



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
March 17, 2025 Business Meeting
Backup Materials for Marin Clean Energy (MCE)**

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

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

[PROPOSED]

RESOLUTION NO: 25-0317-03f

STATE OF CALIFORNIA

**STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

RESOLUTION: Marin Clean Energy (MCE)

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-24-040 with MCE for a \$5,000,000 grant. This agreement will establish a market for flexible energy resources that benefits the grid, communities, and industry. MCE will expand their existing Distributed Energy Management System platform to support the integration of new resource types into the market and across all MCE jurisdictions, prioritizing disadvantaged and low-income communities. MCE will work with its 37 member communities to demonstrate these benefits in Solano and Contra Costa Counties and the project is expected to provide at least 1 MW of aggregated load flexibility; 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 17, 2025.

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-24-040

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Brad Williams
3. MS-:51
4. Phone Number: 916-776-0825

C. Recipient's Information

1. Recipient's Legal Name: Marin Clean Energy (MCE)
2. Federal ID Number: 94-6000421

D. Title of Project

Title of project: MCE's Virtual Power Plant: Valuing People Power (VPP 2X) project

E. Term and Amount

1. Start Date: 4/1/2025
2. End Date: 3/30/2029
3. Amount: \$5,000,000.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 3/17/2025 .
3. Consent or Discussion? Consent
4. Business Meeting Presenter Name: Brad Williams
5. Time Needed for Business Meeting: 5 minutes.
6. The email subscription topic is: EPIC (Electric Program Investment Charge).

Agenda Item Subject and Description:

Marin Clean Energy

Proposed resolution approving agreement EPC-24-040 with Marin Clean Energy (MCE) for a \$5,000,000 grant and adopting staff's recommendation that this action is exempt from CEQA. This agreement will establish a market for flexible energy resources that benefits the grid, communities, and industry. MCE will expand their existing Distributed Energy Management System platform to support the integration of new resource types into the market and across all MCE jurisdictions, prioritizing disadvantaged and low-income communities. MCE will work with it's 37 member communities to demonstrate these benefits in Solano and Contra Costa County and is expected to provide at least 1 MW of aggregated load flexibility.
(EPIC funding) Contact: Dustin Davis

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?

Yes

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: PRC 21080.35

CCR section number: None

Categorical Exemption?

Yes

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

CCR section number: Cal. Code Regs., tit. 14, § 15301 ; Cal. Code Regs., tit. 14, § 15306 ;

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.

The project consists of a technology demonstration and deployment implementation in homes, businesses, schools and community facilities by expanding distributed energy resources products and services to achieve 3MW load shifting. Throughout the course of the project data will be collected from buildings and other distributed energy resources that are recruited to be part of the project under 14 CCR § 15306 for Information Collection.

The project includes the operation, maintenance or minor alteration of existing structures, facilities, mechanical equipment or topographic features consisting of the installation of promising emerging technologies including building controls, smart thermostats, smart heat pump water heaters, EV chargers, solar inverters, and battery systems in existing buildings and involves negligible or no expansion of the existing use under 14 CCR section 15301. The retrofits will consist of interior and exterior alterations to the existing buildings similar those which are currently performed on existing buildings in the normal course of maintenance and minor improvement and involve negligible expansion of use.

The project involves installation of PV solar systems either on the roof of an existing building or an existing parking lot and may include associated equipment with a footprint of 500 square feet consistent with Pub. Resources Code section 21080.35. No plants protected by the Native Plant Protection Act will be located on the site of the solar PV system and no native trees over 25 years old will be removed from the site.



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.

b) Agreement **IS NOT** exempt.

