

**GRANT REQUEST FORM (GRF)**CEC-270 (Revised 10/2015)  
COMMISSION

CALIFORNIA ENERGY

New Agreement EPC-17-055 (To be completed by CGL Office)

ERDD	Hatice Gecol	43	916-327-2222
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Humboldt State University Sponsored Programs Foundation	94-6050071
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Redwood Coast Airport Renewable Energy Microgrid

7/2/2018	3/31/2023	\$ 5,000,000
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 ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	6/13/2018	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
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Business Meeting Presenter	Mike Gravely	Time Needed:	10 minutes
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Please select one list serve. EPIC (Electric Program Investment Charge)

**Agenda Item Subject and Description**

HUMBOLDT STATE UNIVERSITY SPONSORED PROGRAMS FOUNDATION. Proposed resolution adopting California Environmental Quality Act Findings for the Humboldt State University Sponsored Programs Foundation's Redwood Coast Airport Renewable Microgrid Project, and approving Agreement EPC-17-055 with Humboldt State University Sponsored Programs Foundation.

CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS. Findings based on the lead agency County of Humboldt's Initial Study, Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, resolution adopting the aforementioned documents and filed Notice of Determination, that work under the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered and mitigated.

REDWOOD COAST AIRPORT MICROGRID PROJECT. Proposed resolution approving Agreement EPC-17-055 with Humboldt State University Sponsored Programs Foundation for a \$5,000,000 grant to fund a community scale renewable energy microgrid located at the Redwood Coast Humboldt County Airport. It will demonstrate the first multi-customer, front-of-the-meter microgrid with renewable energy generation owned by a CCA and the microgrid circuit owned by an IOU. This microgrid will allow the CCA to participate in the CAISO wholesale electricity market and provide low carbon resilience to a commercial airport and U.S. Coast Guard Air Station, which are critical emergency facilities in Humboldt County. The Humboldt State University Sponsored Programs Foundation is providing \$6,322,728 in match funding.

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

 Yes (skip to question 2)  No (complete the following (PRC 21065 and 14 CCR 15378)):

Explain why Agreement is not considered a "Project":

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

2. If Agreement is considered a "Project" under CEQA:

 a) Agreement **IS** exempt. (Attach draft NOE) Statutory Exemption. List PRC and/or CCR section number: \_\_\_\_\_ Categorical Exemption. List CCR section number: \_\_\_\_\_ Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

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

Check all that apply

 Initial Study Environmental Impact Report
[http://www.energy.ca.gov/research/epic/environmental\\_review\\_documents.html#hsu2](http://www.energy.ca.gov/research/epic/environmental_review_documents.html#hsu2)
 Negative Declaration Statement of Overriding Considerations Mitigated Negative Declaration
[http://www.energy.ca.gov/research/epic/environmental\\_review\\_documents.html#hsu2](http://www.energy.ca.gov/research/epic/environmental_review_documents.html#hsu2)

**GRANT REQUEST FORM (GRF)**



<b>List all subcontractors (major and minor) and equipment vendors:</b> (attach additional sheets as necessary)	
Legal Company Name:	Budget
Redwood Coast Energy Authority	\$ 2,214,853
TRC Engineers, Inc.	\$ 199,749
GHD, Inc.	\$ 99,592
The Energy Authority, Inc	\$ 20,000
	\$
	\$
	\$
	\$
	\$

<b>List all key partners:</b> (attach additional sheets as necessary)
Legal Company Name:
Humboldt State University Sponsored Programs Foundation/Schatz Energy Research Center

<b>Budget Information</b>			
Funding Source	Funding Year of Appropriation	Budget List No.	Amount
EPIC	17-18	301.001E	\$5,000,000
			\$
			\$
			\$
			\$
			\$
R&D Program Area:	ESRO: ETSI	TOTAL:	\$5,000,000
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

<b>Recipient's Administrator/ Officer</b>		<b>Recipient's Project Manager</b>	
Name:	Anthony Johnson	Name:	David Carter
Address:	1 HARPST ST	Address:	1 HARPST ST
City, State, Zip:	ARCATA, CA 95521-8222	City, State, Zip:	ARCATA, CA 95521-8222
Phone:	707-826-5164	Fax:	707-826-4783
E-Mail:	Anthony.Johnson@humboldt.edu	Phone:	707-826-4345
		Fax:	707-826-4347
		E-Mail:	David.Carter@humboldt.edu

<b>Selection Process Used</b>	
<input checked="" type="checkbox"/> Competitive Solicitation	Solicitation #: GFO-17-302
<input type="checkbox"/> First Come First Served Solicitation	

<b>The following items should be attached to this GRF</b>	
1. Exhibit A, Scope of Work	<input checked="" type="checkbox"/> Attached
2. Exhibit B, Budget Detail	<input checked="" type="checkbox"/> Attached
3. CEC 105, Questionnaire for Identifying Conflicts	<input checked="" type="checkbox"/> Attached
4. Recipient Resolution	<input checked="" type="checkbox"/> N/A <input type="checkbox"/> Attached
5. CEQA Documentation	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> Attached

Agreement Manager \_\_\_\_\_ Date \_\_\_\_\_ Office Manager \_\_\_\_\_ Date \_\_\_\_\_ Deputy Director \_\_\_\_\_ Date \_\_\_\_\_

# EXHIBIT A Scope of Work

## I. TASK ACRONYM/TERM LISTS

### A. Task List

Task #	CPR <sup>1</sup>	Task Name
1		General Project Tasks
2		Project Initiation and Operational Agreements
3	X	Design and Permitting
4		Procurement, Construction, Testing, Commissioning, and Training
5	X	Operation, Data Collection and Analysis
6		Business Model Evaluation and Market Replication Assessment
7		Evaluation of Project Benefits
8		Technology/Knowledge Transfer Activities

### B. Acronym/Term List

Acronym/Term	Meaning
ACV Airport	California Redwood Coast–Humboldt County Airport
BESS	Battery Energy Storage System
CAISO	California Independent System Operator
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CCA	Community choice aggregation
CPR	Critical Project Review
DC	Direct Current
DR	Demand Response
DER	Distributed energy resources
EE	Energy Efficiency
EV	Electric Vehicle
IOU	Investor owned utility
kW	kilowatt
MW	megawatt
PG&E	Pacific Gas & Electric Company
PV	Photovoltaic
RCEA	Redwood Coast Energy Authority
TAC	Technical Advisory Committee
USCG	United States Coast Guard

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

### A. Purpose of Agreement

The Energy Commission released a competitive solicitation GFO-17-302 Demonstrate Business Case for Advanced Microgrids in Support of California’s Energy and GHG Policies to fund

<sup>1</sup> 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**

technology demonstration and deployment projects with Electric Program Investment Charge (EPIC) funding. These projects would deploy field examples of advanced microgrids within investor owned utility (IOU) service territories and produce business cases for scalable and repeatable standardized commercial-scale microgrid configurations with measurable benefits for end users of the selected market segments. These microgrid projects would also support California's energy policies, reduce greenhouse gases and attract non-EPIC funding opportunities for future microgrids. In response to GFO-17-302, Humboldt State University Sponsored Programs Foundation (Recipient) submitted an application, which was proposed for funding in the Energy Commission's Notice of Proposed Awards (NOPA) dated February 20, 2018. The Recipient's application and the NOPA issued are incorporated by reference to this Agreement in their entirety.

