



California
ENERGY COMMISSION



**California Energy Commission
October 19, 2026 Business Meeting
Backup Materials for DER Security Corp.**

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

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

CALIFORNIA ENERGY COMMISSION
PROPOSED RESOLUTION: DER Security Corp.
RESOLUTION NO: 26-1019-XX

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

RESOLVED, that the CEC approves Agreement EPC-26-009 with DER Security Corp. for a \$3,360,000 grant to evaluate an advanced Virtual Power Plant (VPP) that can address reliability, affordability, and resilience challenges at the distribution edge, with particular focus on Disadvantaged Communities and Low-to-Moderate Income populations. The demonstration aims to advance a cyber-resilient VPP capable of securely coordinating high concentrations of residential and commercial/industrial inverter-based distributed energy resources in the City of San Leandro; and

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

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

AYE:

NAY:

ABSENT:

ABSTAIN:

CERTIFICATION

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly approved and adopted by affirmative vote of the CEC at a meeting held on October 19, 2026.

Kim Todd
Secretariat



GRANT REQUEST FORM (GRF)

A. New Agreement Number

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

New Agreement Number: EPC-26-009

B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Liet Le
3. MS-:None
4. Phone Number: 916-232-6331

C. Recipient's Information

1. Recipient's Legal Name: DER Security Corp.

D. Title of Project

Title of project: SYMPHONY

E. Term and Amount

1. Start Date: 11/19/2026
2. End Date: 3/31/2031
3. Amount: \$3,360,000.00

F. Business Meeting Information

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

Project Description:

- **DER Security Corp.** Proposed resolution approving agreement EPC-26-009 with DER Security Corp. for a \$3,360,000 grant to evaluate an advanced Virtual Power Plant (VPP) that can address reliability, affordability, and resilience challenges at the distribution edge, with particular focus on Disadvantaged Communities and Low-to-Moderate Income populations. The demonstration aims to advance a cyber-resilient VPP capable of securely coordinating high concentrations of residential and commercial/industrial inverter-based distributed energy resources in the City of San Leandro. (EPIC funding) Contact: Liet Le

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":



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: 15301, 15303, 15306.

This project involves testing a community-informed approach to distribution-level distributed energy resource orchestration by pairing structured engagement and partner validation with a standards-based VPP demonstration. The project evaluates whether advanced, interoperable VPP capabilities—when shaped by real-world community conditions—can deliver grid services and outcomes that are both technically viable and locally relevant.

Cal. Code Regs., tit. 14, Section 15301 Existing Facilities provides that the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment or topographical features which involve negligible or no expansion of use beyond that existing at the time of the responsible agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act. This project is exempt under Section 15301, because it includes the operation, maintenance, or minor alteration of existing public or private structures, facilities, mechanical equipment, involving negligible or no expansion of existing or former use.

Cal. Code Regs., tit. 14, Section 15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of CEQA. This project is exempt under Section 15303, because it involves construction and installation of small new equipment and facilities in small structures. The additions of solar PV panels, battery energy storage system, and ancillary equipment under the grant project fall within these parameters.



Cal. Code Regs., tit. 14, Section 15306 provides that projects which consist of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource, are categorically exempt from the provisions of CEQA. The project is exempt under Section 15306, because it includes simulation and evaluation of the proposed advanced virtual power plant (VPP) capabilities and functionalities and to assess the VPP availability and responsiveness prior to utility-integrated field demonstration in disadvantage community.

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

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.

Not applicable

b) Agreement **IS NOT** exempt.

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

Not applicable

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
Pacific Gas and Electric Company (PG&E)	\$ 110,000	\$90,000
Hanwha Q Cells America Inc.	\$ 500,000	\$200,000
WeAccel	\$ 300,000	\$0
Prologis Energy, LLC	\$ 600,000	\$200,000
The Regents of the University of California as Management and Operating Contractor for the Ernest Orlando Lawrence Berkeley National Laboratory	\$ 500,000	\$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
Vendors of WeAccel		
<i>BORJA PLUS LLC</i>	<i>\$ 72,567</i>	<i>\$ 0</i>
<i>ALAMEDA COUNTY ELECTRICAL WORKERS TRAINING FACILITY FUND CORPORATION</i>	<i>\$ 9,000</i>	<i>\$ 0</i>
<i>San Leandro Unified School District Facilities Corporation</i>	<i>\$ 4,000</i>	<i>\$ 0</i>

K. Key Partners

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

Key Partner Legal Company Name
Pacific Gas and Electric Company (PG&E)

L. Budget Information

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



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

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

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
EPIC	25-26	301.001M	\$ 3,360,000

TOTAL Amount: \$ 3,360,000

R&D Program Area: ESB: Renewables

Explanation for "Other" selection Not applicable

Reimbursement Contract #: Not applicable

Federal Agreement #: N/A

M. Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Venkat Prabhala

Address: 1 Wells Rd

City, State, Zip: Scotts Valley, CA 95066

Phone: 650-235-6338

E-Mail: vnkat@dersec.io

2. Recipient's Project Manager

Name: Vish Ganti

Address: 1 Wells Rd

City, State, Zip: Scotts Valley, CA 95066

Phone: 408-340-3526

E-Mail: vish@dersec.io

N. Selection Process Used

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-25-302
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



STATE OF CALIFORNIA
CALIFORNIA ENERGY COMMISSION

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

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	No

Approved By

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

Agreement Manager: Liet Le

Approval Date: 9/1/26

Branch Manager: Kevin Uy

Approval Date: 8/31/2026

Director: Jonah Steinbuck delegated to Branch Manager

Approval Date: 8/31/2026

EXHIBIT A

Scope of Work

DER Security Corp.