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

No

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

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

H. Is this project considered “Infrastructure”?

No

I. Subcontractors

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

Delete any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
Community Energy and Equity Resources LLC	\$ 0	\$ 594,649
Serious Controls LLC	\$ 0	\$ 2,250,000
Lawrence Berkeley National Laboratory	\$ 600,000	\$0
GPT, Inc.	\$ 99,000	\$0
Zero Net Energy Alliance, Inc.	\$ 99,000	\$0

J. Vendors and Sellers for Equipment and Materials/Miscellaneous

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



Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Sacramento Municipal Utility District	\$0	\$200,000
ZGlobal Inc.	\$0	\$362,076
MICROSOFT CORPORATION	\$0	\$80,000
NATIONAL ENERGY IMPROVEMENT FUND, LLC	\$0	\$950,000
TBD	\$ 300,000	
TBD M&V Vendor	\$390,000	

K. Key Partners

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

Key Partner Legal Company Name
No key partners to report

L. Budget Information

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

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	23-24	301.001K	\$ 5,000,000

TOTAL Amount: \$ 5,000,000

R&D Program Area: ICMB: IAW

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: Not applicable

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Alexandra McGee

Address: 1125 Tamalpais Ave

City, State, Zip: San Rafael, CA 94901-3221

Phone: 925-378-6756

E-Mail: amcgee@mcecleanenergy.org

3. Recipient's Project Manager

Name: Sam Irvine



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

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

Address: 1125 Tamalpais Ave

City, State, Zip: San Rafael, CA 94901-3221

Phone: 925-378-6756

E-Mail: sirvine@mcecleanenergy.org

N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-23-309
First Come First Served Solicitation #	Not applicable
Other	Not applicable

O. Attached Items

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

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

Approved By

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

Agreement Manager: Brad Williams

Approval Date: 12/20/2024

Branch Manager: Cody Taylor

Approval Date: 1/03/2025

Director: Cody Taylor for Jonah Steinbuck

Approval Date: 1/03/2025

Exhibit A Scope of Work Marin Clean Energy

I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2		VPP Toolkit Development
3		DERMS Buildout and Testing
4	X	Trade Ally Engagement and Onboarding
5		Customer Program Adaptations
6		Customer Outreach and Engagement
7		DER Deployments
8	X	VPP Operation and Optimization
9		Evaluation of Project Benefits
10		Measurement and Verification
11		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
BESS	Battery Energy Storage System
CAISO	California Independent System Operator
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CCA	Community Choice Aggregation
CEC	California Energy Commission
CLFP	Controlled and Licensed for Perpetuity
CPR	Critical Project Review
DAC	Disadvantaged Community
DER	Distributed Energy Resource
DERMS	Distributed Energy Management System
DRRS	Demand Response Registration System
eDERMS	Enterprise-level Distributed Energy Management System
GHG	Greenhouse Gas
HPHW	Heat Pump Hot Water Heater
HVAC	Heating Ventilation and Air Conditioning
LSE	Load Serving Entity
M&V	Measurement and Verification
PV	Solar Photovoltaic
RA	Resource Adequacy
RFP	Request for Proposals
SaaS	Software-as-a-service
TAC	Technical Advisory Committee
VTN	Virtual Top Node
VPP	Virtual Power Plant

¹ Please see subtask 1.3 in Part III of the Scope of Work (General Project Tasks) for a description of Critical Project Review (CPR) Meetings.

Exhibit A Scope of Work Marin Clean Energy

Acronym/Term	Meaning
VPP 2X	Virtual Power Plant Valuing People Power

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

A. Purpose of Agreement

The purpose of this Agreement is to fund the transformation of the traditional concept of Virtual Power Plants (VPP) by creating an open, accessible, equitable, and sustainable market for flexible load and other Distributed Energy Resource (DER)-related products and services that address critical grid needs.

B. Problem/ Solution Statement

Problem

California Community Choice Aggregators (CCAs) working to advance DER and VPP initiatives have not had access to cost-effective DER management software options that are purpose-built for CCA applications. The DERMS offerings available to them are expensive software-as-a-service (SaaS) platforms that were developed for utility and distribution system operator applications that do not function well in unique and challenging CCA environments. While DERMS platforms have the potential to unlock significant value from distributed energy resources, several challenges hinder their widespread adoption and effectiveness, including interoperability issues, high costs, and limited value-sharing mechanisms.

Many of the commercially available Distributed Energy Management System (DERMS) packages are proprietary Original Equipment Manufacturer products (i.e., they were designed to work with a specific manufacturer's ecosystem of products) and therefore are not interoperable with other manufacturers' equipment. This constrains customer choices and pathways to benefiting from VPP programming, creates barriers for other beneficial technologies and providers, and hinders scaled deployment of beneficial DERs at a time when Californians need rapid deployment of a wider array of options.

