

New Agreement EPC-17-054 (To be completed by CGL Office)

ERDD	David Chambers	43	916-327-2356
Rialto Bioenergy Facility LLC			90-1018419
Rialto Resilient Clean Power Microgrid			
7/18/2018	3/31/2023	\$ 5,000,000	

☐ ARFVTP agreements under \$75K delegated to Executive Director.Proposed Business Meeting Date 7/11/2018 ☐ Consent ☒ Discussion

Business Meeting Presenter Mike Gravely Time Needed: 5 minutes

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

Agenda Item Subject and Description

RIALTO BIOENERGY FACILITY, LLC. Proposed resolution adopting California Environmental Quality Act findings and statement of overriding considerations for Rialto Bioenergy Facility, LLC's microgrid project and approving Agreement EPC-17-054 with Rialto Bioenergy Facility, LLC. (EPIC funding) Contact: Contact: David Erne. (Staff presentation: 5 minutes)

a. CALIFORNIA ENVIRONMENTAL QUALITY ACT FINDINGS. Findings that based on the Lead Agency, City of Rialto's, certified Final Environmental Impact Report; adopted Mitigation, Monitoring and Reporting Program; adopted Statement of Overriding Considerations; resolution regarding the aforementioned documents; Notice of Determination; and Notice of Exemption for the energy storage component of project, the work under the proposed project presents no new significant or substantially more severe environmental impacts beyond those already considered; and adopting a statement of overriding considerations.

b. RIALTO BIOENERGY FACILITY, LLC'S MICROGRID PROJECT. Agreement with Rialto Bioenergy Facility, LLC for a \$5,000,000 grant to install a permanent microgrid that manages multiple distributed energy resources to meet power demand loads at the Rialto Bioenergy Facility and providing islanding abilities, while minimizing grid draw and enhancing renewable electricity export.

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☐ Negative Declaration☐ Mitigated Negative Declaration☒ Environmental Impact Report☒ Statement of Overriding Considerations

GRANT REQUEST FORM (GRF)

Legal Company Name:	Budget
W. M. Lyles Co.	\$ 493,640
City of Rialto	\$ 30,000
The Grant Farm, Inc	\$ 0 (\$80,000 match)
Trinity Consultants Inc	\$ 0 (\$77,360 match)
GHD, Inc.	\$ 20,000
Tesco Controls, Inc.	\$ 50,000
	\$
	\$
	\$

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

CALIFORNIA ENERGY

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

Legal Company Name:

Budget Information

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 #:	

Recipient's Administrator/ Officer

Name: Nick Fontaine
 Address: 5780 Fleet St Ste 310
 City, State, Zip: Carlsbad, CA 92008-4714
 Phone: 760-436-8870 Fax: - -
 E-Mail: nick.fontaine@anaergia.com

Recipient's Project Manager

Name: Andrew Dale
 Address: 5780 Fleet St Ste 310
 City, State, Zip: Carlsbad, CA 92008-4714
 Phone: 760-448-6847 x Fax: - -
 E-Mail: andrew.dale@anaergia.com

Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-17-302
☐ First Come First Served Solicitation

The following items should be attached to this GRF

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 #	CPR¹	Task Name
1		General Project Tasks
2	X	The Project
3		Evaluation of Project Benefits
4		Technology/Knowledge Transfer Activities
5		Production Readiness Plan

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
DAC	Disadvantaged Communities, which are defined for the purpose of this Agreement as communities defined as areas representing census tracts scoring in the top 25 % in CalEnviroScreen 3.0. (https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30)
EPC	Engineering, Procurement, and Construction Contractor
GHG	Greenhouse Gas
RBF	Rialto Bioenergy Facility
RNG	Renewable Natural Gas
RWTP	Rialto Wastewater Treatment Plant
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
TAC	Technical Advisory Committee

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

A. Purpose of Agreement

The purpose of this Agreement is to fund a new permanent microgrid installation that manages high distributed energy resource penetration to meet power demand loads at the Rialto Bioenergy Facility (RBF), while minimizing grid draw and enhancing renewable electricity export. The project will install battery storage, demand response capabilities, new power production capacity, an enhanced Supervisory Control and Data Acquisition (SCADA) interface, and switchgear to allow islanding in the case of a utility outage.