I. TASK AND ACRONYM/TERM LISTS

A. Task List

Task #	CPR ¹	Task Name
1		General Project Tasks
2	X	Community Context and Engagement
3		Measurement & Verification
4	X	Digital-Twin-in-the-loop Testing
5		Software Integration
6		Field Testing
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
ANSI	American National Standards Institute
API	Application Programming Interface
CAG	Community Advisory Group
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
CSIP	Common Smart Inverter Profile
C&I	Commercial & Industrial
DAC	Disadvantaged Communities
DER	Distributed Energy Resource
DERMS	Distributed Energy Resource Management System
DTIL	Digital-Twin-in-the-Loop
IBDER	Inverter-Based Distributed Energy Resource
IBR	Inverter-Based resource
IEEE	Institute of Electrical and Electronics Engineers
LMI	Low-to-Moderate Income
M&V	Measurement and Verification
MW	Megawatt
PG&E	Pacific Gas and Electric
PV	Photovoltaic
TAC	Technical Advisory Committee
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
DER Security Corp.

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

A. Purpose of Agreement

The purpose of this Agreement is to evaluate whether advanced Virtual Power Plant (VPP) capabilities can meaningfully address reliability, affordability, and resilience challenges as defined by communities at the distribution edge, with particular focus on Disadvantaged Communities (DACs) and Low-to-Moderate Income (LMI) populations. Through structured community engagement and stakeholder validation, the project establishes locally grounded use cases, benefit priorities, and deployment constraints that shape the design, execution, and evaluation of the technical demonstration: an advanced, cyber-resilient VPP designed to securely orchestrate high concentrations of residential and Commercial & Industrial (C&I) inverter-based distributed energy resources (DERs).

B. Problem/ Solution Statement

Problem

California communities—particularly DACs and LMI populations—experience grid reliability, affordability, and resilience challenges that are often poorly served by existing distribution-level coordination tools. These challenges include exposure to outages, limited visibility into grid conditions, and constrained ability to participate in or benefit from distributed energy resources. While technical advances in DERs continue to accelerate, misalignment between community conditions, utility coordination mechanisms, and deployment practices limits the realization of equitable and resilient outcomes.

California's transition to a high-renewables grid is hindered by the static nature of current demand response programs, which often require 10+ minute response times and rely on proprietary, non-transferrable application programming interface (API) integrations. Furthermore, existing VPP solutions often lack robust, standards-based cybersecurity, creating significant risks for grid-edge assets. These technical and security gaps prevent distributed resources from providing essential, high-speed grid services like frequency regulation and automated congestion relief, particularly impacting DACs and LMI communities.

Solution

This project tests a community-informed approach to distribution-level DER orchestration by pairing structured engagement and stakeholder validation with a standards-based VPP demonstration. Community-defined use cases, benefit priorities, and deployment constraints established through engagement activities guide the configuration, testing, and evaluation of Project SYMPHONY. The solution evaluates whether advanced, interoperable VPP capabilities—when shaped by real-world community conditions—can deliver grid services and outcomes that are both technically viable and locally relevant.

Project SYMPHONY solves these challenges by deploying the DER Security DERSync architecture, which utilizes a cloud-based DERSync Common Smart Inverter Profile (CSIP) Aggregator for Qcells residential assets and a fielded DERSync CSIP Gateway for Prologis C&I

EXHIBIT A

Scope of Work

DER Security Corp.

sites. This architecture enables automated, DER/IBR coordination via IEEE 2030.5, achieving sub-2-second response. The platform integrates the best-in-class interoperability and cybersecurity solutions to provide reliable grid services, which is of particular importance in DAC and LMI communities.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

1. Establish a transferable, community-centered engagement and validation framework that identifies locally relevant grid challenges, benefit priorities, and deployment constraints—particularly within DAC and LMI contexts—and uses these findings to govern pilot design and evaluation.
2. Demonstrate and evaluate advanced VPP capabilities configured in response to community-validated use cases, including secure, interoperable orchestration of residential and C&I IBDERs using IEEE 2030.5.
3. Assess distribution-level performance and benefits of community-informed DER coordination, including power quality support, congestion mitigation, and resilience-relevant services.
4. Develop replicable implementation and learning artifacts, including documentation and evaluation outputs, that enable other communities, asset owners, and institutions to understand how technical, community, and operational decisions were made and adapted over time.
5. Evaluate market, institutional, and operational considerations affecting scalability and transferability of community-informed VPP deployments.

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits of greater electricity reliability and lower costs. Reliability is increased through automated frequency and voltage support that stabilizes the local distribution grid as electrification increases. Costs are lowered by demonstrating a scalable VPP model that can defer expensive traditional distribution infrastructure upgrades and reduce equipment degradation through coordinated congestion management and peak load reduction.