It is important to note that commercially available SaaS DERMS can be cost-prohibitive for nonprofit public agencies like CCAs, as they require substantial annual expenditures regardless of whether any value was created with the platform. Furthermore, many of the emerging VPP offerings are not backed by a load serving entity (LSE), which limits value creation because the firms offering the service do not set rates or tariffs, buy electricity or capacity for the community, or offer valuable programs and services like rate relief during times of need. Without rate and tariff setting authority, private third-party VPP providers are not able to create equitable value-sharing arrangements that ensure clear and stable customer and stakeholder value creation.

Solution

The Recipient and members of the project team leveraged a recent CEC Advanced Energy Communities grant - EPC-19-005 - to develop a novel OpenADR-based, enterprise-level DERMS platform (eDERMS), which has an innovative Controlled and Licensed for Perpetuity (CLFP) user license agreement and was purpose-built for CCA applications. The CLFP creates a unique opportunity for cooperative development of the DERMS platform by other CCAs and LSEs that implement the platform later, by ensuring that each implementor benefits from the

Exhibit A Scope of Work Marin Clean Energy

enhancements paid for by others. This sets up the potential for low-cost expansion of the eDERMS over time.

The proposed VPP 2X project will leverage a one-time investment of CEC and Recipient funds to expand and enhance MCE's in-house eDERMS platform to include advanced features and functions, including automated and predictive controls designed to optimize value creation, expansion of heterogeneous DER integrations and contracted trade allies, data analytics, and CAISO market integrations to enable new revenue generation. This will provide the Recipient and the CCA industry in California with a customer-built, low-cost, streamlined, interoperable, secure, and advanced tool for implementing a comprehensive, community-focused VPP strategy.

The VPP 2X project will also demonstrate the potential for increased VPP value creation when implemented by a not-for-profit public load serving entity (LSE) focused on delivering measurable value and equitable stakeholder benefits through clean community energy programs. The Recipient will leverage its rate and tariff setting authority, CAISO agreements, public procurement procedures, and experience delivering cost-effective customer programs to provide enhanced, third-party measured and verified community benefits from advanced flexible load and VPP strategies.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Demonstrate optimized DER value in automated VPP flexible load applications
- Develop predictive-control based, multi-objective optimization of heterogeneous resources and DERMS capabilities to best integrate DERs in automated VPP application targeting a $\pm 20\%$ deviation of forecasted versus actual MWh
- Provide equitable access to beneficial VPP programming for customers and trade allies
- Create an equity-focused tariff structure and pay-for-performance contracting structures to incentivize customers and trade ally participation
- Expand eligibility to increase access and prioritize disadvantaged, low-income, and underserved customer segments
- Demonstrate at least a 20 percent cost recovery by the end of Year 4
- Design and implement the VPP 2X project to achieve at least 3 MW of load shifting

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits by reducing the need for power and resource adequacy procurement during peak hours, as well as contributing to the reduced need for costly distribution system upgrades. By leveraging an in-house eDERMS platform, the Recipient will enable dynamic flexible load use cases, such as battery storage and EV charging, to optimize grid operations and reduce peak demand. This approach will not only lower costs but also enhance grid reliability and resilience while compensating participants for their contributions. Additionally, the VPP 2X initiative will contribute to reduced greenhouse gas

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

Exhibit A

Scope of Work

Marin Clean Energy

(GHG) emissions and support local economic development by incentivizing DER deployments throughout the Recipient's four-county service territory, particularly in disadvantaged (DAC) and underserved communities.

Technological Advancement and Breakthroughs: direct VPP implementation that is integrated with CAISO markets through available market participation models, including Proxy Demand Resource (PDR), PDR Load Shift Resource (PDR-LSR), and/or Distributed Energy Resource Aggregations (DERA).³ The Recipient's VPP 2X initiative results from a two-year comprehensive planning and development exercise that included substantial input from a group of key stakeholders. This effort resulted in a blueprint outlining the structure of the future DERMS needed to overcome industry barriers. This has effectively de-risked the pathway to demonstrating the open-source, eDERMS in a CCA setting.