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

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B. Problem/ Solution Statement

Problem

Microgrids carry strong potential to shave peak power demand, improve power supply reliability, reduce risks from grid failure, store renewable electricity, and reduce electricity cost. Microgrids also enhance grid operation by facilitating demand response, reducing grid congestion, minimizing need for transmission upgrades, and increasing grid reliability. Microgrids can also stabilize grid power draw by large industrial users. Yet microgrids in California remain under-deployed in spite of these significant benefits. For example, fewer than three percent of the 156 digester-operating wastewater treatment facilities, and no more than five percent of anaerobic digestion facilities in California operate a microgrid. High costs, long return on investment periods, limited technology experience, and lack of viable microgrid demonstrations for digesters have stymied microgrid development in these industries.

Solution

This project will demonstrate a commercial-scale microgrid system directly applicable to anaerobic digestion facilities statewide to produce a clear, repeatable, standardized configuration, including for wastewater treatment plants and organics management facilities. The proposed microgrid will optimize power management at the RBF, an organics management facility that will digest and extract energy from sewage sludge and food waste. Optimization will start with deep interface between the microgrid controller and the RBF's SCADA system, to demonstrate feedback between power management and process control. This interconnection will provide microgrid-optimized biogas production and storage, supporting at least 3 days of islanding capability, even if feedstock is interrupted. With ample feedstock, the microgrid will be capable of islanding and providing 100% of the RBF's power demand indefinitely, as long as feedstock remains available.

During normal operations, the microgrid's 2.0 MW of new cogeneration and 2 MWh of battery storage will be capable of shaving 100% of grid draw during peak RBF power demand. This benefit will strongly enhance RBF reliability using a system that will be widely applicable to other anaerobic digester facilities in California. Deployment of similar microgrids across all in-state digester-operating wastewater treatment plants could, for example, help to ensure their operation even during catastrophic grid failure. This project will also demonstrate the economic viability of a microgrid supporting operation of a large-scale organic waste management facility. In this manner, the project will help to reduce microgrid apprehension among risk-averse digester and wastewater treatment operators. The project will also spearhead microgrid development across the wastewater and anaerobic digestion industries through targeted market development initiatives.

C. Goals and Objectives of the Agreement

Agreement Goals

The goals of this Agreement are to:

- Install and demonstrate a new, permanent commercial-scale microgrid system incorporating three DER elements in a California Disadvantaged Community. Each DER element will be a complete system that provides an independent electric service capability.
- Reduce greenhouse gas (GHG) emissions by a minimum of 20 percent in comparison with previous GHG emissions targets
- Increase onsite use of renewable electricity, while reducing peak period grid power draw
- Achieve capability of operating in island mode for at least 3 days

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- Demonstrate a business model with a high potential for replication at other similar facilities across California

Ratepayer Benefits:² This Agreement will result in the ratepayer benefits of greater electricity reliability, lower costs, and increased safety.

- Greater Electricity Reliability: The project will enhance electric grid reliability by 1) minimizing RBF grid power draw during peak periods; 2) demonstrating advanced demand response, enabling the RBF to step up export of renewable grid power or minimize grid power demand when called upon by the utility; 3) adding stationary energy storage to bank renewable power for demand response; 4) enabling RBF islanding to support continued operation even if grid connection is lost. Strategic load shaving and power production through demand response, and increasing on site storage will provide direct benefits to improve the reliability of utility grid services, particularly during times of peak demand.
- Lower Costs: Smart load management and demand-response-based power export to the grid will reduce demand on the utility grid, especially during peak periods. These strategies will in turn reduce the need for Southern California Edison (SCE) to start up high-cost peak power production equipment, while increasing the longevity of existing grid infrastructure through the production of onsite power.
- Increased Safety: The project will deploy an advanced, non-flammable battery backup system to avoid battery fire risk onsite. During periods of high grid congestion or brownout, additional local power export capacity could be used to maintain grid operation to ensure continued power supply to critical facilities, including the adjacent Rialto Wastewater Treatment Plant, or alternatively to hospitals, emergency response, and other critical safety-oriented infrastructure. The proposed microgrid system will also incorporate advanced cybersecurity software to detect and react to external cyber threats to the RBF and the larger SCE network.