Technological Advancement and Breakthroughs:³ This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals by demonstrating the first field-scale application of a SunSpec PKI-compliant, IEEE 2030.5-automated VPP that integrates both residential and C&I assets. This project breaks through existing barriers by replacing manual, non-standardized participation

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

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

EXHIBIT A
Scope of Work
DER Security Corp.

models with a cyber-resilient, interoperable platform capable of providing essential grid services previously reserved for fossil-fuel-based generation.

Agreement Objectives

The objectives of this Agreement are to:

- Establish and operationalize a community-led validation process in San Leandro, including a Community Advisory Group with a cadence shaped by member availability and priorities, to define locally relevant grid challenges, benefit priorities, and deployment constraints that govern pilot design and evaluation.
- Demonstrate distribution-level grid services aligned with community-validated priorities, including maintaining local voltage within ANSI C84.1 limits through automated Volt-Var and Volt-Watt control during targeted field tests.
- Evaluate capacity management performance under community-informed operating conditions, including the successful management of five 24-hour capacity management blocks without violating PG&E Dynamic Operating Envelopes.
- Assess the technical feasibility of fast-response DER coordination by achieving sub-2-second response times for fielded and simulated DER assets using IEEE 2030.5 CSIP functionality, as configured in response to community-defined use cases.
- Support community capacity building through applied learning, including provision of workforce development funding to enable local clean energy internships that contribute to documentation, system understanding, and learning transfer during the project performance period.

EXHIBIT A
Scope of Work
DER Security Corp.

III. TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

The Recipient shall:

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

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

For products that require a final version only

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

For all products

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

following: Instructions for Submitting Electronic Files and Developing Software:

o **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.

EXHIBIT A

Scope of Work

DER Security Corp.

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.

o **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:

- o The CAM's expectations for accomplishing tasks described in the Scope of Work;
- o An updated Project Schedule;
- o Terms and conditions of the Agreement;

EXHIBIT A
Scope of Work
DER Security Corp.

- o Invoicing and auditing procedures;
 - o Travel;
 - o Equipment purchases;
 - o Administrative and Technical products (subtask 1.1);
 - o CPR meetings (subtask 1.3);
 - o Monthly Calls (subtask 1.5)
 - o Quarterly Progress reports (subtask 1.6)
 - o Final Report (subtask 1.7)
 - o Match funds (subtask 1.8);
 - o Permit documentation (subtask 1.9);
 - o Subawards(subtask 1.10);
 - o Technical Advisory Committee meetings (subtasks 1.11 and 1.12);
 - o Agreement changes;
 - o Performance Evaluations; and
 - o Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
 - o Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
 - o Project schedule that identifies milestones
 - o 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 1.8) (*if applicable*)
- Permit Status Letter (subtask 1.9) (*if applicable*)

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings

The goal of this subtask is to determine if the project should continue to receive CEC funding and, if so, whether any modifications should be made to the tasks, products, schedule, or budget. CPR meetings are a key opportunity for open and candid discussions between the CEC and the Recipient about project progress, challenges, and next steps. CPR meetings may also provide a forum for the Recipient to share project insights with interested CEC staff and CEC partners, at the CAM's discretion.

CPR meetings are typically scheduled at key inflection points in the project, as identified in the Task List on page 1 of this Exhibit. They should align with natural phase transitions, such as after design completion but before major procurement decisions, so that the CEC can make an

EXHIBIT A

Scope of Work

DER Security Corp.

informed Progress Determination based on project performance and risk. CPR meetings are generally conducted virtually but may be held at a project site, at the CEC, or another location, as determined by the CAM. Site visits are typical for demonstration projects or when in-person observation would enhance the CEC's understanding of project progress.

The CAM may schedule additional CPR meetings as needed to address emerging issues or concerns. The budget may be reallocated to cover the additional costs borne by the Recipient, but the overall Agreement amount will not increase.

The Recipient shall:

- Prepare and submit a CPR Presentation for each CPR meeting, structured to (1) report on progress with respect to the Scope of Work, budget, and schedule; identify any risks or needed changes to the Agreement; provide justification for continued funding; and (2) share project insights and progress towards achieving the Agreement's goals and objectives.
- Attend the CPR meeting and deliver the CPR Presentation and any other requested material, as outlined in the CPR Agenda provided by the CAM.

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. The CPR Agenda will outline the structure and expectations for the CPR Presentation.
- Conduct each CPR meeting.
- Issue a Progress Determination summarizing the meeting, stating whether the project will continue, and identifying any potential modifications to the Agreement or its products. The Progress Determination may include conditions that the Recipient must meet for the project to continue to receive CEC funding.

Recipient Products:

- CPR Presentation(s)

CAM Products:

- CPR Agenda(s)
- Progress Determination(s)

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.

EXHIBIT A

Scope of Work

DER Security Corp.

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

Products:

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

MONTHLY CALLS, REPORTS AND INVOICES

Subtask 1.5 Monthly Calls

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

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

EXHIBIT A

Scope of Work

DER Security Corp.

Subtask 1.6 Quarterly Progress Reports and Invoices

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

The Recipient shall:

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

Recipient Products:

- Quarterly Progress Reports
- Invoices

CAM Product:

- Invoice template

Subtask 1.7 Final Report

The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement.