The purpose of this Agreement is to develop a multi-customer, renewable energy microgrid implemented under a partnership between Pacific Gas & Electric Company (PG&E), an IOU, as the microgrid distribution circuit owner, and Redwood Coast Energy Authority (RCEA), a community choice aggregation (CCA), as the generation asset owner. The microgrid will add resiliency to 18 electricity accounts on PG&E's Janes Creek 1103 distribution circuit, which includes two critical facilities in the host community: (1) the California Redwood Coast–Humboldt County Airport (ACV Airport), and (2) the United States Coast Guard (USCG) Air Station. The project will demonstrate a replicable business model and will illustrate a clear path to microgrid deployment throughout California. The project will be led by the Schatz Energy Research Center (SERC) of the Recipient.

In the event of any conflict or inconsistency between the terms of the Solicitation and the terms of the Recipient's Application, the Solicitation shall control. In the event of any conflict or inconsistency between the Recipient's Application and the terms of the Energy Commission's Award, the Commission's Award shall control. Similarly, in the event of any conflict or inconsistency between the terms of this Agreement and the Recipient's Application, the terms of this Agreement shall control.

#### **B. Problem/ Solution Statement**

##### **Problem**

Microgrids can facilitate greater penetration of distributed energy resources (DER) and are an important tool in the transition to the sustainable, smart grid of the future. In addition, microgrids can provide needed improvements to the reliability and resilience of the electric grid. However, deploying microgrids is both challenging and expensive, especially for multi-customer microgrids. Barriers to deployment include a lack of necessary standards, procedures and agreements, insufficient knowledge of costs and benefits, and a failure to demonstrate viable, replicable business models.

##### **Solution**

The ACV Airport Microgrid will be the first multi-customer, front-of-the-meter microgrid in PG&E's service territory. It will feature an innovative partnership between a CCA and an IOU. Through this project, the Recipient will develop a set of design standards, operating procedures, agreements and tariffs that will help pave the way for future microgrids. The recipient will measure and document project costs and benefits, and will demonstrate a viable, replicable business model. The Recipient will illustrate a clear path to microgrid deployment for CCAs and their community partners throughout California, and the Recipient will conduct effective outreach to share the lessons learned with the CCA communities and other interested stakeholders.

# EXHIBIT A

## Scope of Work

### C. Goals and Objectives of the Agreement

#### Agreement Goals

The goals of this Agreement are to:

- Successfully design, install, and operate a renewable energy microgrid at the ACV Airport and USCG Air Station,
- Develop and implement the agreements, operating procedures, safety protocols, and tariffs necessary for a multi-customer, front-of-the-meter microgrid,
- Measure the benefits and costs of the microgrid and DER included in the project,
- Evaluate the business case and assess market opportunities for replication, and
- Report on results and lessons learned for the benefit of IOUs, CCAs, and others wishing to install similar systems.

Ratepayer Benefits:<sup>2</sup> This Agreement will result in ratepayer benefits of greater electricity reliability, lower costs, and increased safety. The Photovoltaic (PV) array and battery energy storage system (BESS) included in the ACV Airport Microgrid will provide greater reliability for two critical facilities: the ACV Airport and the USCG Air Station. After shedding non-critical loads, the PV/BESS will be large enough to supply power continuously for at least 10 days, even in worst-case conditions. The existing diesel generators will become the last resort and should run very infrequently, if ever. In the event of a true emergency like an earthquake, tsunami, flood, or fire, public safety will be increased enormously by having these facilities powered by local renewable energy. The project will also result in lower energy costs for the ACV Airport, and will provide considerable locally generated renewable energy to CCA ratepayers. This is a stated goal of the CCA and is strongly supported by local citizens.

In the longer term, this project aims to reduce barriers to the deployment of microgrids. As a result, ratepayers will likely enjoy the benefits of having more microgrids installed on the grid, including greater resiliency, the ability to achieve greater penetrations of DER, reduced greenhouse gas emissions, and a smarter and more sustainable electric grid.

Technological Advancement and Breakthroughs:<sup>3</sup> 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 being the first multi-customer, front-of-the-meter microgrid combining an IOU distribution circuit with a CCA generation/storage asset. It will require design innovation for the PV/BESS direct current (DC) coupled system and its interconnection with the larger grid, new microgrid control software, and new safety protocols to protect microgrid ratepayers and the downstream IOU grid. This technological progress will help California add the resiliency of microgrids and additional distributed renewable energy to its electricity supply. New

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<sup>2</sup> 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](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF)).

<sup>3</sup> 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

operational agreements between PG&E and RCEA and experimental tariffs that will be developed will serve as models for future projects.

### Agreement Objectives

The objectives of this Agreement are to:

1. Safely integrate a CCA owned, community-scale, direct DC-coupled PV array and BESS with PG&E's electric grid,
2. Develop and commission a microgrid control system that will allow the ACV Microgrid to operate safely and function well,
3. Install four electric vehicle (EV) chargers that can participate in demand response (DR),
4. Install an independent net-metered PV system for ACV to offset electricity costs and to evaluate the microgrid's ability to help ease constraints on distributed PV,
5. Coordinate with Humboldt County Department of Public Works on the upgrade of runway lighting to light emitting diode technology,
6. Provide local renewable energy to CCA customers,
7. Develop a protocol and utilize the BESS to optimize the dispatch of solar electricity according to California Independent System Operator (CAISO) day-ahead market prices,
8. Increase the resiliency of critical facilities, i.e., Humboldt County's main, commercial airport and a USCG Air Station,
9. Provide a demonstration site that will assist PG&E in developing institutional capacity to support future multi-customer microgrids as part of their efforts to, in their words, "*Design, test, and integrate innovative solutions to accelerate PG&E's transition to the sustainable grid of the future,*"
10. Develop necessary tariffs/agreements to facilitate deployment of multi-customer microgrids on PG&E's distribution system, including allowing PG&E bundled customers to be served by a CCA owned generation asset during islanded microgrid operation,
11. Generate data, results, and lessons learned to inform other communities, CCAs, and IOUs and aid them in implementing future multi-customer microgrids,
12. Examine the potential to provide ancillary benefits to the local distribution system, including allowing more DER capacity with lower infrastructure upgrade costs,
13. Quantify stacked benefits from the ACV Airport Microgrid project, including:
  - energy and peak demand savings,
  - an increase in local jobs and economic activity,
  - energy arbitrage in the day ahead energy market,
  - greenhouse gas reductions, and
  - increased energy resiliency and more secure power for critical emergency services,
14. Evaluate the ACV Airport Microgrid business model, assess market potential and develop a plan to promote replication,
15. Develop an approach and lessons learned to support replicability at other facilities,
16. Conduct an effective technology and knowledge transfer strategy, and
17. By meeting the objectives above, demonstrate a business case for multi-customer microgrids that will lead to significant market penetration.

# EXHIBIT A

## Scope of Work

### 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)**. 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 Energy Commission’s 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 or CD-ROM.

## **EXHIBIT A**

### **Scope of Work**

The following describes the accepted formats for electronic data and documents provided to the Energy Commission 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.
  - Documents intended for public distribution will be in PDF file format.
  - The Recipient must also provide the native Microsoft file format.
  - Project management documents will be in Microsoft Project file format, version 2007 or later.
  - Presentations will be in Microsoft PowerPoint 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 Energy Commission'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 Energy Commission 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.

## EXHIBIT A Scope of Work

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

- Terms and conditions of the Agreement;
- 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 and invoices (subtask 1.5);
  - Final Report (subtask 1.6);
  - Technical Advisory Committee meetings (subtasks 1.10 and 1.11);
  - Technology/knowledge Transfer (Task 8); and
  - Any other relevant topics.
- Provide an *Updated Project Schedule, List of Match Funds, and List of Permits*, 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:**

- Updated Project Schedule *(if applicable)*
- Updated List of Match Funds *(if applicable)*
- Updated List of Permits *(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 Energy Commission 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 Energy Commission 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 Energy Commission.