Leveraging VPP FLEX funding to upgrade the in-house eDERMS to OpenADR 3.0 technology will improve the existing VPP's ability to integrate and aggregate new DERs, enhancing interoperability and mitigating risk of vendor lock-in. This will enable the VPP to increase the number of integrated DERs and scale up reliable VPP capacity rapidly and cost-effectively. The Recipient's advanced eDERMS will optimize the dispatch of a heterogeneous fleet of DERs in an automated fashion as informed by built-in forecasts and multi-objective predictive controls; the in-house eDERMS will become OpenADR 3.0 compliant and certified. The project will integrate an additional 15 DER technology types and providers while developing streamlined and standardized processes that pave the way for a potential of at least 82 more. This diversity of DERs will allow for real-time telemetry to be accessible to the CCA for the first time, allowing it to respond with more accurate forecasting capabilities for market integrated activities and enabling the Recipient to demonstrate powerful and innovative VPP use cases.

Agreement Objectives

The objectives of this Agreement are to:

- Objective 1 - Develop an updated eDERMS package that is OpenADR 3.0 certified
- Objective 2 - Implement a value sharing plan that includes a pay-for-performance component
- Objective 3 - Expand VPP participant eligibility to all Recipient's communities
- Objective 4 - Adapt Recipient's Programs to be VPP-Ready and expand contracted Trade Allies
- Objective 5 - Integrate the VPP with CAISO markets to demonstrate new CCA revenues
- Objective 6 - Achieve a load shift of 3 MW through strategic deployment and optimization of DER installations
- Objective 7 - Demonstrate at least 20% cost recovery of the proposed VPP within four years

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

Exhibit A Scope of Work Marin Clean Energy

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.

Exhibit A Scope of Work Marin Clean Energy

- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.
- **Software Application Development**

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

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

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

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, and other CEC staff relevant to the Agreement. The Recipient's Project Manager and any other individuals deemed necessary by the CAM or the Project Manager shall participate in this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., Teams, Zoom), with approval of the CAM.

The Kick-off meeting will include discussion of the following:

- The CAM's expectations for accomplishing tasks described in the Scope of Work;
- An updated Project Schedule;
- Terms and conditions of the Agreement;
- Invoicing and auditing procedures;
- Travel;
- Equipment purchases;
- Administrative and Technical products (subtask 1.1);
- CPR meetings (subtask 1.3);

Exhibit A Scope of Work Marin Clean Energy

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

The CAM shall:

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

Recipient Products:

- Kick-off Meeting Presentation
- Updated Project Schedule (*if applicable*)
- 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 may be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase. CPR meetings generally take place at the CEC, but they may take

Exhibit A Scope of Work Marin Clean Energy

place at another location, or may be conducted via electronic conferencing (e.g., WebEx) as determined by the CAM.

The Recipient shall:

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

The CAM shall:

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

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 of the following Agreement closeout items:

Exhibit A Scope of Work Marin Clean Energy

- Disposition of any procured equipment.
- The CEC's request for specific "generated" data (not already provided in Agreement products).
- Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
- "Surviving" Agreement provisions such as repayment provisions and confidential products.
- Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* organized by the tasks in the Agreement.

Products:

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

MONTHLY CALLS, REPORTS AND INVOICES

Subtask 1.5 Monthly Calls

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

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

The CAM shall:

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

The Recipient shall:

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

Product:

- Email to CAM concurring with call summary notes.

Subtask 1.6 Quarterly Progress Reports and Invoices

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

The Recipient shall:

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

Recipient Products:

- Quarterly Progress Reports
- Invoices

CAM Product:

- Invoice template

Subtask 1.7 Final Report

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

Subtask 1.7.1 Final Report Outline

The Recipient shall:

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

Recipient Products:

- Final Report Outline (draft and final)

CAM Products:

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

Subtask 1.7.1 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:

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- Ensure that the report includes the following items, in the following order:
 - Cover page (**required**)
 - Credits page on the reverse side of cover with legal disclaimer (**required**)
 - Acknowledgements page (optional)
 - Preface (**required**)
 - Abstract, keywords, and citation page (**required**)
 - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
 - Executive summary (**required**)
 - Body of the report (**required**)
 - References (if applicable)
 - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
 - Bibliography (if applicable)
 - Appendices (if applicable) (Create a separate volume if very large.)
 - Attachments (if applicable)
- Submit a draft of the Executive Summary to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments on Draft Final Report* received on the Executive Summary. For each comment received, the Recipient will identify in the summary the following:
 - Comments the Recipient proposes to incorporate.
 - Comments the Recipient does propose to incorporate and an explanation for why.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