Technological Advancement and Breakthroughs:³ This Agreement will lead to technological advancement and breakthroughs to overcome barriers to the achievement of the state of California's statutory energy goals by the deployment of microgrids in California, including at critical facilities such as hospitals, fire stations, regional command centers and wastewater treatment plants. Specifically, the microgrid will be directly applicable to 156 critical wastewater treatment plants in California that also operate anaerobic digesters. Deployment of similar microgrids at these facilities would enable similar grid benefits at each of those locations, while significantly reducing wastewater treatment plant vulnerability to grid disruption events. More generally, the project will advance commercialization of a microgrid that, when deployed more widely across California, will help transition California's existing distributed generation resources (backup generators, distributed renewable energy, etc.) toward full utility integration, supporting a major increase in grid resiliency and optimization.

Agreement Objectives

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

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

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The objectives of this Agreement are to:

- Install an advanced, 2-MWh battery storage system
- Install 2.0 MW of renewable power cogeneration capacity
- Install an advanced microgrid controller to allow islanded operation and demand response
- Develop an approach and lessons learned to support replicability at other facilities

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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.

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:

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- 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.
- **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.

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);

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- 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 7); 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 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.

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- 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.

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.

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- 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.

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.

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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
- Acceptance of Final Report Outline

Subtask 1.6.2 Final Report

The Recipient shall:

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, 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.
 - 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.

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- 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:

- 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

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an authorized representative of each source of match funding that the funds or contributions have been secured.

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

Products:

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

Subtask 1.8 Permits

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

The Recipient shall:

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

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

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

Products:

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

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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.
- 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;

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- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;
- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

The Recipient shall:

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

Products:

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

Subtask 1.11 TAC Meetings

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

The Recipient shall:

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

Products:

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

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IV. TECHNICAL TASKS

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

TASK 2 THE PROJECT

The goals of this task are to develop a detailed design basis and engineering/installation plans; install and integrate the proposed microgrid system and related equipment within the larger facility; complete all required training; operate the microgrid and collect operations data for 12 months; and conduct project analysis.

Subtask 2.1 Project Design and Engineering

The goals of this subtask are to develop a detailed design basis for the microgrid system and its incorporation into the design and construction of the RBF, which will be designed and constructed concurrently. This task will include completion of all detailed engineering documentation needed for the microgrid system to become build-ready, as well as completion of equipment lists needed for the procurement process. The microgrid will be a new permanent installation that manages high DER penetration to meet the load while avoiding adverse grid impacts, through the use of a microgrid controller. Additionally microgrid interconnections to the grid must meet California Rule 21 requirements. Key technologies used in the demonstration except the microgrid controller or any V2G systems proposed must be at Department of Energy Technology Readiness Level (TRL) 8 or greater.⁴ Additionally, DER technologies used must be in the marketplace and commercially available at the end of the project (i.e., sold, leased, or licensed to the general public). Note that the design, procurement, and construction process will interface with the Engineering, Procurement, and Construction (EPC) contractor that will oversee these functions for the overall RBF. This EPC contractor will be selected through a separate selection process, as needed to support development of the overall RBF project. The EPC will be selected, in part, based on experience supporting the development of microgrid systems, particularly regarding SCADA interface.

