STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

A) New Agreement # EPC-20-039 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Benson Gilbert	51	916-776-0763

C) Recipient's Legal Name	Federal ID Number
EPC Power Corp.	27-2568879

D) Title of Project
Solid-State DC-DC Power Electronics for Grid-Scale Lithium EV Battery Pack Integration

E) Term and Amount

Start Date	End Date	Amount
5/12/2021	3/31/2025	$ 3,499,532

F) Business Meeting Information

☐ ARFVTP agreements $75K and under delegated to Executive Director

Proposed Business Meeting Date 5/12/2021 ☐ Consent ☒ Discussion

Business Meeting Presenter Michael Ferreira Time Needed: 5 minutes

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

Agenda Item Subject and Description:

EPC POWER CORP.. Proposed resolution approving Agreement EPC-20-039 with EPC Power Corp. for a $3,499,532 grant to fund the design and construction of an innovative integrated power electronics/energy storage system to serve the grid-tied energy storage market, and adopting staff's determination that this action is exempt from CEQA. The system will be rated for 1 MW power and 1 MWh energy and use repurposed, second-life EV packs. The recipient will conduct a one-year technology demonstration at a facility in a disadvantaged community in San Joaquin County, California. (EPIC funding) Contact: Michael Ferreira. Staff Presentation: 5 minutes.

G) California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?
   - ☒ Yes (skip to question 2)
   - ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):
2. If Agreement is considered a "Project" under CEQA:
   - a) ☒ Agreement **IS** exempt.
     - ☐ Statutory Exemption. List PRC and/or CCR section number:
     - ☒ Categorical Exemption. List CCR section number: 15301, 15303 and 15304
     - ☐ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

The reasons for the CEQA categorical exemptions are as follows:

1. For Cal. Code Regs. (CCR), Title 14, Section 15301 (Existing Facilities): This project will design and build an innovative integrated power electronics / energy storage system to serve the grid-tied energy storage market. The proposed tasks for this project include development and testing of a novel DC-DC power conversion topology, integration of the power electronics with a battery energy storage system consisting of repurposed electric vehicle battery packs, and pilot testing of the integrated system at an existing commercial facility in San Joaquin, CA. Initial development, testing, and integration will take place at two existing, fully permitted, facilities located in San Diego County. Both of these locations are within Office and Light Manufacturing zones of their respective jurisdictions. For the above reasons, the project will not have a significant effect on the environment and is exempt under California Code of Regulations, title 14, section 15301, Existing Facilities (14 CCR, Section 15301).

2. For Cal. Code Regs. (CCR), Title 14, Section 15303 (New Construction or Conversion of Small Structures): With respect to the proposed disadvantaged community-located commercial demonstration, the project team will work with Wellhead Electric Company, Inc. (Wellhead) to install and operate the pilot system at the designated Wellhead facility in San Joaquin, CA. The proposed system will be installed and operated as an auxiliary system to the existing natural gas powered generation power plant, and is anticipated to be permitted under land-use permits already in place by Wellhead. The project does not require any additional permitting or environmental review and will result in only minor exterior or interior alterations. For these reasons, the project will not have a significant effect on the environment and is exempt under California Code of Regulations, title 14, section 15303, New Construction or Conversion of Small Structures (14 CCR, Section 15303).

3. Cal. Code Regs., title 14, section 15304 provides that projects which consist of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes are categorically exempt from the provisions of CEQA. The project will require minor alterations in the condition of land, water, and/or vegetation for trenching, and the work will not involve the removal of any trees. A reinforced concrete pad will be provided to host the proposed energy storage demonstration system in San Joaquin. The pad will be sited in a previously disturbed and graded area. Minor trenching to accommodate electrical conduits will be required in previously graded and paved areas. Therefore, this project is exempt under California Code of Regulations, title 14, section 15304: Minor Alterations to Land.