Products:

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

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBAWARDS

Subtask 1.8 Match Funds

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

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

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The Recipient shall:

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

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

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

Products:

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

Subtask 1.9 Permits

The goal of this subtask is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track. 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 1.10 Obtain and Execute Subawards and Agreements with Site Hosts

The goals of this subtask are to: (1) ensure quality products and to execute subawards and site host agreements, as applicable, required to carry out the tasks under this Agreement; and (2) ensure that the subawards are consistent with the terms and conditions of this Agreement and the Recipient's own procurement and contracting policies and procedures.

The Recipient shall:

- Establish and implement a standardized agreement template or a process for negotiating and executing individual agreements with site hosts. The Recipient may utilize a streamlined approach for site host agreements where applicable, such as standardized agreements for common site types (e.g., residential, commercial) or utilizing existing agreements with property owners or managers.
- Execute and manage subawards and coordinate subRecipients activities in accordance with the requirements of this Agreement.
- Execute and manage site host agreements and ensure the right to use the project site throughout the term of the Agreement, as applicable. A site host agreement is not required if the Recipient is the site host. If it is determined a site selection is not exempt from CEQA then the site will be disqualified from participating in the project.
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the minimum number of project sites cannot be acquired or can no longer be used for the project.
- Incorporate this Agreement by reference into each subaward.
- Include any required Energy Commission flow-down provisions in each subaward, in addition to a statement that the terms of this Agreement will prevail if they conflict with the subaward terms.
- 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.

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- If requested by the CAM, submit a draft of each *Subaward* and any site host agreement required to conduct the work under this Agreement for the CAM to review.
- If requested by the CAM, submit a final copy of each executed subaward and any site host agreement.
- Notify and receive written approval from the CAM prior to adding any new subrecipients or changing subrecipients (see the terms regarding of subRecipient additions in the terms and conditions).

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.11 Technical Advisory Committee (TAC)

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

- Provide guidance in project direction. 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;

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

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.12.
- Prepare a *List of TAC Members* once all TAC members have committed to serving on the TAC.
- Submit *Documentation of TAC Member Commitment* (such as Letters of Acceptance) from each TAC member.

Products:

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

Subtask 1.12 TAC Meetings

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

The Recipient shall:

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

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- 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 1.13 Project Performance Metrics

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

The Recipient shall:

- Complete and submit the project performance metrics section of the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task, to the CAM.
- Present the draft project performance metrics at the first TAC meeting to solicit input and comments from the TAC members.
- Develop and submit a *TAC Performance Metrics Summary* that summarizes comments received from the TAC members on the proposed project performance metrics. The *TAC Performance Metrics Summary* will identify:
 - TAC comments the Recipient proposes to incorporate into the *Initial Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
 - TAC comments the Recipient does not propose to incorporate with and explanation why.
- Develop and submit a *Project Performance Metrics Results* document describing the extent to which the Recipient met each of the performance metrics in the *Final Project Benefits Questionnaire*, developed in the Evaluation of Project Benefits task.
- Discuss the *Project Performance Metrics Results* at the Final Meeting.

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

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*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: VPP Toolkit Development

The goals of this task are to identify needs, establish a prioritized VPP Development Action Plan, and produce a wide range of essential tools and resources needed to establish and operate a cost-effective VPP capable of producing stable, long-term value for all stakeholders, including a VPP Forecasting Engine, a Value Sharing Plan that provides new and equitable opportunities for customers and industry trade allies, an Economic Dispatch Plan to optimize the VPP’s value creation, CAISO and Customer Settlement Procedures, and a VPP Reliability and Security Plan.