The Recipient shall:

- Prepare a *Microgrid Design Basis Report* to provide a comprehensive list of all systems to be integrated into the microgrid. The *Microgrid Design Basis Report* will include but not be limited to:
 - Identification of critical loads
 - Identification of non-critical loads
 - Profile of generation equipment and capacities/operation
 - Anticipated feedstock sources, quantity and quality
 - Schematics for RBF electrical infrastructure
 - Schematics and operational parameters for the RBF SCADA system
 - Onsite utility infrastructure
 - Onsite power demand
 - Onsite biogas production and storage
 - Grid power import and renewable power export parameters
 - RNG export parameters

⁴ US DOE Technology Readiness Assessment (TRA)/Technology Maturation Plan (TMP) Process Guide, <https://www.energy.gov/em/downloads/technology-readiness-assessment-tratechnology-maturation-plan-tmp-process-guide>

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- Summary of efforts and incorporation of results from local community outreach into the design, pursuant to Outreach subtask 2.5 below
- Non-confidential summary of how cyber security over the long term operation of the microgrid is planned to be addressed
- Produce additional documentation as needed to ensure that the microgrid is wholly integrated into RBF design. This documentation may be in an appendix and could include:
 - One-line diagrams
 - Load lists
 - Control narratives
 - I/O list
 - Existing interconnection agreement with SCE, to support update of the agreement as needed
- Complete design of all microgrid systems and components and produce a *Draft Microgrid System Design*. This Design will include, but not be limited to:
 - Microgrid system lists
 - Microgrid electrical / wiring diagrams
 - New circuit breaker and switchgear as needed
 - Microgrid equipment (cogeneration unit, battery) and RBF SCADA system interconnection
 - Controller specifications and operational algorithms
- Circulate Draft Microgrid System Design for Recipient and TAC review, ensuring that all elements will be wholly compatible with the RBF and then complete a *Final Microgrid System Design* based on comments received.
- Complete civil and electrical / process engineering design for the microgrid, including the cogeneration unit, battery storage, controller, switchgear, and other microgrid systems, ensuring that all proposed systems are wholly integrated into RBF design.
- Prepare and provide a *Written Notice of Project Plan Set Completion* to the CAM. The letter shall include, but is not limited to:
 - Engineer-stamped cover page and summary pages, as applicable / as required for plan approval (full plan set available upon request by the Energy Commission) of the final grading / foundation, electrical, mechanical, and structural plans, as relevant, for all project components;
 - Summary of lessons learned during the design phase.
- Prepare and provide a *Construction Equipment List* for use in the procurement process.
- Prepare a *CPR Task 2.1 Report* in accordance with subtask 1.3 (CPR Meetings).

Products:

- Microgrid Design Basis Report
- Microgrid System Design (draft and final)
- Written Notice of Project Plan Set Completion
- Construction Equipment List
- CPR Task 2.1 Report

Subtask 2.2 Microgrid System Procurement and Construction / Installation

The goals of this subtask are to complete all procurement, as well as construction and installation of the microgrid system project, including integration with the RBF, which will be constructed concurrently.

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The Recipient shall:

- Prepare and provide a *Procurement Plan* for the proposed microgrid components (cogeneration unit, battery, controller unit, switchgear, and all appurtenances) that will detail the process for procurement of equipment, materials, and services. The Procurement Plan will include, but not be limited to:
 - A description of the bid packages to be assembled
 - A methodology for receiving and evaluating responses
- Execute the Procurement Plan. Procurement for the project will occur separately but in tandem with RBF procurement.
- Prepare and provide to the CAM a *Procurement Report* for the project, which will include but not be limited to:
 - A list of respondents to bid packages
 - A rationale for the selected service providers
- Prepare a *Construction Plan* for the project, as a component of the full RBF, that will outline the budget and schedule for the completion of all construction and installation activities. The *Construction Plan* will include, but not be limited to:
 - A list of construction and installation milestones
 - A Gantt chart and detailed project schedule
 - A description of best management practices to be utilized
 - A risk mitigation strategy which will include adherence to performance requirements
 - A plan for quality control and quality assurance
- Prepare and provide *Written Notification of Site Preparation* for the project, as a component of the full RBF, that will notify the CAM that the site has been prepared to initiate construction-related activities.
- Implement the *Construction Plan*. Install all microgrid systems and components, which will include, but not be limited to:
 - 2.0 MW cogeneration unit
 - 2.0 MWh battery storage unit
 - Microgrid controller and human interface. The controller must be a central microgrid controller that has access to all the critical elements of the microgrid for either controller functions or data monitoring
 - Switchgear
 - Wiring, connection, and all appurtenances
- Prepare a *Construction Report* for the project, as a component of the RBF, that will evaluate the actual construction activities compared to the Construction Plan. The *Construction Report* will include, but not be limited to:
 - A final schedule of completed milestones
 - A description of lessons learned and best practices
 - A summary of major project changes
 - Photographs documenting construction progress from start to finish
- Prepare and provide *Written Notification of Completion of Construction and Installation* for the facility that will notify the CAM that construction and installation activities have been completed.