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

Check all that apply

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

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

Legal Company Name:	**Budget**
Smartville, Inc.	$ 1,397,533
Wellhead Electric Company, Inc.	$ 70,400
Indie Energy Inc.	$ 58,000
TBD - MoAB Sub-Assembly Manufacturer	$ 85,067
TBD - MoAB System Installer	$ 69,000
Renewance Inc.	$ 0 ($98,000 match only)
We Build Machines, LLC	$ 0 ($45,092 match only)

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

Legal Company Name:

J) Budget Information

Funding Source	**Funding Year of Appropriation**	**Budget List Number**	**Amount**
EPIC	19-20	301.001G	$3,499,532
			$

R&D Program Area: EDMFO: EDMF TOTAL: $ 3,499,532

Explanation for “Other” selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Rachel Lindsay
Address: 13250 Gregg St. Ste. A-2
City, State, Zip: Poway, CA 92064-7164
Phone: 661-477-7325
E-Mail: Rachel.lindsay@epcpower.com

2. Recipient's Project Manager

Name: Rachel Lindsay
Address: 13250 Gregg St. Ste. A-2
City, State, Zip: Poway, CA 92064-7164
Phone: 661-477-7325
E-Mail: Rachel.lindsay@epcpower.com

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-20-301
☐ First Come First Served Solicitation Solicitation #:

M) The following items should be attached to this GRF:

1.	Exhibit A, Scope of Work/Schedule			☒ Attached
2.	Exhibit B, Budget Detail			☒ Attached
3.	CEC 105, Questionnaire for Identifying Conflicts			☒ Attached
4.	Recipient Resolution	☒ N/A		☐ Attached
5.	CEQA Documentation	☐ N/A		☒ Attached

Agreement Manager **Date**

Office Manager **Date**

Deputy Director **Date**

Exhibit A
Scope of Work
EPC Power Corporation

TASK ACRONYM/TERM LISTS

Task List

Task #	CPR[1]	Task Name
1		General Project Tasks
2		Conduct Power Electronics Topology Assessment
3		Develop BMS Noise Immunity System and Voltage Leakage Detection System
4		Develop Non-Isolated DC-DC Topology with 500 VDC or 1,000 VDC Output
5	X	Construct Prototype Integrated Power Electronics / Energy Storage MoAB System
6		Perform System Validation and Testing
7		Install System & Conduct 12-Month Technology Demonstration at DAC Facility
8		Evaluation of Project Benefits
9		Technology/Knowledge Transfer Activities

Acronym/Term List

Acronym/Term	Meaning
BMS	Battery Management System
BTM	Behind the Meter
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
DAC	Disadvantaged Community
EOL	End of Life
EV	Electric Vehicle
MoAB	Modular Advanced Battery Unit
Recipient	EPC Power Corp.
SOH	State of Health
TAC	Technical Advisory Committee
VAC	Voltage Alternating Current
VDC	Voltage Direct Current

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

Purpose of Agreement

The purpose of this Agreement is to fund the design and construction of an innovative integrated power electronics / energy storage system to serve the grid-tied energy storage

[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.

market. The system will be rated for 1 MW power and 1 MWh energy and use repurposed electric vehicle (EV) packs (battery 2nd-life). The Recipient will conduct a one-year technology demonstration at a disadvantaged community (DAC) facility in San Joaquin, California.

Problem/ Solution Statement

Problem

Low-cost ($/kWh), reliable, and safe energy storage is critical for the State of California to achieve its renewable energy and decarbonization goals. Approximately 150 MWhs of new lithium-ion batteries are sold into California's rapidly growing EV market each week, a volume that dwarfs the amount of storage deployed in stationary applications. As these batteries are decommissioned from the transport sector for a variety of reasons, they can be repurposed for stationary applications at lower costs than new batteries. However, achieving lower costs requires improvements to power electronics systems, storage system designs, and integrated systems engineering to successfully scale product offerings while meeting the strict reliability and safety requirements demanded by the grid-tied stationary energy storage sector.