When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.7.1 Final Report Outline

The Recipient shall:

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

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 1.7.2 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:

EXHIBIT A

Scope of Work

DER Security Corp.

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

Products:

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

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND 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

EXHIBIT A

Scope of Work

DER Security Corp.

Agreement, the Recipient may spend match funds for this task. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

The Recipient shall:

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

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

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

Products:

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

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.

EXHIBIT A

Scope of Work

DER Security Corp.

The Recipient shall:

- Prepare a *Permit Status Letter* that documents the permits required to conduct this Agreement. If no permits are required at the start of this Agreement, then state this in the letter. If permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies: (1) the type of permit; and (2) the name, address, and telephone number of the permitting jurisdictions or lead agencies.
 - The schedule the Recipient will follow in applying for and obtaining the permits.

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

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

Products:

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

Subtask 1.10 Obtain and Execute Subawards and Agreements with Site Hosts

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

The Recipient shall:

- Execute and manage subawards and coordinate subrecipients activities in accordance with the requirements of this Agreement.
- Execute and manage site host agreements and ensure the right to use the project site throughout the term of the Agreement, as applicable. A site host agreement is not required if the Recipient is the site host.
- Notify the CEC in writing immediately, but no later than five calendar days, if there is a reasonable likelihood the project site cannot be acquired or can no longer be used for the project.
- 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.

EXHIBIT A
Scope of Work
DER Security Corp.

- Submit a *Subaward and Site Letter* to the CAM describing the subawards and any site host agreement needed or stating that no subawards or site host agreements are required.
- If requested by the CAM, submit a draft of each *Subaward* and any *Site Host Agreement* required to conduct the work under this Agreement.
- If requested by the CAM, submit a final copy of each executed *Subaward* and any *Site Host Agreement*.
- Notify and receive written approval from the CAM prior to adding any new subrecipient (see the terms regarding subrecipient additions in the terms and conditions).

Products:

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

TECHNICAL ADVISORY COMMITTEE

Subtask 1.11 Technical Advisory Committee (TAC)

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

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

EXHIBIT A

Scope of Work

DER Security Corp.

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

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

The Recipient shall:

- Prepare a *List of Potential TAC Members* that includes the names, companies, physical and electronic addresses, and phone numbers of potential members. The list will be discussed at the Kick-off meeting, and a schedule for recruiting members and holding the first TAC meeting will be developed.
- Recruit TAC members. Ensure that each individual understands member obligations and the TAC meeting schedule developed in subtask 1.12.
- 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* for each TAC Meeting that include any

EXHIBIT A

Scope of Work

DER Security Corp.

recommended resolutions of major TAC issues.

The TAC shall:

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

Products:

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

Subtask 1.13 Project Performance Metrics

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

The Recipient shall:

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

EXHIBIT A

Scope of Work

DER Security Corp.

Products:

- TAC Performance Metrics Summary
- Project Performance Metrics Results

IV. TECHNICAL TASKS

TASK 2 COMMUNITY CONTEXT AND ENGAGEMENT

The outputs of Task 2 establish community-informed use cases, benefit priorities, and implementation constraints through structured discovery and validation, and these findings govern how pilot configurations, site selection criteria, and evaluation parameters are defined and applied across subsequent technical tasks under this Agreement. The goals of this task are to conduct stakeholder-informed pilot sites and use case discovery, benefit validation, and equity-grounded learning to shape the design and development of the solution.

Subtask 2.1 Stakeholder Landscape, Engagement, Pilot Discovery & Disadvantaged Community (DAC) Benefit Alignment

The goals of this task are to 1) define stakeholder categories 2) engage with stakeholders to identify their challenges, constraints, and priorities 3) define and validate project benefits through a DAC-centered lens 4) align benefits with local conditions and stakeholder needs and 5) establish criteria for pilot site selection.

The Recipient shall:

- Define stakeholder categories across residential, commercial, industrial, utility, community choice aggregator, workforce, education, and civic sectors, including engagement criteria and decision-making relevance.
- Conduct a project kickoff event to align stakeholders on project goals, engagement structure, and research framing.
- Establish a Community Advisory Group (CAG) to facilitate two structured engagement sessions by and across stakeholder segments to surface energy challenges, priorities, pilot suitability criteria, and DAC-focused benefit dimensions (resilience, affordability, health, workforce development access).
- Develop visual mapping tools and accessible communication materials that educate on and clarify stakeholder relationships, regional boundaries, constraints, opportunities, and benefits tailored to diverse audiences.
- Establish structured feedback loops to refine benefit assumptions and pilot criteria based on stakeholder input, with particular focus on DAC and local conditions in the City of San Leandro.
- Prepare a consolidated framework report documenting the stakeholder landscape, engagement approaches, participation, synthesized input, pilot site selection criteria, and DAC benefit definitions in a *Stakeholder Engagement, DAC Benefit Alignment and Pilot Discovery Framework Report*.

Products:

- Stakeholder Engagement, DAC Benefit Alignment and Pilot Discovery Framework Report (draft and final)

Subtask 2.2 Finalize Pilot Sites

The goal of this task is to leverage the findings, the stakeholder constraints and the

EXHIBIT A

Scope of Work

DER Security Corp.

criteria identified in Task 2.1 to finalize pilot sites (residential, commercial, and/or industrial) and inverter-based resources for technology demonstrations.