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 Energy Commission, but they may take place at another

## **EXHIBIT A**

### **Scope of Work**

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

#### **The Recipient shall:**

- Prepare 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.
- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- 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* and 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)
- Task Products (draft and/or final as specified in the task)

#### **CAM Products:**

- CPR Agenda
- List of Expected CPR Participants
- Schedule for Providing a Progress Determination
- 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 Energy Commission 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.

## EXHIBIT A Scope of Work

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 state-owned equipment.
  - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.
  - The Energy Commission'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 *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

### Products:

- Final Meeting Agreement Summary (*if applicable*)
- Schedule for Completing Agreement Closeout Activities
- All Draft and Final Written 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 Fund and in-state expenditures.

# EXHIBIT A

## Scope of Work

### 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. The CAM will review the Final Report, which will be due at least **two months** before the Agreement end date. When creating the Final Report Outline and the Final Report, the Recipient must use the 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 *Style Manual* provided by the CAM. (See Task 1.1 for requirements for draft and final products.)

##### Recipient Products:

- Final Report Outline (draft and final)

##### CAM Product:

- Style Manual
- Comments on Draft Final Report Outline
- Approval 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, 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)
  - Ensure that the document is written in the third person.
  - Ensure that the Executive Summary is understandable to the lay public.

## EXHIBIT A Scope of Work

- Briefly summarize the completed work. Succinctly describe the project results and whether or not the project goals were accomplished.
- Identify which specific ratepayers can benefit from the project results and how they can achieve the benefits.
- If it's necessary to use a technical term in the Executive Summary, provide a brief definition or explanation when the technical term is first used.
- Follow the Style Guide format requirements for headings, figures/tables, citations, and acronyms/abbreviations.
- Ensure that the document omits subjective comments and opinions. However, recommendations in the conclusion of the report are allowed.
- Include a brief description of the project results in the Abstract.
- 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
- Consider incorporating all CAM comments into the Final Report. 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 Final Report 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.
- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

### Products:

- Final Report (draft and final)
- Written Responses to Comments on the Draft 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 Energy Commission 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 Energy Commission 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 Energy Commission awarding this Agreement, then provide in the letter:

## EXHIBIT A Scope of Work

- 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.

## **EXHIBIT A**

### **Scope of Work**

- 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 the 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.

## **EXHIBIT A**

### **Scope of Work**

- 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.

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, phone numbers of potential members, and a summary of relevant experiences and description of potential value added to the project for each potential member. 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.

## **EXHIBIT A**

### **Scope of Work**

#### **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.

#### **Products:**

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

## **IV. TECHNICAL TASKS**

### **TASK 2 PROJECT INITIATION AND OPERATIONAL AGREEMENTS**

The goals of this task are to: (1) organize and launch the project team into the technical work that will be completed under the project and (2) develop one or more agreements between PG&E, RCEA, and participating customers that will govern the operational roles and responsibilities, service obligations, and commercial terms and conditions to facilitate long term operation of the microgrid.

#### **The Recipient shall:**

- Prepare *Project Workplan* with project partners.
- Provide *Site Readiness Verification Documents* (e.g. copy of contract, County agreement, and memorandum of understanding, as applicable).
- Develop an experimental *Microgrid Infrastructure Cost Recovery Tariff* that PG&E can use to recover infrastructure investment incurred and incremental distribution services provided to support a microgrid on their distribution system.
- Develop an experimental *Islanded Microgrid Generation Support Tariff* that RCEA can use to recover operating costs for generation services provided as a third party generation asset owner within a microgrid.
- Develop an *Operational Roles and Responsibilities Agreement* between PG&E and RCEA regarding how the microgrid will be operated during grid connected state and islanded state.

#### **Products:**

- Project Workplan
- Site Readiness Verification Documents
- Microgrid Infrastructure Cost Recovery Tariff
- Islanded Microgrid Generation Support Tariff

## EXHIBIT A Scope of Work

- Operational Roles and Responsibilities Agreement

### **TASK 3 DESIGN AND PERMITTING**

The goals of this task are to: (1) complete the engineering design and (2) obtain the permits necessary for construction and operation.

#### **The Recipient shall:**

- Conduct system design activities.
- Complete system engineering design documents including, but not limited to, plans, microgrid configuration specifications, emergency response communications backbone, concept of operations document, engineer's opinion of probable cost.
- Inform the CAM in Monthly Progress Report(s) (Subtask 1.5) which design phases are completed and which applicable permits identified in Task 1.8 are ready to be obtained.
- Obtain all permits required by law and provide *Copies of Permits* to the CAM (consistent with Task 1.8).
- Conduct a cybersecurity assessment and develop a *Cybersecurity Plan* as follows:
  - Obtain and review the Host Utility's security standards and requirements for security and cybersecurity
  - Investigate and document the proposed network security configuration, including that of security appliances, switches, routers, and other interconnecting devices, to determine the capabilities and required configuration of the devices and interfaces at each point of interconnection between the microgrid monitoring and control systems and the Host Utility's network(s)
  - Develop and document the required access necessary for monitoring and control, the coordinated certificate or internet key exchange/internet protocol security (IKE/IPSec) configuration with the Host Utility, end-device access and password configuration, port virtual private network (VPN) assignments, electronic access points/electronic security perimeter (EAP/ESP) access requirement and credential storage, audit/log access, and other aspects of the operations and monitoring network and devices
  - Evaluate the proposed network security measures against these requirements to evaluate the efficacy of the deterrence or mitigation provided by each
  - Work with the Microgrid owner/operator and the Host Utility to coordinate and integrate the necessary operations and maintenance functions, to develop access control and management procedures and documentation, and to incorporate the device monitoring and management into the Host Utility's existing control center or operations center systems to allow ongoing secure operations of the site
  - Review iterative versions of the Microgrid network design to ensure the appropriate measures are incorporated and configurations are updated or maintained, as required.
  - Prepare a detailed, *non-confidential Cybersecurity Plan* that defines how the cybersecurity will be addressed over the long-term operation of the microgrid.
- Develop grid integration strategy including interconnection with utility distribution system feeders and distribution operation center.
- Complete PG&E Interconnection Application and inform the CAM in monthly progress report.
- Complete CAISO new resource implementation process and inform the CAM in monthly progress report.
- Register RCEA wholesale generation system in Western Renewable Energy Generation Information System (WREGIS) and inform the CAM in monthly progress report.

## **EXHIBIT A**

### **Scope of Work**

- Prepare a *Final System Engineering Power Point Presentation* that includes microgrid configuration and summarizes all the activities under this task including steps taken, lessons learned, and best practices to finalize these activities.
- Organize TAC #1 meeting per Subtask 1.11 to review all activities and submit all products under this task.
- Participate in a CPR #1 meeting (Subtask 1.3) and submit all products under this task.

#### **Products:**

- Copies of Permits (Task 1.8)
- Non-confidential Cybersecurity Plan
- Final System Engineering Power Point Presentation
- TAC #1 meeting agenda, back-up materials, and summary (Subtask 1.11)
- CPR #1 recipient products (Subtask 1.3) and CPR #1 Meeting Summaries

#### **TASK 4 PROCUREMENT, CONSTRUCTION, TESTING, COMMISSIONING, AND TRAINING**

The goal of this task is to procure equipment and construction services; construct, test, and commission the various components of the microgrid; and then commission the entire ACV Airport Microgrid as an operating system.