Solution

The Recipient has developed key power electronics and retired EV battery energy storage technologies to address the multiple barriers faced by repurposing EV batteries for stationary grid storage applications at scale, including integrated DC-DC power conditioning systems, and advanced battery controls and cycling management that mitigates used battery imbalances to a uniform state of health (SOH), to achieve product reliability, safety, and warrantied value. The Recipient has incorporated these advancements into an initial design concept for prototype and pre-production systems called Modular Assembly Battery (MoAB) units, which are capable of integrating multiple used battery form factors while overcoming the barriers of cost, scalability, reliability, and safety. The proposed project will develop the power electronics portion into an economically viable solution for integration into the MoAB unit and demonstrate this technology for one-year at a DAC facility in San Joaquin, California.

Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Determine the optimal power electronics architectures for non-isolated MoAB unit to supply either a 500-voltage direct current (VDC) or 1,000 VDC regulated input to an inverter for 480 voltage alternating current (VAC) of 530VAC output.
- Develop hardware and software for battery management system (BMS) communication signal immunity to inverter noise.
- Develop hardware and software for voltage leak detection at millisecond timescales to prevent battery pack safety issues.
- Develop the DC-DC power electronics prototype(s).
- Construct a prototype MoAB with integrated power electronics, noise immunity, and voltage leakage detection.
- Validate and test the prototype MoAB in a laboratory environment to assess system parameters.

- Demonstrate the MoAB prototype system at a DAC community facility in San Joaquin, California.
- Report the benefits resulting from the prototype MoAB development and demonstration project.
- Ensure the learning that resulted from the MoAB development project is captured and disseminated so that similar efforts build on the lessons learned.

Ratepayer Benefits:

The Recipient estimates Ratepayer Benefits of the proposed DC-DC converter topology using three case studies:

- Case 1: 1,000 kW / 1,000 kWh pilot demonstration located in San Joaquin, CA
  - Hosted by partner Wellhead Electric Company, Inc.
  - Located in CalEnviroScreen 3.0-rated 85-90% percentile DAC
  - Provision of energy-shifting and renewable energy integration services
- Case 2: Scaled manufacturing of one MoAB system per week
  - Equivalent to 250 kWh per week and 1 MWh per month
  - Combination of behind-the-meter (BTM) and transmission-level interconnection agreements
- Case 3: MoAB deployment consisting of 25% of used EV battery supply in California by 2027
  - 11,250 battery packs @ 50 kWh nominal per pack
  - Equivalent to 500 MWh and 2,000 MoAB units

Projected Ratepayer Benefits of the Three Case Analyses

	Case 1: 1,000 kW / 1,000 kWh	**Case 2**: 250 kWh per week, 4 MoAB units/month	**Case 3**: 500 MWh by 2027
Annual electricity cost savings	$216,000/yr.	$2,808,000/yr.	$108M/yr.
Annual energy processed	350 MWh/yr.	4,550 MWh/yr.	175 GWh/yr.
Peak load shifting	1,000 kW/mo.	13 MW/mo.	500 MW/mo.
Resiliency	10 hours of back-up power at 100 kW	10 hours of back-up power at 1,300 kW	20 hours of back-up power at 25 MW
Resource savings	Reduced nickel, cobalt, and lithium extraction due to use of repurposed battery packs. Reduced logistics and recycling costs.		
Air emission reductions	Reduced NOx and particulate emissions due to fewer gas turbine start-ups, runtime, and standby operations.		

Non-Energy Benefits

Non-energy benefits can be classified into several categories, including air quality, reduced resource extraction, safety, and reduced impacts from wildfires and other planned and unplanned grid outages. However, one unique attribute of unlocking the potential to cost-

effectively repurpose EV battery packs is the ability to reduce the impacts of recycling and the associated logistics costs of processing large-format battery packs before they have reached actual end-of-life (EOL) and capturing the value of recycled materials within California.