The Recipient shall:

- Shortlist pilot site candidates against the selection criteria established in Task 2.1.
- Assess the technical characteristics of inverter-based resources at each candidate site, including capacity, communication capabilities, and control infrastructure.
- Evaluate site readiness factors including existing control systems, metering infrastructure, and data access capabilities.
- Coordinate with site operators and asset owners to confirm participation requirements, data sharing agreements, and operational constraints.
- Finalize the portfolio of pilot sites across residential, commercial, and/or industrial sectors that collectively demonstrate diverse VPP capabilities.
- Document the final pilot site selection, including technical specifications and resource inventory at each site in a *Demonstration Site Selection Report*.

Products:

- Demonstration Site Selection Report (draft and final)

Subtask 2.3 Determine Use Cases to be Demonstrated

The goal of this task is to determine the specific use cases to be demonstrated at the pilot sites that align with the technical capabilities, stakeholder requirements, and site characteristics identified in Task 2.1 and Task 2.2.

The Recipient shall:

- Identify potential use cases including but not limited to day-ahead dispatch events, hour-ahead dispatch events, responding to hourly dynamic prices and advanced grid support services (frequency and voltage regulation).
- Prioritize use cases based on stakeholder input (such as constraints, preferences and feasibility considerations) from Task 2.1, including utility needs, customer-relevant impacts, and community priorities.
- Document the portfolio of the chosen use cases, technical requirements and site-specific implementation strategies for each in a *Use Case Definitions and Demonstration Strategy Report*.
- Prepare and submit a *CPR Report #1*.
- Attend the CPR meeting per subtask 1.3.

Products:

- Use Case Definitions and Demonstration Strategy Report (draft and final)
- CPR Report #1

TASK 3 MEASUREMENT AND VERIFICATION

The goals of this task are to develop and apply a Measurement and Verification (M&V) plan by an independent third-party that evaluates simulation testing and field demonstration results based on community-informed use cases, benefit priorities, and implementation constraints identified through Task 2 discovery and validation activities. The M&V framework defines performance metrics and information requirements across technical, non-energy, and community-focused dimensions and ensures that evaluation reflects both system performance

EXHIBIT A

Scope of Work

DER Security Corp.

and community-relevant outcomes.

Subtask 3.1 Develop M&V Plan

The goals of this task are to 1) define performance metrics across technical, non-energy, and community-focused dimensions 2) determine information requirements, assessment methods, and verification procedures and 3) develop test plans for evaluating each use case to assess VPP availability and responsiveness.

The Recipient shall:

- Define technical performance metrics for each use case, as well as non-energy and community-focused metrics derived from DAC / LMI benefit priorities identified through Task 2.1 community discovery and validation activities.
- Determine data collection requirements including but not limited to sampling rates and data formats for each pilot site.
- Develop baseline measurement procedures and values.
- Design test plans for each use case detailing signals to communicate, commands to send, test scenarios, and expected responses.
- Define success criteria and performance thresholds for each metric and use case.
- Document the comprehensive M&V framework including metrics definitions, data requirements, test procedures, baseline values, and evaluation criteria in a *Third-Party Measurement & Verification Plan*.

Products:

- Third-Party Measurement & Verification Plan (draft and final)

Subtask 3.2 Analyze Simulation Testing Results

The goal of this task is to perform comprehensive analysis of simulation testing results upon completion.

The Recipient shall:

- Collect simulation performance data according to third-party M&V Plan specifications.
- Analyze technical performance, system behavior under various scenarios, and communication / control effectiveness across distributed resources.
- Compare results against success criteria defined in the third-party M&V Plan and informed by community-validated use cases and benefit priorities identified through Task 2, and identify improvement opportunities and implementation challenges.
- Document findings, performance analysis, and recommendations in a *Simulation Testing Analysis Report*.

Products:

- Simulation Testing Analysis Report (draft and final)

Subtask 3.3 Evaluate Field Demonstration Results

The goal of this task is to conduct evaluation of field demonstrations in accordance with the third-party M&V Plan, reflecting community-informed use cases, benefit priorities, and implementation constraints identified through Task 2.

The Recipient shall:

- Collect and validate data from the inverter-based resources at the different

EXHIBIT A

Scope of Work

DER Security Corp.

demonstration sites based on community-informed use cases and corresponding metrics defined in the third-party M&V Plan.

- Analyze performance across technical, non-energy, and community-focused metrics, comparing field results to simulation predictions.
- Document performance results, evaluation findings, benefit quantification, lessons learned, and deployment recommendations in a *Third-Party Measurement and Verification Report*.

Products:

- Third-Party Measurement and Verification Report (draft and final)

TASK 4 DIGITAL TWIN SIMULATION AND TESTING

The goals of this task are to develop digital twins of the DERs based on community-informed pilot site selection criteria and use cases identified through Task 2 discovery and validation activities, create a testing framework, and conduct Digital-Twin-in-the-Loop simulations to validate DERSync functionality and use-case performance prior to field deployment.

