits.

The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, then provide the CAM with an *Updated List of Permits* (including the appropriate information on each permit) and an *Updated Schedule for Acquiring Permits*.
- Send the CAM a *Copy of Each Approved Permit*.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 days. Either of these events may trigger a CPR meeting.

Products:

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

Subtask 1.9 Subcontracts

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

The Recipient shall:

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

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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 insure 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;

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- 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.

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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 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 identify key performance targets for the project. 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 draft *Project Performance Metrics Questionnaire* to the CAM prior to the Kick-off Meeting.
- Present the draft *Project Performance Metrics Questionnaire* 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 final *Project Performance Metrics Questionnaire*.
 - TAC comments the recipient does not propose to incorporate with and explanation why.
- Submit a final *Project Performance Metrics Questionnaire* with incorporated TAC feedback.
- 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 Performance Metrics Questionnaire*.
- Discuss the final *Project Performance Metrics Questionnaire* and *Project*

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Performance Metrics Results at the Final Meeting.

Products:

- Project Performance Metrics Questionnaire (draft and final)
- TAC Performance Metrics Summary
- Project Performance Metrics Results

III. TECHNICAL TASKS

TASK 2 CONSTRUCTION DOCUMENTS AND ADMINISTRATION

The goal of this task is to develop construction documents in collaboration with the recipient, contractor, design team, and municipal building department to use for plan check, bidding, permitting, and construction, and to manage construction to ensure project remains on schedule and on budget and is completed before the Agreement term ends.

The Recipient shall:

- Prepare and submit a set of *100% Construction Documents (Final Construction Plans)* including but not limited to:
 - Architectural design development.
 - Mechanical, electrical, and plumbing system design.
 - Equipment specifications for all-electric appliances and building end-uses
 - Energy asset integration design, including emerging energy technologies, solar microgrids, demand flexibility components, and Electric Vehicle Supply Equipment (EVSE).
 - With regard to EVSE, ensure compliance with local and state codes, including the upcoming regulations in pursuant of AB 2061 (Ting, Chapter 345, Statutes of 2022) and Cal. Pub. Resources Code sect. 25231.5, which will be applicable to ratepayer-funded EVSEs that are installed after January 1, 2024. Provide details regarding the types and number of charging equipment, ownership model, payment structures, networking requirements, data collection, and estimated costs. Ensure that at least 20% of the parking spaces can respond to grid signals and all remaining parking spaces are EV-ready.
 - Any additional pro-environmental factors.
- Issue *Notice to Proceed* to the general contractor to begin work onsite. Share with all project stakeholders to evidence construction commencement.
- Obtain *Certificate of Occupancy*
- File *Notice of Completion* before the end term of Agreement
- Receive *Final As-Builts* from general contractor

Products:

- 100% Construction Documents (Final Construction Plans)

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- Notice to Proceed
- Certificate of Occupancy
- Notice of Completion
- Final As-Builts

TASK 3 CONSTRUCTION FINANCING CLOSING

The goal of this task is to obtain commitments from debt and equity partners and close on construction financing required to fund the project. This task will also provide evidence that the project has secured all necessary regulatory approvals and incentives needed to begin construction.

The Recipient shall:

- Execute a *Commitment Letter* from construction debt lender(s)
- Execute a *Commitment Letter(s)* from tax credit equity investors(s)
- Execute *Commitment Letters* from any additional soft lender(s) needed to fill financing gaps
- Close escrow on construction financing
- If needed, apply for state incentives for energy components, such as BUILD incentive, SGIP, etc., and obtain *Approval Letters of State Incentives for Energy Components (if applicable)*.
- Participate in a CPR and prepare a *CPR Report #1*.

Products:

- Commitment Letter from construction debt lender(s)
- Commitment Letter from tax credit equity investor(s)
- Commitment Letter(s) from any additional soft lender(s)
- Approval Letters of State Incentives for Energy Components (if applicable).
- CPR Report #1

TASK 4 PROCUREMENT, CONSTRUCTION, AND COMMISSIONING

The goal of this task is to procure, construct, and commission the required equipment, energy assets, and materials as identified in the final development design following the EPIC grant design requirements.

Subtask 4.1 – Planning and Procurement

The goal of this subtask is to procure equipment and materials, and complete construction of the energy assets and microgrid components needed to generate, store, and distribute power.