The current approach to battery second-life requires substantial labor for testing, sorting and integration. To reduce these costs, retired batteries are often shipped overseas for handling, refurbishing, and reuse. As a result, California loses the material stream which could help support a lithium-ion battery circular economy and promote domestic manufacturing of lithium-ion batteries. By estimation, the repurposing of batteries will bring an additional $5,400/ton revenue to the overall supply chain of repurposing, reuse, recycling, and manufacturing of new battery resources, assuming resale value of $9,000/ton and a second-life life battery yield rate of 60%.

$$Repurpose\ Revenue = \ Resale\ Price\ per\ Ton * Yield\ Rate$$
$$= \frac{\$9000}{ton} * \ 60\% \ = \frac{\$5400}{ton}$$

Technological Advancement and Breakthroughs:[2] This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the State of California's statutory energy goals because the Recipient's proposal will demonstrate a low-cost, easy-to integrate second-life Modular Assembly Battery, or MoAB™ with innovative DC-DC power electronics. The 250 kW, 250 kWh MoAB comprises four retired EV battery packs and the controls necessary to enable integration into utility-scale and commercial energy storage systems.

The MoAB serves as a basic 250 kWh building block for stationary energy storage systems. This is an important development because the use of retired EV battery packs is not only a highly competitive stationary energy storage solution that can increase the value proposition of renewable energy systems coupled with energy storage, especially when compared to new battery energy storage systems, but is also an excellent alternative to landfilling or recycling retired EV packs. The advantages of the MoAB units over energy storage systems that use new batteries are:

- Greater Safety
- High Performance
- Substantially Lower Cost
- Superior Long-term performance and reliability
- Low-cost integration topology at the system level

Agreement Objectives

The objectives of this Agreement are to:

- Develop the optimal power electronics architectures for two DC supply voltages to the MoAB inverter.
- Develop a noise immunity system to protect battery pack BMS communications.
- Develop a fast-response voltage leakage detection to system to prevent EV pack safety issues.
- Develop the DC-DC power converter system(s) for integration into the MoAB
- Validate and test the power electronics system.

- Design and build a prototype MoAB unit with integrated power electronics, noise immunity, and voltage leakage detection.
- Demonstrate the prototype MoAB at a DAC community facility to show its ability to save California ratepayers both energy costs and demand charge costs.
- Conduct data analysis to assess greater reliability, lower costs, and solar plus storage services for Investor Owned Utility (IOU) ratepayers.
- Conduct technical and economic analyses to make strategic investments in performance and production improvements.

TASK 1 GENERAL PROJECT TASKS

PRODUCTS

Subtask 1.1 Products

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

The Recipient shall:

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

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

For products that require a final version only

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

For all products

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

Instructions for Submitting Electronic Files and Developing Software:

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

    The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:
    - Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
    - Text documents will be in MS Word file format, version 2007 or later.
    - Project management documents will be in Microsoft Project file format, version 2007 or later.

- **Software Application Development**

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

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

MEETINGS

Subtask 1.2 Kick-off Meeting

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

The Recipient shall:

- Attend a "Kick-off" meeting with the CAM, the Commission Agreement Officer (CAO), and any other CEC staff relevant to the Agreement. The Recipient will bring its Project Manager and any other individuals designated by the CAM to this meeting. The

administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., WebEx), with approval of the CAM.

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

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

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

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

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

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

The CAM shall:

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

Recipient Products:

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

CAM Product:

- Kick-off Meeting Agenda

Subtask 1.3 Critical Project Review (CPR) Meetings
The goal of this subtask is to determine if the project should continue to receive CEC funding, and if so whether any modifications must be made to the tasks, products, schedule, or budget. CPR meetings provide the opportunity for frank discussions between the CEC and the Recipient. As determined by the CAM, discussions may include project status, challenges, successes, advisory group findings and recommendations, final report preparation, and progress on technical transfer and production readiness activities (if applicable). Participants will include the CAM and the Recipient and may include the CAO and any other individuals selected by the CAM to provide support to the CEC.

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

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

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

Recipient Products:
- CPR Report(s)

CAM Products:
- CPR Agenda
- Progress Determination

Subtask 1.4 Final Meeting
The goal of this subtask is to complete the closeout of this Agreement.

The Recipient shall:

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

  The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.
- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
  - Disposition of any procured equipment.
  - The CEC's request for specific "generated" data (not already provided in Agreement products).
  - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
  - "Surviving" Agreement provisions such as repayment provisions and confidential products.
  - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide copies of *All Final Products* on a USB memory stick, organized by the tasks in the Agreement.