#### **The Recipient shall:**

- Procure construction services, equipment, protection, control and monitoring hardware and software, configuration services and appurtenances for microgrid per task 3 design documents (e.g. EV charging stations, turnkey net-metered PV system (approximately 250 kW\_AC) for ACV Airport, turnkey PV system (approximately 2MW\_DC) for RCEA wholesale generation system, turnkey BESS (approximately 2MW\_AC inverter nameplate rating with up to 4 hours of discharge duration at rated output and capable of being direct DC-coupled to the larger PV array) for RCEA wholesale generation system).
- Prepare a *Procurement Lessons Learned Summary*, a document serving as a template or repository for lessons learned during procurement that can assist in microgrid deployments at other communities and facilities.
- Develop communication and control protocols for interfacing all microgrid subsystems and produce a *Microgrid System Interfacing Power Point Presentation* which will describe each interface in microgrid and how the microgrid controller coordinates all subsystems of the microgrid and emergency response communications.
- Construct the ACV Airport Microgrid.
- Provide CAM *Pictures of Installed Microgrid Equipment* with name plate capacities in monthly progress report.
- Prepare a *Construction Lessons Learned Summary*, a document serving as a template or repository for lessons learned during construction that can assist in microgrid deployments at other communities and facilities.
- Prepare a *Microgrid Commissioning Plan* that outlines in detail the testing that will be conducted during system commissioning to validate operational performance. The *Microgrid Commissioning Plan* will include, but is not limited to:
  - Acceptance tests (application of external power to equipment to prove integrity) for power transformers, switchboard, protective relays and controls, instrument transformers, grounding, power metering, and network devices and software
  - Functional tests (complete operational check of installed assemblies) for protective relays and controls, control circuits, power metering devices, and lighting systems

## **EXHIBIT A**

### **Scope of Work**

- Coordination study for circuit breakers
  - Visual inspection for physical damage, clean equipment, insulation resistance and continuity tests, and verify proper equipment connection and conductor connection torque values
  - Data network testing
  - Each DER element inspection and testing
  - Automatic transfer switch testing for dielectric test, mechanical test, electrical operation, control wiring test, and polarity test
  - Testing of equipment components, microgrid subsystems, and full microgrid system, including of communication and control protocols and cybersecurity.
- Commission and test Microgrid Systems.
  - Implement the Cybersecurity Plan developed per Task 3.
  - Prepare a *Commissioning and Testing Lessons Learned Summary*, a document serving as a template or repository for lessons learned during construction that can assist in microgrid deployments at other communities and facilities.
  - Obtain full system interconnection approval in compliance with Rule 21 and inform the CAM in monthly progress report.
  - Obtain permission to operate from PG&E and inform the CAM in monthly progress report.
  - Develop a System Documentation Package outlining system operation and troubleshooting procedures.
  - Develop an emergency response plan for shedding non-critical loads during an extended power outage.
  - Conduct operations and maintenance training for responsible personnel.
  - Prepare a *Final Procurement, Construction, Testing, Commissioning, and Training PowerPoint Presentation* that summarizes all the activities under this task including steps taken, lessons learned, and best practices to finalize these activities.

#### **Products:**

- Updated Monthly Progress Reports (Subtask 1.5)
- Procurement Lessons Learned Summary
- Microgrid System Interfacing Power Point Presentation
- Pictures of Installed Microgrid Equipment (to be included in Monthly Progress Report)
- Construction Lessons Learned Summary
- Microgrid Commissioning Plan
- Commissioning and Testing Lessons Learned Summary
- Final Procurement, Construction, Testing, Commissioning and Training PowerPoint Presentation

#### **TASK 5 OPERATION, DATA COLLECTION, AND ANALYSIS**

The goal of this subtask is to monitor the operation of ACV airport microgrid for at least one (1) year and assess its performance. In addition, systems will be put in place to allow for the continued monitoring and reporting of system performance over the subsequent three years after this contractual agreement has ended.

#### **The Recipient shall:**

- Prepare a *Data Collection Plan* to document technical, environmental and economic data for each DER element and microgrid that includes, but is not limited to:

## EXHIBIT A Scope of Work

- Description of the systems to be tested
- Justification for the tests
- Parameters that will measure and document successes, lessons learned, and best practices
- Description of the data collection methodology, including, but not limited to:
  - Data collection protocols
  - Data collection schedule
- Information storage and retention plan
- Installation issues
- Operational constraints and performance
- Field demonstration of islanded operations, including, but is not limited to:
  - Duration of simulated islanded operation
  - Environmental conditions
  - Target operational loads
- Response to grid emergencies.
- A Measurement and Verification Plan that includes, but is not limited to:
  - Energy Efficiency (EE) to measure before and after EE for the quantification of actual kW/kWh saved.
  - Demand Response (DR) including, but is not limited to:
    - kW/kWh provided when DR is used
    - Definition of how the DR is used; the services provided by the microgrid; and the proposed value provided for these microgrid load services
    - The values of integrated services and how the services can be verified, measured and valued
    - DR event performance information from the IOU and/or CA ISO for any DR services provided
- Operate the microgrid system and collect and analyze data in accordance with the *Data Collection Plan* at commissioning, monthly thereafter for the one (1) year operation period, or a lesser term with prior CAM written approval and immediately, and after any islanding events.
- Provide *Monthly Data Analysis Reports* to the CAM on field data collected
- Prepare a *Final Microgrids Performance Report* that includes, but is not limited to:
  - Documentation of data collected
  - Identification of any challenges or barriers encountered and solutions developed to respond to challenges or barriers
  - Documentation and assessment of installation issues, operational constraints, and operational performance, including but is not limited to, the number of hours the microgrid can operate independently off the grid and respond to grid emergencies.
- Work with both the Energy Commission and the microgrid operator to negotiate the delivery of the following to the Energy Commission annually for 3 years beyond the term end date of this Agreement:
  - A confirmation that the microgrid system is operating
  - Any available summary performance data, benefits, or other relevant summary data reports that can be easily provided based on the data collecting systems installed.
- Organize TAC #2 meeting per Subtask 1.11 to review all activities and submit all products under this task.
- Participate in a CPR #2 meeting (Subtask 1.3) and submit all products under this task.

### **Product:**

## **EXHIBIT A Scope of Work**

- Data Collection Plan (draft and final)
- Monthly Data Analysis Reports
- Final Microgrid Performance Report
- TAC #2 meeting agenda, back-up materials, and summary (Subtask 1.11)
- CPR #2 recipient products (Subtask 1.3) and CPR #2 Meeting Summaries

### **TASK 6 BUSINESS MODEL EVALUATION AND MARKET REPLICATION ASSESSMENT**

The goals of this task are to: 1) evaluate the microgrid business model being demonstrated, 2) assess the market potential for this business model, and 3) develop a plan to promote market replication.

#### **The Recipient shall:**

- Prepare a *Microgrid Business Model Evaluation Report*.
  - Develop a business model that describes the financial and business arrangements associated with the ACV Airport Microgrid.
  - Evaluate the viability of the ACV Airport Microgrid business model and identify and assess alternative configurations as appropriate.
  - Identify potential revenue streams and ways to quantify benefits.
  - Conduct a cost benefit analysis for the ACV Microgrid Project.
- Prepare a *Microgrid Market Evaluation Report*.
  - Assess the market potential for the ACV airport microgrid model.
  - Identify relevant stakeholders.
  - Conduct stakeholder engagement.
  - Identify potential costs and benefits to each stakeholder group and assess pay back periods.
  - Assess California and non-California market potential by key segments.
  - Estimate adoption projection scenarios for key market segments.
  - Identify primary barriers to adoption.
- Prepare a *Microgrid Market Replication Plan*.
  - Develop promotional materials:
    - Best practices guide for CCAs interested in microgrids
    - Financing solutions and procurement strategies
    - Energy assurance planning opportunities
    - Market pathways, revenue generation from stacked benefits
    - Technology options
    - Utility products, tariffs, services
  - Identify existing and emerging market outreach channels.
  - Develop market communication schedule for team members during project period.
  - Establish market replication plan success metrics.
  - Document results.