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Subtask 4.1.1 Planning and Procurement of the Microgrid

The Recipient shall:

- Engage vendors, execute bid documents, and obtain *Vendor Contract(s)*.
- Prepare a *Microgrid Procurement Memorandum* detailing the microgrid equipment, anticipated timeline for delivery, remediation plan for any equipment delays as applicable, vendors, models, quality checks, and costs of all microgrid-related components.
- Procure all equipment, materials, and technology including but not limited to:
 - Solar photovoltaics system.
 - Battery energy storage system.
 - Other microgrid components, such as microgrid central controller, interconnection switch package, grid-forming inverters, telemetry devices, visualization software, and monitor displays (as applicable).
- Receive delivery of, verify completeness of, and quality check all equipment.
- Prepare a *Microgrid Engineering Design Report* that includes sizing, specifications, integration of the energy components and loads with the distribution infrastructure, the microgrid operation logic, and the operations and maintenance strategy.
- Provide a *Microgrid System Feasibility Analysis* showing final installation costs, annual operational and maintenance costs, savings, value of resilience (if any), revenue (if any), quality checks, and overall feasibility.

Products:

- Microgrid Vendor Contract(s)
- Microgrid Procurement Memorandum
- Microgrid Engineering Design Report
- Microgrid System Feasibility Analysis

Subtask 4.1.2 Planning and Procurement of Demand Flexibility Equipment

The Recipient shall:

- Engage vendors, execute bid documents, and obtain *Vendor Contract(s)*.
- Prepare *Demand Flexibility Equipment Procurement Memorandum* detailing the demand flexibility equipment, anticipated timeline for delivery, remediation plan for any equipment delays as applicable, vendors, models, operation and maintenance strategy, quality checks, and costs of all demand flexibility-related components.
 - Preliminary load management performance metrics.
 - Investigating opportunities and methods to access local IOU demand flexibility signals to support load control demonstration.
 - Identifying grid data sources, e.g., California Independent System Operator, for developing load control parameters for grid operation status and forecast, time-dependent electricity price data, renewable energy

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generation and over-generation, and the carbon intensity of the hourly electricity supply.

- Procure all equipment, materials, and technology including but not limited to:
 - As applicable, automated demand flexibility-related equipment and technologies such as the model predictive control system or other automated control algorithm, smart lighting controls, and electric vehicle charging stations with demand flexibility capabilities. and passive energy-saving technologies.
 - As applicable, manual demand flexibility-related equipment and technologies, such as the platform used for immediate changes by customers for load management and demand flexibility events, vampire switches, Wi-Fi-enabled thermostats, smart plugs for devices to be controlled remotely, and other grid-interactive emerging technologies.
- Receive delivery of, verify completeness of, and quality check all equipment.

Products:

- Demand Flexibility Vendor Contract(s)
- Demand Flexibility Equipment Procurement Memorandum

Subtask 4.1.3 Planning and Procurement of Electric Vehicle Supply Equipment (EVSE)

The Recipient shall:

- Engage vendors, execute bid documents, and obtain *Vendor Contract(s)*.
- Prepare *EVSE Procurement Memorandum* detailing the EVSE equipment (and EVs if applicable), anticipated timeline for delivery, remediation plan for any equipment delays as applicable, vendors, models, operation and maintenance strategy, quality checks, and costs of all EVSE-related components.
- Procure all equipment, materials, and technology including but not limited to EVSE to meet or exceed the Solicitation's minimum requirements and quality check all equipment. [For projects that include car sharing, also include information about the EVs with V2G or V2B capabilities.]
- Receive delivery of, verify completeness of, and quality check all equipment.

Products:

- EVSE Vendor Contract(s)
- EVSE Procurement Memorandum

Subtask 4.1.4 Planning and Procurement of Miscellaneous Advanced Energy Features and Advanced Construction Materials

The Recipient shall:

- Engage vendors, execute bid documents, and obtain *Vendor Contract(s)*.

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- Prepare *Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Memorandum* detailing the equipment, anticipated timeline for delivery, remediation plan for any equipment delays as applicable, vendors, models, operation strategy, quality checks, and costs of all Miscellaneous Advanced Energy Features and Advanced Construction Materials.
- Procure all equipment, materials, and technology reimbursable with Grant funds and that were not listed in Subtasks 4.1.1 to 4.1.3, including but not limited to:
 - Categories listed in Table 7: Eligible Next-Generation Energy Technologies of the GFO-20-305 Solicitation Manual, Addendum 16 (i.e., Building Envelope, HVAC, Renewable Generation, Software as a Service for Grid Interactive Buildings, Appliances, Power Electronics, Energy Storage, Lighting, Domestic Hot Water, and Electric Transportation).
 - Advanced construction processes
 - Any additional pro-environmental factors
- Receive delivery of, verify completeness of, and quality check all equipment.
- Prepare a *Final Miscellaneous Advanced Energy Features and Advanced Construction Materials Engineering Design Report* that includes sizing, specifications, integration of the associated components, and the operations and maintenance strategy.