Subtask 4.1 Develop Digital Twin Specifications

The goal of this task is to develop specifications for digital twins of IBDERs based on community-informed pilot site selection criteria, deployment constraints, and use cases identified through Task 2 discovery and validation activities.

The Recipient shall:

- Identify and define the technical specifications (such as equipment capacity, operating constraints and certifications) of relevant IBDER resources at the demonstration sites including, but not limited to solar photovoltaic (PV) systems and battery energy storage.
- Specify modeling requirements for coordination behavior, grid interactions, and use case-specific performance parameters aligned with Task 2.3 demonstrations.
- Document digital twin specifications, modeling requirements, and validation criteria in a *Digital Twin Specifications Report*.

Products:

- Digital Twin Specifications Report (draft and final)

Subtask 4.2 Develop Digital Twins of IBDERs & Customer Resources

The goal of this task is to develop digital twins of IBDERs and participating customer resources configured in accordance with community-informed pilot site selection criteria, deployment constraints, and use cases identified through Task 2 discovery and validation activities.

The Recipient shall:

- Develop IEEE 1547-compliant digital twin models for each IBDER including electrical characteristics, state-of-charge operations, and response characteristics.
- Integrate communication protocol emulation (IEEE 2030.5, SunSpec Modbus, UL 3141) to replicate field deployment conditions.
- Validate digital twin accuracy against manufacturer specifications, historical performance data, laboratory and/or pilot site measurements.
- Document developed digital twins, model validation results, and implementation

EXHIBIT A

Scope of Work

DER Security Corp.

details in a *Digital Twin Development Report*.

Products:

- Digital Twin Development Report (draft and final)

Subtask 4.3 Develop DTIL Test Plan

The goal of this task is to conduct Digital-Twin-in-the-Loop (DTIL) testing of community-informed use cases and configurations identified through Task 2 discovery and implemented in Subtasks 4.1–4.3.

The Recipient shall:

- Design test scenarios for community-informed use cases identified through Task 2, including normal operations, day-ahead and hour-ahead dispatch events, frequency regulation, voltage support, and renewable integration scenarios.
- Define test sequences specifying signals to be transmitted (dynamic prices, frequency deviations, voltage requirements), coordination commands, and expected IBDER responses.
- Establish simulation parameters including time horizons, temporal resolution, network conditions, and disturbance scenarios to stress-test system performance.
- Specify data collection protocols, performance evaluation criteria, and success metrics aligned with the third-party M&V Plan from Task 3.1.
- Document the comprehensive testing plan in a *Digital-Twin-in-the-Loop Test Plan*.

Products:

- Digital-Twin-in-the-Loop Test Plan (draft and final)

Subtask 4.4 Conduct DTIL Testing

The goal of this task is to conduct DTIL testing.

The Recipient shall:

- Execute DTIL simulations by integrating the DERSync platform with digital twins across all defined use cases and test scenarios. Verify IEEE 2030.5 commands can provide the desired grid-support functionality.
- Assess cybersecurity framework effectiveness including certificate management and intrusion detection during simulated attack scenarios.
- Identify software bugs, optimization opportunities, and configuration refinements needed prior to field deployment.
- Document testing results, performance analysis, identified issues, and recommended modifications in a *Digital-Twin-in-the-Loop Testing Results Report* that feeds into Task 3.2 analysis.
- Prepare and submit a *CPR Report #2*.
- Attend the CPR meeting per subtask 1.3.

Products:

- Digital-Twin-in-the-Loop Testing Results Report (draft and final)
- CPR Report #2

EXHIBIT A

Scope of Work

DER Security Corp.

TASK 5 SOFTWARE INTEGRATION

The goals of this task are to develop specifications for connecting the DERSync platform with the Pacific Gas and Electric's (PG&E's) Distributed Energy Resource Management System (DERMS) and pilot site systems and resources in a manner responsive to community-informed use cases, deployment constraints, and operational priorities identified through Task 2 discovery and validation activities. This task includes development of the required software integrations and functional testing to ensure secure connectivity and expected functionality prior to field deployment.

Subtask 5.1 Develop Site Integration Specifications

The goal of this task is to develop specifications for integrating DERSync with hardware and software systems at the demonstration sites, consistent with community-informed use cases, site constraints, and operational conditions identified through Task 2 discovery.

The Recipient shall:

- Document existing systems and the control and communication infrastructure at the demonstration sites.
- Define integration requirements for each IBDER type including data exchange formats, communication protocols (such as IEEE 2030.5, SunSpec Modbus and UL 3141), application programming interface (API) specifications, and control interfaces.
- Specify cybersecurity requirements including authentication, encryption, certificate management aligned with DERSync's security framework (DER Sentry).
- Document the software specifications, system interfaces, data flows, and security requirements in a *Site Integration Specifications Technical Memorandum*.

Products:

- Site Integration Specifications Technical Memorandum

Subtask 5.2 Develop Utility Integration Plan

The goal of this task is to develop a utility integration plan that describes how the DERSync platform will integrate with PG&E's DERMS platform and their dynamic price distribution web server.

The Recipient shall:

- Identify the utility integration requirements to PG&E's platforms such as the DERMS platform, the GridX price server, and the GRIP ArcGIS server.
- Develop specifications for integrating with these servers to support the use cases defined in Task 2, while ensuring compliance with utility standards and cybersecurity requirements, and document this in the *Utility Integration Plan Technical Memorandum*.