The Recipient shall:

- Conduct VPP Needs Assessment and approve *VPP and Customer Adaptation Needs Assessment Report*
- Prepare *VPP Development Action Plan*
- Complete Recipient Data Warehouse Expansion and provide details in a *Data Warehouse Expansion Memo*
- Develop and approve VPP Forecasting Engine and prepare *VPP Forecasting Methodology Report*
- Develop and approve *VPP Value Sharing Plan*
- Develop and approve *VPP Economic Dispatch Plan*
- Develop and approve Participating Customer Settlement Procedures and describe the procedures in a *Participating Customer Settlement Procedures Memo*
- Develop and approve CAISO Bidding and Settlement Procedures and describe the procedures in an *CAISO Bidding and Settlement Procedures Memo*
- Develop and approve *VPP Reliability and Security Plan*

Products:

- VPP and Customer Adaptation Needs Assessment Report
- VPP Development Action Plan (draft and final)
- Data Warehouse Expansion Memo
- VPP Forecasting Methodology Report
- VPP Value Sharing Plan (draft and final)
- VPP Economic Dispatch Plan (draft and final)
- Participating Customer Settlement Procedures Memo
- CAISO Bidding and Settlement Procedures Memo
- VPP Reliability and Security Plan (draft and final)

TASK 3: DERMS Buildout and Testing

The goals of this task are to build out the core capabilities of Recipient’s OpenADR-based eDERMS to enable advanced active load shaping and market-integrated demand response applications, and thoroughly testing all eDERMS functions to achieve user acceptance and OpenADR 3.0 VTN certification. The project team will expand the DERMS to include new graphic user interface functions, customer-facing tools and apps to enable an immersive customer experience, automated and predictive dynamic VPP formation logic, and critical integrations with Recipient and CAISO systems and procedures.

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The Recipient shall:

- Develop and approve Graphic User Interface (GUI)
- Develop and approve Customer-facing Tools and Apps
- Complete OpenADR 3.0 DERMS Upgrade
- Complete Data Lake and CRM Integrations
- Develop and approve DERMS Automation and Predictive Logic
- Complete CAISO Integrations and Procedures
- Complete integration with Recipient Scheduling and Operations
- Complete eDERMS Testing and obtain *OpenADR 3.0 VTN Certificate*
- Develop and approve *DERMS Testing and Certification Report* that details the development of the GUI, Customer-facings Tools and Apps, OpenADR 3.0 DERMS Upgrade, Data Lake and CRM integrations, DERMS Automation and Predictive Logic, CAISO Integrations and procedures, integration with Recipient Scheduling and Operations and eDERMS Testing.

Products:

- OpenADR 3.0 VTN Certificate
- DERMS Testing and Certification Report

TASK 4: Trade Ally Engagement and Onboarding

The goal of this task is to build a stable of qualified DER vendors, manufacturers, developers, aggregators, financiers and other entities capable of supporting the VPP 2X initiative and delivering high-impact DER products and services to Recipient's VPP participants. Standardized pay-for-performance contracting terms will be offered to streamline contracting and ensure a clear and consistent value proposition for interested trade allies. The Recipient proposes to administer two rounds of Requests for Proposals (RFPs) during the project timeline, to onboard two cohorts of trade allies to support program delivery. Priority will be given to respondents that service disadvantaged, low-income, and other underserved market segments and communities, as well as those who have high numbers of existing DERs already deployed within Recipient's service territory that can be easily enrolled in the VPP DERMS.

The Recipient shall:

- Develop and approve *Trade Ally Engagement Plan*
- Prepare Industry *Trade Ally Informational Webinar Recording*
- Complete *Trade Ally Request for Proposals Round 1*
- Complete *Trade Ally Request for Proposals Round 2*
- Complete Trade Ally Solicitations and Contracting
- Complete Trade Ally DERMS Integrations
- Prepare and submit a CPR Report #1.

Products:

- Trade Ally Engagement Plan (draft and final)
- Trade Ally Informational Webinar Recording
- Trade Ally Request for Proposals Round 1(draft and final)
- Trade Ally Request for Proposals Round 2(draft and final)
- CPR Report #1

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TASK 5: Customer Program Adaptations

The goals of this task is to establish a Program Adaptation Plan that identifies a step-by-step process for adapting MCE's existing Customer Programs to enable participants to easily enroll in Recipient's DERMS. Current Recipient programs available to residential, municipal, commercial, and industrial customers within the service territory include incentives for whole home retrofits, battery energy storage systems, electric vehicles and related charging equipment, agricultural and industrial equipment, and more. Projects that are eligible for incentives must have received required permits and must be exempt from CEQA. Leveraging the VPP and Customer Adaptation Needs Assessment Report developed in Task 2, all of these programs will be adapted to include equipment that is compatible with Recipient's eDERMS platform, as well as marketing materials promoting the value and benefits of participating in the VPP program. Trade allies and program partners will receive the training and education necessary to effectively offer the VPP program and field customer questions.