#### **Product:**

- Microgrid Business Model Evaluation Report
- Microgrid Market Evaluation Report
- Microgrid Market Replication Plan

### **TASK 7 EVALUATION OF PROJECT BENEFITS**

## EXHIBIT A Scope of Work

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

### **The Recipient shall:**

- Complete three Project Benefits Questionnaires that correspond to three main intervals in the Agreement: (1) *Kick-off Meeting Benefits Questionnaire*; (2) *Mid-term Benefits Questionnaire*; and (3) *Final Meeting Benefits Questionnaire*.
- Provide all key assumptions used to estimate projected benefits, including targeted market sector (e.g., population and geographic location), projected market penetration, baseline and projected energy use and cost, operating conditions, and emission reduction calculations. Examples of information that may be requested in the questionnaires include, but not limited to:
  - For Advanced Microgrid Business Case Demonstrations:
    - Reliability, resiliency and sustainability improvements as provided by the microgrid.
    - Net impacts on the larger grid's load and load shape as provided by the microgrid.
    - Greenhouse gas reductions as provided by the microgrid, compared to using the utility grid for the electricity and also greenhouse gas reductions as provided by any new energy efficiency capabilities of the microgrid project.
    - The dollar value of energy savings as provided by the microgrid, each year.
    - The dollar value of any co-benefits that may accrue to the project, each year.
    - Cost savings or increments compared to business as usual, as provided by the microgrid, including but not limited to technology and installation costs, operations and maintenance, and energy use.
    - Benefit metrics for each of the different DER separated by the specific DER element (e.g., the value energy storage provides to the microgrid owner/operator, the value renewables provide to the microgrid owner/operator, the value demand response services provide to the microgrid owner/operator).
    - Benefit of services as provided by the microgrid to the utility grid.
  - For Product Development Projects and Project Demonstrations:
    - Published documents, including date, title, and periodical name.
    - Estimated or actual energy and cost savings, and estimated statewide energy savings once market potential has been realized. Identify all assumptions used in the estimates.
    - Greenhouse gas and criteria emissions reductions.
    - Other non-energy benefits such as reliability, public safety, lower operational cost, environmental improvement, indoor environmental quality, and societal benefits.
    - Data on potential job creation, market potential, economic development, and increased state revenue as a result of the project.
    - A discussion of project product downloads from websites, and publications in technical journals.
    - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
    - Additional Information for Product Development Projects:
      - Outcome of product development efforts, such copyrights and license agreements.
      - Units sold or projected to be sold in California and outside of California.
      - Total annual sales or projected annual sales (in dollars) of products developed under the Agreement.

## EXHIBIT A Scope of Work

- Investment dollars/follow-on private funding as a result of Energy Commission funding.
- Patent numbers and applications, along with dates and brief descriptions.
- Additional Information for Product Demonstrations:
  - Outcome of demonstrations and status of technology.
  - Number of similar installations.
  - Jobs created/retained as a result of the Agreement.
- For Information/Tools and Other Research Studies:
  - Outcome of project.
  - Published documents, including date, title, and periodical name.
  - A discussion of policy development. State if the project has been cited in government policy publications or technical journals, or has been used to inform regulatory bodies.
  - The number of website downloads.
  - An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
  - An estimate of energy and non-energy benefits.
  - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
  - A discussion of project product downloads from websites, and publications in technical journals.
  - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

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

### **Products:**

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire

### **TASK 8 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES (*Mandatory task*)**

The goal of this task is to develop a plan to make the knowledge gained, experimental results, and lessons learned available to the public and key decision makers.

#### **The Recipient shall:**

- Submit a monthly *Updated Progress Power Point Slide* that will be used by CAM for Energy Commission knowledge transfer activities (template supplied by CAM).
- Arrange CAM site visits for the CAM to observe project progress and verify installations as requested by the CAM and prepare *CAM Site Visits Schedules*
- Prepare an *Initial Fact Sheet* at start of the project that describes the project. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that discusses results. Use the format provided by the CAM.
- Prepare a *Technology/Knowledge Transfer Plan* that includes:

## **EXHIBIT A**

### **Scope of Work**

- An explanation of how the knowledge gained from the project will be made available to the public, including the targeted market sector and potential outreach to end users, utilities, regulatory agencies, and others.
- A description of the intended use(s) for and users of the project results.
- Published documents, including date, title, and periodical name.
- Copies of documents, fact sheets, journal articles, press releases, and other documents prepared for public dissemination. These documents must include the Legal Notice required in the terms and conditions. Indicate where and when the documents were disseminated.
- A discussion of policy development. State if project has been or will be cited in government policy publications, or used to inform regulatory bodies.
- The number of website downloads or public requests for project results.
- Additional areas as determined by the CAM.
- Conduct technology transfer activities in accordance with the Technology/Knowledge Transfer Plan. These activities will be reported in the Progress Reports.
- When directed by the CAM, develop *Presentation Materials* for an Energy Commission-sponsored conference/workshop(s) on the project. Presentation materials must be approved by the CAM in writing prior to the conference/workshop(s).
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission. Presentation materials must be approved by the CAM in writing prior to the symposium(s).
- 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.
- Prepare a *Technology/Knowledge Transfer Report* on technology transfer activities conducted during the project.

#### **Products:**

- Updated Progress Power Point Slide
- CAM Site Visit Schedules
- Initial Fact Sheet (draft and final)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

## **V. PROJECT SCHEDULE**

Please see the attached Excel spreadsheet.

# Memorandum

To: Robert B. Weisenmiller  
Karen Douglas  
David Hochschild  
Andrew McAllister  
Janea A. Scott

Date: June 5, 2018

Telephone: (916) 327- 2222

From: **Hatice Gecol, Energy Commission Specialist I  
Research and Development Division  
California Energy Commission**

Subject: California Environmental Quality Act Analysis for EPC-17-055

I, Hatice Gecol, am an Energy Commission Specialist I in the Research and Development Division, California Energy Commission, and the Commission's Agreement Manager for proposed Agreement EPC-17-055 ("Agreement") with the Humboldt State University Sponsored Programs Foundation.

Pursuant to my work in developing the Agreement, I have reviewed (1) the proposed Agreement documents, and (2) California Environmental Quality Act ("CEQA") documents prepared by the lead agency, the County of Humboldt ("County"). The proposed project under the Agreement is demonstration of a renewable energy microgrid project ("Project") at the California Redwood Coast-Humboldt County Airport (3561 Boeing Avenue, McKinleyville, Humboldt County, CA). The owner of the Project site is the County.

The Project will involve the construction, installation, and operation of a renewable energy microgrid to provide reliable power and enhance resiliency for 18 electricity accounts on Pacific Gas & Electric's (PG&E's) Janes Creek 1103 distribution circuit, which includes an animal shelter and two critical facilities of the County's main commercial airport and a U.S. Coast Guard Air Station. The microgrid will allow these facilities to remain operational when islanded from the electrical grid in the event of power outage and a prolonged emergency. It will export wholesale power into PG&E's electricity grid through Redwood Coast Energy Authority (RCEA) community choice aggregation (CCA) program.

The Project will result in public benefits of greater electricity reliability, increased safety, increased use of renewable energy (over 3,100 MWh/yr of renewable energy generation), enhanced energy efficiency (83 MWh/yr of energy saving), decreased greenhouse gas emissions (over 900 MT/yr carbon dioxide reduction). Also, RCEA's CCA program due to this Project will make significant progress in its mandate to deliver locally produced renewable electricity to its ratepayers. It will create 37 full-time construction jobs and two part-time operation jobs/yr. The Project will also demonstrate a replicable business model and will illustrate a clear path to microgrid deployment throughout California. The facility will be designed and constructed by Schatz Energy Research Center of the Humboldt State University (SERC), owned by RCEA CCA (generation and energy storage) and PG&E (microgrid distribution circuit), and operated by both RCEA CCA (grid-

connected) and PG&E (islanded and transitions). The Project will also be reviewed and approved by FAA during the design phase.