Products:

- Miscellaneous Advanced Energy Features and Advanced Construction Materials Vendor Contract(s)
- Miscellaneous Advanced Energy Features and Advanced Construction Materials Procurement Memorandum
- Miscellaneous Advanced Energy Features and Advanced Construction Materials Engineering Design Report

Subtask 4.1.5 Interconnection Planning and Interconnection Approval

The Recipient shall:

- Submit a Rule 21 Pre-application Support Request.
- Negotiate with the local utility around islanding configurations and benefits.
- Research interconnection rules and communication protocols to enable electricity export to the grid from bidirectional EV chargers.
- Submit the Interconnection Application.
- Develop an *Interconnection Report* to show how community developers can work with their local utilities on interconnecting similar communities to the grid.
- Provide a *Permission to Operate (PTO)* from the utility.

Products:

- Interconnection Report
- Permission to Operate

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Subtask 4.2 – Construction and Implementation

The goal of this subtask is to complete and report on all construction activities.

The Recipient shall:

- Prepare and submit an *Installation Plan Memorandum* including but not limited to:
 - A list of installation milestones for the grant-funded energy assets, including emerging energy technologies, demand flexibility technologies, the microgrid, and EVSE.
 - A detailed installed schedule for the technologies listed above.
 - High-quality digital photos of installation milestones and construction progress (i.e., at minimum, the site before work begins, work occurring, and work near completed or completed).
- Implement all other aspects of the Installation Plan.
- Prepare and provide a *Written Notification of Completion of Installation of all Grant-funded Energy Assets*.
- Prepare and submit an *Installation Report* to include the following:
 - A final schedule of completed milestones.
 - A brief description of lessons learned, including a summary of major project changes from the original design, as applicable.

Products:

- Installation Plan Memorandum
- Written Notification of Completion of Installation of all Grant-funded Energy Assets
- Installation Report

Subtask 4.3 – Commissioning

The goal of this subtask are to finalize the construction process, commission the grant-funded energy assets, and interconnect with the local major investor owner utility.

The Recipient shall:

- Perform necessary development and testing to receive utility signals for grid-interactive energy components, such as bidirectional EV charging, demand flexibility, and the microgrid.
- Prepare and submit a *Commissioning Report* which will, at a minimum, confirm that the grant-funded energy assets have been successfully put into operation, describe the results of the interconnection, metering arrangement, and system commissioning process and highlight any unique challenges or lessons faced with bringing the development's system online.
- Obtain a *Certificate of Occupancy and Notice of Completion* before the end term of the build phase agreement.
- Prepare a *Rent Schedule*, showing the rents for affordable and/or low-income units and confirming that the development dedicates a minimum of 20% of the total units to affordable housing with at least 10% of the total units being

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dedicated to lower-income units or providing evidence of local affordability requirements.

- Obtain a *Title Report or Deed*, showing evidence of deed restrictions (if applicable).
- Participate in a CPR and prepare a *CPR Report #2*.

Products:

- Commissioning Report
- Certificate of Occupancy and Notice of Completion
- Rent Schedule
- Title Report or Deed
- CPR Report #2

TASK 5 COMMUNITY ENGAGEMENT

The goals of this task are to proactively identify and address knowledge and awareness gaps relating to the existence and use of the advanced energy systems; continue a robust, meaningful, dialog with community members and new residents; and analyze and evaluate racial and socioeconomic realities in new affordable housing. This task will span the duration of the build phase.

The Recipient shall:

- Create and execute a *Community Engagement Memorandum* including but not limited to information related to hosting a Build Phase community engagement session to solicit community input and share project details
- Develop *Resident Educational Materials* to raise awareness about the project's unique development features and functionality and their benefits.
- Develop *Building Operator Educational Materials* geared towards the use and understanding of the project's energy-related features.

Products:

- Community Engagement Memorandum
- Resident Educational Materials
- Building Operator Educational Materials

TASK 6 MEASUREMENT AND VERIFICATION

The goal of this task is to provide data from building operations to assess performance of emerging technology and building features designed to meet EPIC goals. The goal of this task is to plan and conduct measurement and verification for a 12-month post-occupancy period for the development to verify that it is meeting the performance targets and delivering the targeted performance. The Recipient will operate the microgrid and other energy assets for a full evaluation period under varying conditions, measure, and document their performance, and use the lessons learned from

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constructing and operating the microgrid and other energy assets to refine the case study for future scale-up of affordable housing mixed-use developments.

This task includes a simplified plan for ongoing, post-EPIC grant monitoring, and verification to evaluate the persistence and sustainability of savings, as well as a strategy to report results back to building owners and developers.