Products:

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

REPORTS AND INVOICES

Subtask 1.5 Progress Reports and Invoices
The goals of this subtask are to: (1) periodically verify that satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information and are submitted in the appropriate format.

The Recipient shall:

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

overruns. See the Progress Report Format Attachment for the recommended specifications.

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

Products:
- Progress Reports
- Invoices

Subtask 1.6 Final Report
The goal of this subtask is to prepare a comprehensive Final Report that describes the original purpose, approach, results, and conclusions of the work performed under this Agreement. When creating the Final Report Outline and the Final Report, the Recipient must use the CEC Style Manual provided by the CAM.

Subtask 1.6.1 Final Report Outline

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

Recipient Products:
- Final Report Outline (draft and final)

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

Subtask 1.6.2 Final Report

The Recipient shall:
- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)

        - References (if applicable)
        - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
        - Bibliography (if applicable)
        - Appendices (if applicable) (Create a separate volume if very large.)
        - Attachments (if applicable)
    - Submit a draft of the Executive Summary to the TAC for review and comment.
    - Develop and submit a Summary of TAC Comments 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
- Draft Final Report
- Written Responses to Comments *(if applicable)*
- Final Report

CAM Product:

- Written Comments on the Draft Final Report

MATCH FUNDS, PERMITS, AND SUBCONTRACTS

Subtask 1.7 Match Funds

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

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

The Recipient shall:

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

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

- A list of the match funds that identifies:
  - The amount of cash match funds, their source(s) (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied.
  - The amount of each in-kind contribution, a description of the contribution type (e.g., property, services), the documented market or book value, the source (including a contact name, address, and telephone number), and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient must identify its owner and provide a contact name, address, telephone number, and the address where the property is located.
  - If different from the solicitation application, provide a letter of commitment from an authorized representative of each source of match funding that the funds or contributions have been secured.

- At the Kick-off meeting, discuss match funds and the impact on the project if they are significantly reduced or not obtained as committed. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide a *Supplemental Match Funds Notification Letter* to the CAM of receipt of additional match funds.
- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

Products:

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

Subtask 1.8 Permits

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

The Recipient shall:

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

  The list of permits and the schedule for obtaining them will be discussed at the Kick-off meeting (subtask 1.2), and a timetable for submitting the updated list, schedule, and

copies of the permits will be developed. The impact on the project if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in progress reports and will be a topic at CPR meetings.

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

Products:

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

Subtask 1.9 Subcontracts

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

The Recipient shall:

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

Products:

- Subcontracts (draft if required by the CAM)

TECHNICAL ADVISORY COMMITTEE

Subtask 1.10 Technical Advisory Committee (TAC)

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

- Provide guidance in project direction. The guidance may include scope and methodologies, timing, and coordination with other projects. The guidance may be based on:
- Technical area expertise;

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

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

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

The Recipient shall:

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

Products:

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

Subtask 1.11 TAC Meetings

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

The Recipient shall:

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

The TAC shall:

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

Products:

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

Subtask 1.12 Project Performance Metrics

The goal of this subtask is to finalize key performance targets for the project based on feedback from the TAC and report on final results in achieving those targets. The performance targets should be a combination of scientific, engineering, techno-economic, and/or programmatic

metrics that provide the most significant indicator of the research or technology's potential success.

The Recipient shall:

- Complete and submit the project performance metrics from 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

Exhibit A
Scope of Work
EPC Power Corporation

TECHNICAL TASKS

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

TASK 2: CONDUCT POWER ELECTRONICS TOPOLOGY ASSESSMENT

The goal of this task is to assess the optimal DC-DC converter topologies for EV packs connected in parallel or two EV packs in series. In the first case the DC-DC converter would supply a regulated 500 VDC to the MoAB inverter from a single EV pack or multiple EV packs connected in parallel. In the second case, the DC-DC converter would supply a nominal regulated 1000 VDC to the MoAB from two EV packs connected in series.