Construction activities are expected to begin in the spring of 2019 and will continue over a period of approximately 20 months with a construction area footprint of approximately 9 acres. The Project includes construction and installation of: (1) two co-located ground-mounted solar photovoltaic (PV) arrays (a 250 kW array configured for net energy metering (NEM) service with a construction area footprint of approximately 1.0 acre and 2 MW array for wholesale power sale with a construction area footprint of approximately 6.15 acres, which is currently a grassy field with intermittent brushy vegetation and trees); (2) a whole sale generation system that will include a coordinated electrical house with a 2MW/8MWh lithium-ion battery energy storage system, microgrid controller, a set of flooded lead-acid batteries, pad-mounted transformers, metering equipment and associated components (a construction area footprint of approximately 9,000 square feet, which is a former parking area); (3) energy efficient airport runway center and touch down zone lights by replacing the existing lights with LED lights (funded by other funding mechanism of the County and not counted as match funds); (4) four electric vehicle (EV) chargers that will be installed in the parking area located south of the airport terminal, and (5) PG&E installed infrastructure that will include new utility poles, pole mounted electrical protection and switching gear, and underground conduit and wiring to connect to the PV arrays and the wholesale generation system (this infrastructure will be installed within PG&E's existing utility right of way or on County property that will be reconfigured near the PV/battery location).

The microgrid will be a permanent facility and is expected to be operational in January 2021. The operation of the microgrid will be automated via onsite microgrid controller for normal day-to-day operation and will also include manual control for testing and emergency situations. Maintenance of the microgrid will include vegetation management, PV module cleaning, operational data stewardship, substation battery maintenance, periodic equipment inspection, and monthly system performance evaluation.

The Energy Commission reviewed the County's CEQA documents for the Project including an Initial Study and Proposed Mitigated Negative Declaration ("IS & MND"), Mitigation Monitoring and Reporting Program ("MMRP") contained in Attachment D of the IS & MND, a staff report from the County Department of Public Works, and the County's Notice of Determination ("NOD")<sup>1</sup>. The IS & MND was submitted to the California State Clearinghouse with a review period of March 30, 2018 through April 30, 2018 (State Clearinghouse No: 2018032076). The County sent notification letters to the owners of property contiguous to the Project on April 4, 2018, and published a Notice of Intent to adopt the proposed MND for the Project in the April 11, 2018 edition of the Mad River Union. The County received one comment letter dated April 18, 2018 and responded to the comment dated May 2, 2018. The IS & MND and MMRP were approved by the County on May 8, 2018 by Resolution No. 18-39 as complete and accurate, and prepared in accordance with CEQA. The County has the responsibility and jurisdiction to implement the mitigation measures in the IS & MND. Finally, the County also filed a NOD with the County Clerk-Recorder (Receipt No: 12-2018-032) on May 14, 2018.

In the IS & MND, the County analyzed 19 environmental factors of the CEQA Guidelines and identified three environmental factors (biological resources, cultural resources, and noise) having at least one impact that is determined to be a "Potentially Significant Impact Unless Mitigation

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<sup>1</sup> [http://www.energy.ca.gov/research/epic/environmental\\_review\\_documents.html#hsu2](http://www.energy.ca.gov/research/epic/environmental_review_documents.html#hsu2)

Incorporated” by the Project and for these factors, mitigation measures have been required by the lead agency to avoid or substantially reduce the impact to less than significant levels. In IS & MND, the County identified four mitigation measures that will collectively reduce environmental impacts of the Project to less than significant level which are included in the MMRP. Based on the findings of IS, the County concluded that MND is appropriate determination for compliance with CEQA for the Project.

Based on my review and consideration of the proposed Agreement documents and above CEQA documents, it is my independent and professional opinion that, since the above CEQA documents have been finalized, there have been no new project changes, and no new, additional, or increased significant environmental impacts have occurred. Furthermore, I have not identified any new information which would change the conclusions of the County’s CEQA documents, or render those conclusions inadequate.

It is also my independent and professional opinion that the work to be performed under the proposed Agreement EPC-17-055 falls within the scope of the County’s CEQA documents, and that the Agreement will not result in any new significant environmental impacts. Finally, I have not identified any new mitigation measures, within the Energy Commission’s authority, that would lessen or further mitigate the impacts of the Project.

The reasons for my conclusions are as follows:

All of the construction, installation and operation activities described in the proposed Agreement, which are summarized above, fall within the activities evaluated by the County’s CEQA documents identified above. The environmental factors, project impacts, and mitigation measures are outlined below and a full list of mitigation measures in the MMRP of the IS & MND.

**Aesthetics:**

The proposed Agreement will have less than significant impacts on aesthetics, and will not change the impacts identified in the County’s CEQA documents. The project will involve replacing existing airport runway center and touch down zone lights with LED lights but no significant new lighting is proposed as part of the project. Sources of light at the airport are common and hence, no mitigation is required.

**Agriculture and Forestry Resources:**

The proposed Agreement will not have any impact on agriculture and forestry resources, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

**Air Quality:**

The proposed Agreement has typical construction-related activities and short-term construction related pollutant emissions are expected to be well below the North Coast Unified Air Quality Management District’s thresholds of significance for construction. Hence, the proposed Agreement will result in less than significant impacts on air quality, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

**Biological Resources:**

The proposed Agreement will have less than significant impacts on biological resources with mitigation incorporated as described below.

The coast checkerbloom, which is listed on the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants list as a IB species (plants that are rare, threatened, or endangered in California and elsewhere) has the potential to occur on the airport. Humboldt County has a management policy to avoid, minimize, and/or mitigate for any impacts to the coast checkerbloom, and project specific surveys are conducted during the planning phase of ground-disturbing projects. In June 2009 and September 2016, a botanist performed a survey to check for checkerbloom within the Project area and no occurrences were identified (Attachment B of the IS & MND). Based on the existing data and information indicating the high unlikelihood of checkerbloom presence, no mitigation measures were proposed in the IS & MND.

A row of Monterrey pine trees at the south end of the Project area may need to be removed, pending further evaluation of solar radiation exposure. If these trees are removed, tree removal is expected to occur outside the nesting bird season in Northern California (March 15 - August 15) since these trees provide nesting and roosting opportunities for raptors and other bird species. If these trees are removed during the nesting season, a qualified biologist would perform one or more pre-construction nesting bird surveys to ensure that there are no impacts to birds protected under the Migratory Bird Treaty Act. Pre-construction nesting bird surveys are described in further detail in Mitigation Measure BIO-1 in Section 5.IV of the IS & MND. With the implementation of this mitigation measure, potential impacts from the Project on protected bird species would be reduced to a less than significant level.

**Cultural Resources:**

The proposed Agreement will have less than significant impacts on cultural resources with mitigation incorporated as described below.

The Project area was traditionally occupied by the Wiyot people but no village sites were ethnographically reported in the Project vicinity. The Project is also within an area of historic-era use by loggers and agriculturalists beginning in the late 1800's, including David Worth, one of the first settlers to the region. The County retained Roscoe & Associates (2018) to perform an archaeological investigation of the Project area to evaluate the potential presence of archaeological resources. This investigation showed only a slight possibility of the presence of significant remnants of cultural activity; identified no historical, tribal cultural, or unique archaeological resources; and concluded no potential for the paleontological resources to be present.