Products:

- Procurement Plan
- Procurement Report
- Construction Plan
- Written Notification of Site Preparation

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- Construction Report
- Written Notification of Completion of Construction and Installation

Subtask 2.3 Operation and Grant Period Data Collection

The goals of this subtask are to operate the microgrid, to collect at least twelve (12) months of operating data, and to evaluate project performance and benefits.

The Recipient shall:

- Develop a *Data Collection and Documentation Plan* (draft and final) of technical, environmental and economic data that includes, but is not limited to:
 - Description of the systems to be tested
 - Description of the data collection methodology, including:
 - Data collection protocols
 - Data collection schedule
 - Justification for the proposed data points to be collected
 - Information storage and retention plan
 - Expected performance
 - Plan for post-grant data collection and reporting for three years
 - Installation issues
 - Operational constraints
 - Operational performance, including duration of islanded mode capability
 - Response to grid emergencies
 - Parameters that will measure and document successes, lessons learned, and best practices for the above.
- Troubleshoot any issues identified
- Implement the Data Collection Plan, to collect at least twelve (12) months of data including:
 - Documentation of installation issues
 - Operational constraints
 - Operational performance
 - Response to grid emergencies
 - Usage and operations time
 - Continuous data including:
 - Amount of energy produced by the cogeneration unit
 - Battery status
 - Amount of energy dispatched to the battery, the RBF for onsite operations, and the grid
 - Microgrid-controlled changes to RNG pipeline export
 - Microgrid-controlled changes to RNG storage
 - Fault and error monitoring reports
 - Normal operating hours, up time, down time, and explanations of variations
 - Metric tons of GHG emissions reduced
 - Electricity sales price
 - Number of hours operated in island mode
 - Operational constraints
 - Documentation of response to grid emergencies
 - Documentation of maintenance activities
 - Operation cost including maintenance
- Prepare *Data Collection and Analysis Report* that includes, but is not limited to:
 - Documentation of data collected

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- Assessment of actual performance in comparison to expectations provided in the proposal, including technical and economic performance
 - Documentation of success, measured in terms of the parameters identified in the proposal, as reviewed by the CAM
 - Identification of challenges or barriers encountered, and solutions developed
 - Provide an optimal design configuration that provides the highest value to ratepayers and utilities
- For 3 years beyond the term end date of this Agreement, deliver the following to the California Energy Commission annually:
 - 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 or available during the period of performance of the grant should also be provided annually.

Products

- Data Collection and Analysis Report
- Data Collection and Documentation Plan (draft and final)

Subtask 2.4 Commissioning, Training, and Startup

The goals of this subtask are to complete commissioning of the microgrid system project, as a component of the full RBF, to complete operator training, and to commence commercial operations.