The Recipient shall:

- Develop and approve *Program Adaptation Plan*
- Complete Program Adaptations including:
 - Screening and evaluation of incentive sites for permitting requirements and environmental review.
- Provide *Confirmation of Incentive Site Letter(s)* with information on how each location and all installations are exempt from CEQA for CAM review.
- Identify Equitable Project Financing Options

Products:

- Program Adaptation Plan (draft and final)
- Confirmation of Incentive Site Letter(s)

TASK 6: Customer Outreach and Enrollment

The goal of this task is to prepare a Community Engagement Plan and coordinate the implementation of that plan with the project team and contracted trade allies to market the program throughout the service territory. Priority will be given to disadvantaged and underserved communities. The Recipient will provide targeted leads and technical assistance to participating trade allies to support project assessments and engineering, proposal development, and customer interactions to facilitate effective outreach and enrollment of customers, and registration of the DERs and customers in Recipient's DERMS.

The Recipient shall:

- Develop and Approve *Community Engagement Plan*
- Implement Community Engagement Plan

Products:

- Community Engagement Plan (draft and final)
- Confirmation of Incentive Site

TASK 7: DER Deployment and Registration

The goal of this task is to deploy and register new DERs and the registration of existing DERs that have already been deployed with Recipient's DERMS platform, enabling a rapid and cost-effective scale-up of the VPP's capacity and flexible load management capabilities. DERs will

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include PV, BESS, EVs and EVSE, load controllers, building automation systems, HPHW, Heat pump-HVAC, smart thermostats and climate control devices, Home Area Networks (HAN), Non-Intrusive Load Monitoring (NILM), and more. This diversity of eligible technologies will yield a diversified portfolio of DERs that enables a wide range of dynamic VPP use cases. The Recipient's proposed strategy will reduce the time and expense associated with that scale up by taking advantage of existing assets that do not require long sales cycles, permitting or interconnection processes, or supply chain delays. This approach will improve cost-effectiveness and ensure that the Recipient can achieve the proposed objectives for reliable, long-term flexible load capacity for the VPP.

Allowable DERs include:

- PV systems that are either constructed on the roof of an existing building or an existing parking lot and may include associated equipment with a footprint of 500 square feet. The site must not contain plants protected by the Native Plant Protection Act or the removal of a native tree over 25 years old. The associated equipment must not require a Section 401 or 404 Clean Water Act permit or a waste discharge under the Porter-Cologne Water Quality Control Act, an individual take permit for Endangered Species or a streambed alteration permit.
- PV system, battery storage, EVSE, load controllers, building automation systems, heat pumps, smart thermostats, climate control devices or related devices that consist of operation, repair, or minor alteration of existing structures, facilities, mechanical equipment involving negligible or no expansion of existing or former uses.
 - Additions to existing structures that will not result in an increase of more than 10,000 sq.ft. if the project location is not environmentally sensitive.
 - Installation of the DER must not have a significant effect on the environment due to unusual circumstances, result in damage to scenic resources within a state scenic highway, involve a listed hazardous waste site or cause a substantial adverse change in the significance of a historical resource.

The Recipient shall:

- Conduct DER Project Development and Tracking including screening for permitting requirements and confirmation that selected DER projects are exempt from CEQA
- Develop and approve *DER Project Development Tracker*
- Develop and approve *Demand Response Registration System (DRRS) Registration Log*
- Lead Customer Communication and Coordination
- Lead Trade Ally and Contractor Management and Coordination
- Coordinate DER Installation, Commissioning, and DERMS Registration
- Manage Participant Registration in the DRRS
- Develop and approve a *DER Deployment and Registration Memo* that details the Lead Customer Communication and Coordination, Lead Trade Ally and Contractor Management and Coordination, DER Installation, Commissioning, and DERMS Registration and Participant Registration in the DRRS

Products:

- DER Project Development Tracker
- DRRS Registration Log
- DER Deployment and Registration Memo

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TASK 8: VPP Operation and Optimization

The goal of this task is to ensure security and reliability and optimal performance over the project timeline, where the project team will operate the VPP on a 24/7 basis 365 days per year. The team will manage customer interactions and coordinate contractor and trade ally activities using simple communications enabled by OpenADR. New use cases will be developed, modeled, tested, implemented, and refined to enhance system performance and overall VPP value creation. The automation and predictive dynamic VPP formation logic will be implemented to support both CAISO market-integrated demand response, and active load shaping use cases designed to reduce Recipient's costs of operation and market risk exposure.