There are no known or designated historical, tribal cultural, or unique archaeological resources within the Project area. However, there is a small potential that the Project activities could inadvertently uncover archaeological materials that would need to be evaluated further to determine their significance. The County incorporated a mitigation measure (CULT-1 in Section 5.V of the IS & MND) as a precautionary measure to ensure appropriate response in the event of inadvertent discovery of cultural resources. Hence, with this mitigation a less than significant impact would occur.

The Project activities have also the potential to inadvertently uncover human remains during construction. The County incorporated a mitigation measure (CULT-2 in Section 5.V of the IS & MND) as a precautionary measure to ensure appropriate response in the event of inadvertent discovery of cultural resources. Hence, with this mitigation a less than significant impact would occur.

**Geology and Soils:**

The proposed Agreement will have less than significant impacts on Geology and Soils, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

The North Coast is a seismically active area located near a triple junction of tectonic plates that increase the likelihood of regionally significant earthquakes. Potential seismic hazards include surface fault rupture, liquefaction, and landslide. All construction projects in this area are subject to the seismic safety standards in the California Building Code. Therefore, the Project will be designed in accordance with the California Building Code and other applicable standards. There is a high probability the Project site will experience shaking associated with a seismic event of magnitude seven or greater during its lifetime. However, the Project does not include occupied structures. Hence the likelihood of exposing people or structures to potential substantial adverse effects is less than significant. The Project area does not have unique characteristics or hazards that would elevate the risk of strong seismic ground shaking. The Project area is also situated outside of mapped liquefaction hazard zones (Humboldt County, 2015<sup>2</sup>). The potential for a landslide as a result of Project activities or the completed Project is considered negligible.

**Greenhouse Gas Emissions:**

The proposed Agreement will not have any impact on greenhouse gas (GHG) emissions, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

The Project construction activities could result in a small, temporary increase in GHG emissions, including exhaust emissions from on-road trucks, worker commute vehicles, and off-road heavy duty equipment but it is short term and insignificant. Operation of the facility will generate minimal vehicle trips and a negligible increase in GHG emissions. This microgrid is a zero-emission electricity source, and the Project will result in a substantial net decrease in GHG emissions by serving as an alternative source for fossil-fuel based power that the project will result in avoided emissions of 900 MT/yr CO<sub>2</sub>e. Based on the negligible percentage of construction and operation related GHG emissions, and the substantial net overall reduction in GHG emissions represented by the Project, the Project will not have a significant impact through GHG generation, and will not conflict with an applicable plan, policy or regulation for GHG reduction.

**Hazards/Hazardous Materials:**

The proposed Agreement will have less than significant impacts on hazards and hazardous materials, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

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<sup>2</sup> Humboldt County, 2015. Liquefaction Hazard Zones: Humboldt County, California. Humboldt County Building and Planning Department.

**Hydrology and Water Quality:**

The proposed Agreement will have less than significant impacts on hydrology and water Quality, and will not change the impacts identified in the County's CEQA documents. Hence, no mitigation is required.

Construction activities necessary to construct the Project will be conducted in accordance with either the State Construction General Permit or the County Construction Storm Water Ordinance. Appropriate storm water best management practices (BMPs), including erosion, sediment and non-storm water controls will be implemented to protect water quality at all times through construction. Implementation of BMPs and erosion control measures will reduce potential water quality impacts during Project construction activities to a less than significant level by requiring measures to control erosion and sedimentation of receiving water bodies. As a result, the potential impact on water quality during construction and operation would be less than significant.

**Land Use and Planning:**

The proposed Agreement will have less than significant impacts on land use and planning, and will not change the impacts identified in the County's CEQA documents. Hence, no mitigation is required.

The Project sites are subject to a General Plan conformance review in accordance with Government Code Section 65402. Later in 2018 or early 2019, the Humboldt County Building and Planning Department and Humboldt County Planning Commission plan to review the Project for conformance with the Humboldt County General Plan and McKinleyville Community Plan.

**Mineral Resources:**

The proposed Agreement will not have any impact on mineral resources, and will not change the impacts identified in the County's CEQA documents. Hence, no mitigation is required.

**Noise:**

The proposed Agreement will have less than significant impacts on noise with mitigation incorporated as described below.

Construction activities will require the use of heavy equipment, concrete saws, jackhammers, and pile driving. Pile driving is a potential source of ground-borne vibration and noise. Noise levels are a function of the distance between noise source and sensitive receptors, and will also vary based on the type of pile driver, the depth of the pile, and soil conditions (Caltrans, 2013<sup>3</sup>). Vibrations and noise will attenuate with increasing distance. Although rare, construction induced vibrations have the potential to be structurally damaging to buildings located adjacent to the construction site. The nearest residence is approximately 75 feet to 100 feet from where pile driving may occur. Pile driving has the potential to generate substantial temporary ground-borne vibration exceeding standard vibration thresholds, which could cause a nuisance condition, or damage, for adjacent residences. Exposure of persons to

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<sup>3</sup> California Department of Transportation, 2013. Transportation and Construction Vibration Guidance Manual. Report a-HWANP-RT-13-069.25.3. September 2013.  
[http://www.dot.ca.gov/ha/env/noise/Dub/TCVGM\\_Sep13\\_FINAL.pdf](http://www.dot.ca.gov/ha/env/noise/Dub/TCVGM_Sep13_FINAL.pdf)

excessive ground-borne vibration would represent a potentially significant impact. Mitigation measure NOISE-1 described in Section 5.XII of the IS & MND will be incorporated to reduce impacts related to exposure to temporary construction related ground-borne vibration to a less than significant level. Increases in noise levels will be temporary and limited to daytime hours, and will not present after the completion of the construction.

**Population and Housing:**

The proposed Agreement will not have any impact on population and housing, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

**Public Services:**

The proposed Agreement will not have any impacts on public services, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

**Recreation:**

The proposed Agreement will not have any impact on recreation, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

**Transportation/Traffic:**

The proposed Agreement will have a small increase in vehicle trips generated and emergency vehicles to take alternative routes for reaching necessary locations during construction activities, ending once construction is complete. Hence, it will have a less than significant impact on transportation/traffic, and will not change the impacts identified in the County’s CEQA documents. Therefore, no mitigation is required.

**Tribal Cultural Resources:**

Humboldt County Public Works has not received formal written correspondence from any Tribe to be informed of the Project. As described above in cultural resources factor discussion and In Section 5.V of the IS & MND, the County retained Roscoe & Associates to conduct an archaeological survey which included informal consultation with the Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, and the Wlyot Tribe. According to the Archaeological Survey Report (Roscoe & Associates, 2018)<sup>4</sup>, there is a low possibility that the Project area contains undiscovered prehistoric artifacts or archaeological deposits. However, the tribes requested the opportunity to observe ground disturbing activities that will penetrate deeper than one foot below ground surface. This request was incorporated into mitigation measure CULT-1 described in Section 5.V of the IS & MND for the cultural resources factor. Hence, the proposed Agreement will have a less than significant impact on tribal cultural resources, and will not change the impacts identified in the County’s CEQA documents. Therefore, no mitigation is required.

**Utilities and Service Systems:**

The proposed Agreement will not have any impacts on utilities and service systems, and will not change the impacts identified in the County’s CEQA documents. Hence, no mitigation is required.

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<sup>4</sup> Roscoe & Associates, January 2018. An Archaeological Survey Report for the ACV Microgrid Project and Two Potential Solar Projects, Humboldt County, California.

**Mandatory Findings of Significance:**

As documented in the IS & MND, the Project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. As summarized above and described in Section 5. IV (Biological Resources) of the IS & MND, the County considered the potential cumulative effects on the checkerbloom plant community at the airport, and concluded that checkerbloom are not present within the Project area. Hence, the proposed Agreement would have a less than significant impact on mandatory findings of significance, and will not change the impacts identified in the County's CEQA documents. Therefore, no further mitigation is required.