Products:

- Utility Integration Plan Technical Memorandum

Subtask 5.3 Develop Software Connectors

The goal of this task is to develop software connectors to partner resources, utility DERMS, and

EXHIBIT A

Scope of Work

DER Security Corp.

other systems.

The Recipient shall:

- Develop software connectors for QCells and Prologis site systems implementing standardized protocols (e.g., SunSpec Modbus, IEEE 2030.5) as specified in Task 5.1.
- Implement connectors to integrate with utility DERMS and other systems, enabling bidirectional communication of signals, commands, and telemetry data according to specifications from Task 5.2.
- Integrate cybersecurity components including certificate management, encrypted communications, and intrusion detection capabilities across all connectors.
- Document software connector architecture, implementation details, API specifications, and deployment procedures in a *Software Integration Technical Memorandum*.

Products:

- Software Integration Technical Memorandum

Subtask 5.4 Integrate DERSync Components

The goal of this task is to integrate software components of DERSync and perform functional testing to verify module interoperability and communication.

The Recipient shall:

- Integrate all DERSync modules including coordination algorithms, communication middleware, cybersecurity framework, and device connectors.
- Configure system parameters including coordination rules, optimization objectives, communication timeouts, and security policies based on use case requirements.
- Execute functional testing to verify proper data exchange, command propagation, and information flow across all integrated modules.
- Validate that cybersecurity components operate correctly across module interfaces.
- Identify and resolve software defects, communication failures, and integration issues discovered during testing.
- Document the integrated system architecture, configuration parameters, testing procedures, results, and system readiness in a *DERSync Software Architecture and Functional Testing Report*.

Products:

- DERSync Software Architecture and Functional Testing Report (draft and final)

TASK 6 FIELD TESTING

The goals of this task are to deploy the necessary hardware and software systems, commission all the systems, and conduct field testing according to the third-party M&V plan to validate real-world performance of DERSync and grid services as configured in response to community-informed use cases, deployment constraints, and operational priorities identified through Task 2 discovery and validation activities.

EXHIBIT A

Scope of Work

DER Security Corp.

Subtask 6.1 Install Additional Hardware at Demonstration Sites

The goal of this task is to install additional hardware as required at demonstration sites to support community-informed use cases, deployment constraints, and operational conditions identified through Task 2 discovery.

The Recipient shall:

- Assess hardware requirements at QCells and Prologis sites including but not limited to sensors, meters, IEEE 2030.5 communication gateways, network equipment, and edge-computing devices needed for DERSync deployment.
- Procure and install required hardware and configure network connectivity ensuring secure, reliable communication pathways between IBDERs, site systems, DERSync platform, and utility DERMS according to Task 5.
- Commission the installed equipment at the demonstration sites to ensure all hardware is network-aware and responsive to IEEE 2030.5 control signals.
- Prepare a *Hardware Installation and Commissioning Technical Memorandum* documenting the successful deployment of hardware systems, network gateways and other necessary equipment, including results of the commissioning.

Products:

- Hardware Installation and Commissioning Technical Memorandum

Subtask 6.2 Deploy DERSync at the Demonstration Sites

The goal of this task is to deploy DERSync and set up communication with IBDERs at the demonstration sites.

The Recipient shall:

- Deploy DERSync software platform and establish connectivity with the IBDERs at the demonstration sites, leveraging the modules developed in Task 5.
- Configure DERSync interfaces with utility DERMS enabling reception of grid signals and transmission of telemetry data.
- Execute commissioning tests verifying proper operation of all DERSync modules, device communication, and control command execution at each demonstration site by:
 - Verifying bidirectional communication across all connected devices and systems.
 - Verifying cybersecurity controls including authentication, encryption, certificate validation, and intrusion detection operation in the field environment.
 - Testing end-to-end workflows from utility signal receipt through DERSync, device coordination, and telemetry feedback.
 - Identifying and resolving communication failures, configuration errors, and performance issues discovered during commissioning.
- Document deployment, configuration, commissioning procedures and test results in a *DERSync Deployment and Commissioning Technical Memorandum*.

Products:

- DERSync Deployment and Commissioning Technical Memorandum

Subtask 6.3 Field Demonstration

The goal of this task is to conduct field testing according to the third-party M&V plan to validate

EXHIBIT A

Scope of Work

DER Security Corp.

performance of community-informed use cases identified through Task 2 under real-world operating conditions.

The Recipient shall:

- Execute field demonstrations (such as localized congestion relief, capacity management and high-speed advanced grid support functions) for all the use cases defined in Task 2 according to test procedures established in the third-party M&V Plan from Task 3.
- Coordinate with utility partners to receive real grid signals (dynamic prices, frequency deviations, voltage requirements) and demonstrate DERSync response during actual grid events.
- Monitor and collect performance data across technical, non-energy, and community-focused metrics throughout the demonstration period.
- Prepare a *Field Demonstration Results Dataset* that feeds into Task 3 evaluation containing field testing activities, participant feedback, high-resolution power, voltage, and frequency telemetry for all experimental use cases, indexed by site type and grid service.