The Recipient shall:

- Conduct a power electronics topology assessment for a DC-DC converter to supply a regulated 500 VDC.
- Conduct a power electronics topology assessment for a DC-DC converter to supply a regulated 1000 VDC using two EV packs connected in series.
- Prepare a *Topology Assessments Report,* to include, but not be limited to:
  - A high-level executive summary
  - A discussion of assessments performed for both 500 and 1000 VDC
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.

Products:

- Topology Assessments Report

TASK 3: DEVELOP BMS NOISE IMMUNITY SYSTEM AND VOLTAGE LEAKAGE DETECTION SYSTEM

The goal of this task is to develop a BMS noise immunity system (hardware and software) that enables the BMS to not be affected by inverter noise, and also develop a sub millisecond response voltage leakage detection system (hardware and software) that will react if a ground fault occurs, thus preventing an EV pack safety issue such as a temperature excursion or fire.

The Recipient shall:

- Develop a *BMS Noise Immunity System Report* to protect BMS communication signals from inverter noise and prepare a report on the system. This report shall also include, but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.

  - This report should not disclose any confidential information.
- Develop a *Voltage Leakage Detection Report* to detect ground faults and protect the system from EV pack safety issues and prepare a report on the system. This report shall also include, but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.

Products:
- BMS Noise Immunity System Report
- Voltage Leakage Detection Report

TASK 4: DEVELOP NON-ISOLATED DC-DC TOPOLOGY WITH 500 VDC OR 1,000 VDC OUTPUT

The goal of this task is to develop the power electronics DC-DC converter for either the 500 VDC supply or the 1,000 VDC supply to the MoAB system inverter. The team will procure, test, and validate the subcomponents and provide a complete design and build document.

The Recipient shall:
- Design and develop the preferred DC-DC converter system
- Acquire materials for DC-DC converter system and sub-assemblies
- Construct the DC-DC converter system
- Prepare a *Design and Construction Report* to include, but not be limited to the materials and specifications for constructing the DC-DC converter system. This report shall also include, but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.
- Test and validate the DC-DC system operation and capabilities
- Prepare a *Testing and Validation Report*, to include but not be limited to, a discussion of any issues encountered, and steps taken to address them. This report shall also include, but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.

Products:
- Design and Construction Report
- Testing and Validation Report

TASK 5: CONSTRUCT PROTOTYPE INTEGRATED POWER ELECTRONICS / ENERGY STORAGE MOAB SYSTEM

The goal of this task is to integrate the DC-DC power electronics architecture with the BMS noise immunity system, the voltage leakage detection system, the retired EV packs, and the system inverter, and to also construct the 250 kW / 250 kWh MoAB unit.

The Recipient shall:

- Prepare the *MoAB Integrated Unit Design Report* to include, but not be limited to:
  - A high-level executive summary
  - Unit design including materials list and production instructions
  - Verification of MoAB unit performance parameters
  - Estimated Initial MoAB Component Cost Projections
  - Estimated Initial MoAB System Assembly Cost Projections
  - Finalized MoAB design
  - Construct Prototype MoAB Unit
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.
- Prepare *MoAB Integrated Unit Construction Report,* to include but not be limited to:
  - A high-level executive summary
  - A discussion of any issues encountered, and steps taken to address them
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.
- Prepare *CPR Report #1* and participate in CPR Meeting, per Subtask 1.3.

Products:

- MoAB Integrated Unit Design Report
- MoAB Integrated Unit Construction Report
- CPR Report #1

TASK 6: PERFORM SYSTEM VALIDATION AND TESTING

The goal of this task is to conduct MoAB validation and testing at the system level.

The Recipient shall:

- Install the prototype MoAB unit at the University of California, San Diego campus testing location for grid-tied operation
- Perform electrical interconnection and testing
- Perform site control integration to manage simulated facility load and potential solar PV generation
- Perform MoAB system parameter testing, demand charge reduction simulation, and critical load back-up simulation for targeted facilities

- Prepare draft *MoAB Unit Testing Report*, to include*,* but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.