The Recipient shall:

- Develop a detailed *Measurement and Verification Plan (Draft and Final)* to include but not be limited to:
 - A description of the monitoring equipment and instrumentation that will be used at each site.
 - A description of the key input parameters and output metrics that will be measured.
 - Identification of required data acquisition criteria, such as sampling frequency for various parameters.
 - A description of the analysis methods to be employed. Analysis methods will allow for measurement of all performance criteria listed in the Agreement Objectives section of this Scope of Work.
 - In-house measurement and verification services with third-party support. (Or third-party measurement and verification services to be employed, if applicable.)
 - Identification of additional information that will be necessary to complete the measurement and verification task (e.g., costs for implementing baseline design vs. proposed design).
 - Identification of system operating modes and/or procedures to enable comparison of the baseline design vs. proposed design.
 - Collection, documentation, and analysis of site-specific data that can establish energy usage baselines and inform demand flexibility evaluations. Data may include occupancy statistics, residents' baseline electricity usage, residents' behavioral responses to demand flexibility measures, and electricity bills.
- Prepare a *Measurement and Verification Report* (by a third-party or with third-party support, if applicable) to document the following items:
 - The operational performance, including operational constraints, interactions with the grid, and response to grid emergencies.
 - Barriers and solutions to the deployment of the emerging energy technologies, demand flexibility technologies, the microgrid, and EVSE, including but not limited to technical complications, operational considerations, financing options, permitting requirements, and regulatory activities.
 - Measurements showing achievement of the project goals and objectives.
- Based on the final installation costs, O&M costs, and applicable tariffs of grant-funded energy assets, provide an updated *Build-Phase Zero-Emission Cost-*

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Benefit Analysis Report, showing results with and without grant funding and other incentives.

- Develop and issue an *Occupant Survey* after lease-up
- Review monthly building energy information gathered during operations during Build Phase contract duration
- Provide *Results from Occupant Survey and Utility Data*.
- Participate in a CPR and prepare a *CPR Report #3*.

Products:

- Measurement and Verification Plan (Draft)
- Measurement and Verification Plan (Final)
- Measurement and Verification Report
- Build-Phase Zero-Emission Cost-Benefit Analysis Report
- Occupant Survey
- Results from Occupant Survey and Utility Data
- CPR Report #3

TASK 7 EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

- Complete the *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 *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 *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](http://www.energizeinnovation.fund) (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
<http://www.energizeinnovation.fund>/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

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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 as 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.

Exhibit A

Scope of Work

- Data on potential job creation, market potential, economic development, and increased state revenue as a result of 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.

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

Products:

- Annual Survey
- Initial Project Benefits Questionnaire
- Final Project Benefits Questionnaire
- Documentation of Project Profile on [EnergizeInnovation.fund](https://energizeinnovation.fund)

TASK 8 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to ensure the technological learning that resulted from the project 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 (Draft and Final)* 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.
 - 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.
 - A description of the business model and financial strategy for procuring and maintaining the advanced energy elements.
 - An explanation on how the business model could be replicable for future developments without access to grant funding.
 - Demonstration of residential and commercial occupant bill savings.
 - Demonstration of additional benefits such as construction time and cost savings and how the benefits are passed along to the occupants
 - Explanation of how the mixed-use development leveraged advanced construction practices to save time and cost.

Exhibit A

Scope of Work

- Identifying specific components (e.g., technological, financial, regulatory) of the demonstrated project that need improvement/advancement to increase future deployment of zero-emission, mixed-use developments.
- Present the *Project Case Study Plan (Draft)* 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 *Project Case Study Plan (Draft)*. This document will identify:
 - TAC comments the recipient proposes to incorporate into the *Project Case Study Plan (Final)*.
 - TAC comments the recipient does not propose to incorporate into the *Project Case Study Plan (Final)* with explanations as to why not.
- Submit the *Project Case Study Plan (Final)* to the CAM for approval.
- Execute the *Project Case Study (Final)* and develop and submit a *Project Case Study (Draft and Final)*.
- When directed by the CAM, develop presentation materials on the project for a CEC-sponsored conference/workshop(s).
- When directed by the CAM, participate in an annual EPIC symposium(s) sponsored by the CEC.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre- and post-technology installation at the project site or related project photographs.
- If project budget allows, create a brief 3–5-minute *Project Video* highlighting the project.
 - Describe what is innovative and exciting about the project and successful progress made to date.
 - Discuss the role EPIC funding played in advancing the project.
 - Describe its impacts to California and its electric ratepayers.
 - Include testimonials from at least 1-2 potential end-use customers or external entities on the value of the project.
- Submit *Documentation of Project Site Tours offered to Industry Stakeholders*

Products:

- Project Case Study Plan (Draft)
- Project Case Study Plan (Final)
- Summary of TAC Comments
- Project Case Study (Draft)
- Project Case Study (Final)
- High Quality Digital Photographs
- Project Video (optional)
- Documentation of Project Site Tours to Industry Stakeholders

Exhibit A
Scope of Work

IV. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.