Overall, the four mitigation measures identified by the County to reduce environmental impacts of the Project to less than significant levels will ensure that tree and vegetation removal do not impact nesting birds, provide protective measures for inadvertent discovery of cultural resources or human remains, and minimize impacts of ground-borne vibrations and noise on adjacent residents. Based on above analysis and the findings of the IS & MND, I agree with the County's conclusion that a MND of environmental impact is the appropriate determination for compliance with CEQA for the Project and the proposed Agreement.

**Notice of Determination****Appendix D****To:**

Office of Planning and Research  
*U.S. Mail:* \_\_\_\_\_ *Street Address:* \_\_\_\_\_  
 P.O. Box 3044 1400 Tenth St., Rm 113  
 Sacramento, CA 95812-3044 Sacramento, CA 95814

County Clerk  
 County of: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_

**From:**

Public Agency: California Energy Commission  
 Address: 1516 Ninth Street  
 Sacramento, CA 95814  
 Contact: Hatice Gecol  
 Phone: 916-327-2222

Lead Agency (if different from above):  
 County of Humboldt  
 Address: Public Works, 1106 Second Street  
 Eureka, CA 95501  
 Contact: Hank Seeman  
 Phone: 707-445-7741

***SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.***

State Clearinghouse Number (if submitted to State Clearinghouse): 2018032076

Project Title: Redwood Coast Airport Renewable Energy Microgrid

Project Applicant: Humboldt State University Sponsored Programs Foundation

Project Location (include county): California Redwood Coast-Humboldt County Airport (County of Humboldt)

**Project Description:**

This project will design, construct, and operate a community scale renewable energy microgrid on approximately nine acres at the Redwood Coast Humboldt County Airport. This microgrid will provide reliable power and enhance resiliency for multiple customers, which includes an animal shelter and two critical facilities of the County's main commercial airport and a U.S. Coast Guard Air Station. The microgrid will include two co-located solar PV arrays, battery energy storage systems, multiple electric vehicle chargers, energy efficient LED lights for airport runway lighting, microgrid controller, transformers, metering equipment and associated infrastructure.

This is to advise that the California Energy Commission has approved the above  
 Lead Agency or  Responsible Agency)

described project on 06/13/2018 and has made the following determinations regarding the above  
 (date)  
 described project.

1. The project  will  will not] have a significant effect on the environment.
2.  An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.  
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures  were  were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan  was  was not] adopted for this project.
5. A statement of Overriding Considerations  was  was not] adopted for this project.
6. Findings  were  were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

[http://www.energy.ca.gov/research/epic/environmental\\_review\\_documents.html#hsu2](http://www.energy.ca.gov/research/epic/environmental_review_documents.html#hsu2)

Signature (Public Agency): \_\_\_\_\_ Title: \_\_\_\_\_

Date: \_\_\_\_\_ Date Received for filing at OPR: \_\_\_\_\_

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: HUMBOLDT STATE  
UNIVERSITY SPONSORED PROGRAMS  
FOUNDATION

**WHEREAS**, the County of Humboldt is the Lead Agency for purposes of the California Environmental Quality Act ("CEQA") for the Redwood Coast Airport Renewable Energy Microgrid Project (hereinafter "Project"); and

**WHEREAS**, the County of Humboldt prepared an Initial Study, Mitigated Negative Declaration ("MND"), Mitigation, Monitoring and Reporting Program ("MMRP"), and a Notice of Determination ("NOD"), evaluating the potential environmental impacts of implementing the Project, and all of which are on file with the Energy Commission; and

**WHEREAS**, the County of Humboldt, on May 8, 2018 considered and adopted the Initial Study, MND, and MMRP for the Project under resolution number 18-39; and

**WHEREAS**, the Energy Commission has reviewed and considered the County of Humboldt's Initial Study, MND, MMRP, and NOD, and staff's findings are contained in the June 5, 2018 Memorandum, CEQA Analysis of EPC-17-055.

**WHEREAS**, the Energy Commission is considering proposed Agreement EPC-17-055, the Redwood Coast Airport Renewable Energy Microgrid (hereinafter "EPC-17-055"), a grant to fund a community scale renewable energy microgrid located at the Redwood Coast Humboldt County Airport. It will demonstrate the first multi-customer, front-of-the-meter microgrid with renewable energy generation owned by a CCA and the microgrid circuit owned by an IOU. This microgrid will allow the CCA to participate in the CAISO wholesale electricity market and provide low carbon resilience to a commercial airport and US Coast Guard Air Station, which are critical emergency facilities in Humboldt County. The Humboldt State University Sponsored Programs Foundation is providing \$6,322,728 in match funding; and

Prior to acting on Agreement EPC-17-055, the Energy Commission desires to make certain findings pursuant to CEQA Guidelines, title 14, sections 15091, 15092, and 15096;

**NOW THEREFORE, BE IT RESOLVED:**

1. To the extent relevant to EPC-17-055, the Energy Commission, acting as a responsible agency, has reviewed and considered the information contained in the County of Humboldt's Initial Study, MND, MMRP, NOD and May 8, 2018 resolution identified above;
2. The County of Humboldt has the authority and has already adopted the MMRP to implement mitigation measures or seek any required approvals for mitigation measures identified, to reduce the selected impacts to a less than significant level, and the Energy Commission has no direct authority to implement the mitigation measures identified.
3. The Energy Commission finds the County of Humboldt's Initial Study, MND,

MMRP, NOD and May 8, 2018 resolution are adequate for its use as the decision-making body for its consideration of EPC-17-055.

4. Approval of EPC-17-055 is within the scope of the County of Humboldt's Initial Study, MND, MMRP, NOD and May 8, 2018 resolution.
5. Since the County of Humboldt's Initial Study, MND and MMRP were adopted on May 8, 2018, there have been no substantial project changes and no substantial changes in the Project circumstances that would require major revisions to these documents due to the involvement of new significant environmental effects or an increase in the severity of previously identified significant impacts, and there is no new information of substantial important that would change the conclusions set forth therein.
6. The Energy Commission has not identified any feasible alternative or additional feasible mitigation measures within its power that would substantially lessen or avoid any significant effect the Project would have on the environment.

**BE IT FURTHER RESOLVED**, that the Energy Commission finds, on the basis of the entire record before it, including the County of Humboldt's Initial Study, MND, MMRP, and NOD, and staff's June 5, 2018 Memorandum identified above, that the proposed project will not have a significant effect on the environment; and

**BE IT FURTHER RESOLVED**, that the Energy Commission finds, on the basis of the entire record before it, including the County of Humboldt documents and staff's June 5, 2018 Memorandum identified above, that the mitigation measures incorporated will prevent EPC-17-055 from having any significant environmental impacts; and

**BE IT FURTHER RESOLVED**, that this document authorizes the Executive Director or his or her designee to prepare and file a Notice of Determination on behalf of the Energy Commission; and

**BE IT FURTHER RESOLVED**, that the Energy Commission approves Agreement EPC-17-055 with Humboldt State University Sponsored Programs Foundation for \$5,000,000; and

**BE IT FURTHER RESOLVED**, that the Executive Director or his or her designee shall execute the same on behalf of the Energy Commission.

### **CERTIFICATION**

The undersigned Secretariat to the Commission 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 California Energy Commission held on June 13, 2018.

AYE: *[List Commissioners]* NAY:  
*[List Commissioners]* ABSENT:  
*[List Commissioners]* ABSTAIN:  
*[List Commissioners]*

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*Cody Goldthrite, Secretariat*