The Recipient shall:

- Conduct Use Case Development and Refinement
- Manage Participating Customer Interactions
- Manage Trade Ally Communication and Coordination
- Implement Automated and Predictive VPP Use Cases
- Place Schedule in CAISO markets
- Deliver Customer VPP Bill Credits and Annual True-ups
- Manage VPP Performance Tracking and Reporting
- Manage DERMS Software Maintenance
- Develop and approve *DERMS Performance Reports (x3)*
- Develop and approve *VPP Operation and Optimization Memo* that details Use Case Development and Refinement, Participating Customer Interactions, Trade Ally Communication and Coordination and Implementation of the Automated and Predictive VPP Use Cases
- Prepare and submit a *CPR Report #2*.

Products:

- DERMS Performance Reports (x3)
- VPP Operation and Optimization Memo
- CPR Report #2

TASK 9: MEASUREMENT AND VERIFICATION

The goal of this task is to secure a qualified independent Measurement and Verification (M&V) provider through an open public solicitation. This vendor will be responsible for refining and implementing the proposed M&V Plan. Three comprehensive M&V Reports will be prepared to validate the DERMS and VPP Program performance and related customer bill true-up calculations.

The goals of this task are to:

- Establish a baseline for best-in-class or industry-standard equipment
- Measure and verify the performance of grant-funded equipment relative to the established baseline
- Quantify demonstration performance and associated benefits

The Recipient shall:

- Engage an independent third-party to describe, define, and validate performance of best-in-class and industry-standard equipment to serve as a baseline for measurement and verification.
 - Develop and approve *M&V Provider Contract*

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- Develop rigorous process performance estimations that reflect best-in-class performance at selected sites.
- Prepare analysis of capital costs (CapEx), operating expenses (OpEx), Utilities usage, permitting risks, and life cycle analysis (LCA) for best-in-class baseline on equivalent basis.
- Prepare and provide a detailed *M&V Plan* to include:
 - A description of monitoring and data collection equipment.
 - A description of data to be measured, to what purpose, and in what terms.
 - Identification of required data acquisition criteria, such as steady state operation and sampling frequency, for all parameters.
 - A description of the analysis methods to be employed to allow for measurement of all performance criteria listed in the Agreement Objectives section of this Scope of Work.
 - Description of the third-party measurement and verification party and services to be employed.
 - 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.
- Submit the independent third-party's *M&V Parameters Report* to describe, define, and validate baseline for best-in-class and industry standard equipment.
- Prepare and provide three *M&V Findings Reports*.

Products:

- M&V Provider Contract
- M&V Plan (draft and final)
- M&V Parameters Report
- M&V Findings Reports (x3)

TASK 10: EVALUATION OF PROJECT BENEFITS

The goal of this task is to report the benefits resulting from this project. The project team will focus on establishing the expected net project benefits and monitoring progress towards meeting those objectives with annual Assessment Reports. The project team will analyze the cost-effectiveness of the project, including the required 4 year Cost Recovery Target evaluation, which will be included in the Reports.

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

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- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and Recipient directory on the [Energize Innovation website \(www.energizeinnovation.fund\)](http://www.energizeinnovation.fund), and 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 \(www.energizeinnovation.fund\)](http://www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

- Initial Project Benefits Questionnaire
- Annual Survey(s)
- Project Net Benefits and Cost Recovery Assessment Reports (x3)
- Final Project Benefits Questionnaire
- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund

TASK 11: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

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, as well as other key stakeholders in Recipient's VPP 2X initiative.

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*.

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- TAC comments the Recipient does not propose to incorporate with and 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 the 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.