Products:

- Field Demonstration Results Dataset

TASK 7 EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

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

EXHIBIT A

Scope of Work

DER Security Corp.

Products:

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

TASK 8 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

Subtask 8.1 Project Case Study

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

The Recipient Shall:

- Develop and submit a *Project Case Study Plan* that outlines how the Recipient will document the planning, construction, commissioning, and operation of the technology or system being demonstrated. The Project Case Study Plan should include:
 - An outline of the objectives, goals, and activities of the case study.
 - The organization that will be conducting the case study and the plan for conducting it.
 - A list of professions and practitioners involved in the technology's deployment.
 - Specific activities the recipient will take to ensure the learning that results from the project is disseminated to those professions and practitioners.
 - Presentations / webinars / training events to disseminate the results of the case study.
- Present the draft *Project Case Study Plan* to the TAC for review and comment.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the draft *Project Case Study Plan*. This document will identify:
 - TAC comments the Recipient proposes to incorporate into the final *Technology Transfer Plan*.
 - TAC comments the Recipient does not propose to incorporate with an explanation.
- 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 an 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 orientation) of pre- and post-technology installation at the project sites and / or related project photographs.

Products:

- Project Case Study Plan (draft and final)

EXHIBIT A

Scope of Work

DER Security Corp.

- Summary of TAC Comments
- Project Case Study (draft and final)
- High-Quality Digital Photographs

Subtask 8.2 Workforce Development & Education Integration

The goal of this subtask is to strengthen regional workforce pipelines by aligning applied learning and skill development with community-informed system requirements, operational realities, and scalability conditions identified through project engagement, testing, and evaluation activities. Workforce and education integration under this subtask emphasizes building local capacity, sparking interest in the rapidly evolving electricity system, and supporting the transfer of project infrastructure, knowledge, and operational readiness to community and institutional stakeholders.

The Recipient shall:

- Integrate workforce considerations into community engagement, benefit framing, and implementation discussions to ensure skill development needs reflect real-world deployment and scalability conditions.
- Identify and coordinate with workforce development and education partners across public, private, and non-profit sectors capable of supporting applied learning aligned with project technologies and community contexts.
- Support internship and applied learning opportunities that build technical, operational, and community-relevant skills needed for design, deployment, management, and stewardship of distributed energy systems and associated digital infrastructure.
- Document regional partners, required skill areas for DER systems and digital energy infrastructure, summaries of applied learning activities, and transferable lessons on how workforce pathways can be aligned with community-informed pilot development, industry needs, and early-stage energy research in a *Workforce Integration & Learning Report*.

Products:

- Workforce Integration & Learning Report (draft and final)

Subtask 8.3 Equity, Engagement Documentation & Reporting

The goal of this subtask is to document, synthesize, and translate equity- and engagement-related learning generated through community discovery, pilot implementation, and evaluation activities into structured, decision-relevant knowledge products that support transparency, defensible interpretation, and replication. This subtask emphasizes capturing how engagement shaped use-case discovery, benefit definition, and implementation decisions, and translating those insights into reusable frameworks rather than prescriptive outcomes.

The Recipient shall:

- Provide a reusable framework for stakeholder engagement, baseline evaluation, pilot discovery, benefit framing, and cross-partner coordination applicable across California communities by:
 - Documenting how stakeholder engagement informed pilot discovery,

EXHIBIT A

Scope of Work

DER Security Corp.

- benefit definition, and equity-related considerations.
- Combining community- and equity-driven insights, including constraints, risks, and enabling conditions identified across stakeholder segments.
- Capturing DAC and LMI community engagement learnings relevant to benefit assessment, workforce alignment, and governance readiness.
- Distinguishing place-specific dynamics from transferable methods, processes, assumptions, and decision logic.
- Reinforcing the role of local champions, trusted relationships, and institutional context as prerequisites for successful application in new settings.
- Document the framework and associated learnings in an *Equity, Engagement & Replicability Playbook*.

Products:

- Equity, Engagement & Replicability Playbook (draft and final)

Subtask 8.4 Post-Project Infrastructure Planning and Stakeholder Readiness

The goals of this subtask are to prepare stakeholders to evaluate post-project options for deployed infrastructure based on documented performance, community-relevant benefits, operational experience, and implementation challenges identified through demonstration and evaluation activities. This subtask focuses on decision-readiness and evidence-based option evaluation rather than facilitation of post-grant governance or operations.

The Recipient shall:

- Synthesize technical performance results, community benefits, operational experiences, and stakeholder feedback from demonstration activities, drawing on the Equity, Engagement & Replicability Playbook developed under Subtask 8.3, to inform post-project decision-making.
- Conduct stakeholder engagement sessions after demonstration results are available to share both positive outcomes and challenges observed during field testing.
- Facilitate stakeholder evaluation of post-project options for deployed infrastructure including continued operation, modification, decommissioning, or transfer of ownership based on documented evidence.
- Prepare decision-support materials that clearly communicate system performance, operational requirements, cost implications, and benefit realization to site hosts, asset owners, and community institutions.
- Document post-project planning process, stakeholder input, recommended pathways, and decision frameworks in a *Post-Project Infrastructure Planning and Transition Framework Report*.

Products:

- Post-Project Infrastructure Planning and Transition Framework Report (draft and final)

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.