Products:

- MoAB Unit Testing Report

TASK 7: INSTALL SYSTEM & CONDUCT 12-MONTH TECHNOLOGY DEMONSTRATION AT DAC FACILITY

The goal of this task is to install, commission and demonstrate the MoAB unit functions and capabilities at an existing disadvantaged community (DAC) location facility. The demonstration will show the utility of the MoAB to provide energy savings and potential demand charge cost reduction.

The Recipient shall:

- Review and assess the following and provide an *Installation Preparation Summary Report:*
  - Installation Costs
  - Commissioning Costs
  - Permitting Issues
- The *Installation Preparation Summary Report* shall also include, but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.
- Install and commission the Prototype MoAB Unit at the DAC location facility
- Operate the Prototype MoAB for 12 Months and evaluate:
  - Logistics
  - Material costs and suppliers
  - Quality Control
  - Fault rates
- Prepare *MoAB Demonstration Report,* to include*,* but not be limited to:
  - A high-level executive summary
  - Technical issues (if applicable)
  - Lessons learned (if applicable)
  - The report should only be as long as necessary to address the above listed requirements.
  - This report should not disclose any confidential information.

Products:

- Installation Preparation Summary Report
- MoAB Demonstration Report

TASK 8: EVALUATION OF PROJECT BENEFITS

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

The Recipient shall:

- Complete *the Initial Project Benefits Questionnaire*. The Initial Project Benefits Questionnaire shall be initially completed by the Recipient with 'Kick-off' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Complete the *Annual Survey* by December 15th of each year. The Annual Survey includes but is not limited to the following information:
    - Technology commercialization progress
    - New media and publications
    - Company growth
    - Follow-on funding and awards received
- Complete the *Final Project Benefits Questionnaire*. The Final Project Benefits Questionnaire shall be completed by the Recipient with 'Final' selected for the 'Relevant data collection period' and submitted to the CAM for review and approval.
- Respond to CAM questions regarding the questionnaire drafts.
- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website (www.energizeinnovation.fund), and provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link.

Products:

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

TASK 9: TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to conduct activities that will accelerate the commercial adoption of the technology being supported under this agreement. Eligible activities include, but are not limited to, the following:

- ❖ Scale-up analysis including manufacturing analysis, independent design verification, and process improvement efforts.

- ❖ Technology verification testing, or application to a test bed program located in California.
- ❖ Legal services or licensing to secure necessary intellectual property to further develop the technology
- ❖ Market research, business plan development, and cost-performance modeling.
- ❖ Entry into an incubator or accelerator program located in California.

The Recipient Shall:

- Develop and submit a *Technology Transfer Plan* (Draft/Final) that identifies the proposed activities the recipient will conduct to accelerate the successful commercial adoption of the technology.
- Present the *Draft Technology Transfer Plan* to the TAC for feedback and comments.
- Develop and submit a *Summary of TAC Comments* that summarizes comments received from the TAC members on the Draft Technology Transfer 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 and explanation why.
- Submit the *Final Technology Transfer Plan* to the CAM for approval.
- Implement activities identified in Final Technology Transfer Plan.
- Develop and submit a *Technology Transfer Summary Report* (Draft/Final) that includes high level summaries of the activities, results, and lessons learned of tasks performed relating to implementing the *Final Technology Transfer Plan*. This report should not include any proprietary information.
- When directed by the CAM, develop presentation materials for an CEC- sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the CEC.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

Products:

- Technology Transfer Plan (Draft and Final)
- Summary of TAC Comments
- Technology Transfer Summary Report (Draft and Final)
- High Quality Digital Photographs

PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

RESOLUTION NO: 21-0512-10b

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: EPC POWER CORP.

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-20-039 with EPC Power Corp. for a $3,499,532 grant to fund the design and construction of an innovative integrated power electronics/energy storage system to serve the grid-tied energy storage market. The system will be rated for 1 MW power and 1 MWh energy and use repurposed, second-life EV packs. The recipient will conduct a one-year technology demonstration at a facility in a disadvantaged community in San Joaquin County, California; and

FURTHER BE IT RESOLVED, that the Executive Director or his/her 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 May 12, 2021.

AYE:
NAY:
ABSENT:
ABSTAIN:

_____
Patricia Carlos
Secretariat