The Recipient shall:

- Prepare and provide a *Testing and Commissioning Plan* for the project, as a component of the RBF, that will detail the process, deliverables, and milestones associated with the testing and commissioning of the facility. The *Testing and Commissioning Plan* will include, but not be limited to:
 - A description of the microgrid system including all components and appurtenances, as applicable, to be tested
 - A description of the testing methodology
 - A list of goals and objectives of the test
 - A description of the quality control and quality assurance practices for the test methodology
 - Sections addressing operation of the cogeneration unit and the battery storage system and their operation as integrated component of the microgrid. This will include confirmation of generation capacity, integration of waste heat equipment and operations, charging and discharging capacity and rates, storage, and integration with electrical, control-related, and structural aspects of the microgrid
 - Sections addressing integration of the proposed microgrid with the RBF, including its physical and logical/software integration with physical elements of the RBF, with the RBF SCADA system, and with RBF cybersecurity elements.
- Complete acquisition of all applicable permits and approvals:
 - Permits to Operate from the South Coast Air Quality Management District for cogeneration unit emissions, and from Southern California Edison for grid parallel operation. Please note cost provisions in Section 1.8 above.
- Implement *Testing and Commissioning Plan*.
- Prepare *Testing and Commissioning Report* that will evaluate test results and include:

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- A description of the results of the cold test for the identified equipment
 - A description of any major changes that were made based on findings during the cold testing
 - A description of the integration process, and any major changes made, to ensure that the proposed microgrid, and all subsystems, are fully integrated with the RBF
- Prepare and provide *Written Notification of Completion of Commissioning* that will notify the CAM that commissioning activities have been completed and that the project is ready to commence operations.
- Prepare a *Microgrid Training Plan* that includes, but is not limited to:
 - Training schedule
 - Training materials
 - Target audience
- Conduct training in accordance with the Microgrid Training Plan.
- Provide *Written Notification of Training Completed*, which includes, but is not limited to:
 - Date of training
 - List of participants
 - Copy of materials distributed
- Prepare a *CPR Task 2.4 Report* in accordance with subtask 1.3 (CPR Meetings).

Products:

- Testing and Commissioning Plan
- Testing and Commissioning Report
- Written Notification of Completion of Commissioning
- Microgrid Training Plan
- Written Notification of Training Completed
- CPR Task 2.4 Report

Subtask 2.5 Outreach

The goals of this subtask are to complete all outreach, including outreach to Disadvantaged Communities (DACs) to bolster direct benefits of the proposed microgrid to local Disadvantaged Communities.

The Recipient shall:

- Provide a *Neighborhood Outreach Meeting Report*, which will include but not be limited to:
 - Neighborhood outreach targeting DACs surrounding the project site to:
 - support hiring for construction jobs, prior to the initiation of construction, and
 - support hiring for permanent operations jobs, prior to the initiation of project operation.
 - The recipient will use community member lists maintained by the City and collected during the initial outreach in addition to other resources as appropriate, such as community group lists.
- Conduct three initial neighborhood outreach sessions within DACs surrounding the project site, prior to the initiation of project design, to:
 - Disburse information about the proposed RBF microgrid, microgrids / energy resilience hubs generally, and the community level benefits of the proposed microgrid
 - Solicit and collect community input regarding potential benefits of the microgrid system, focusing on needed services and benefits of the proposed microgrid. Based on RBF-related community outreach completed to date, key priorities will include:

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- Emergency power supply for the adjacent Rialto Wastewater Treatment Plant (RWTP), which currently has no on-site energy production beyond backup generators that carry limited capacity and operate on conventional fossil diesel. Thus, the project can help maintain operation of the RWTP in the event of grid power loss, enabling continued wastewater treatment operation as long as feedstock remains available to the RBF.
- Anticipated increase in power supply reliability due to alleviation of grid bottlenecking, where existing communities surrounding the project are located near the end of the San Bernardino Corridor, a congested transmission system
- Local air emissions reduction in comparison to the use of backup diesel generation
- GHG emissions reduction via carbon-negative energy production and storage
- New jobs and employment opportunities
- Revenues generated by the project that benefit the City
- Showcasing process for the facility to support showcasing the microgrid and the RBF to decision makers in the wastewater and organics recycling industry, and officials from other municipalities.
- Integrate community input received during this process into the project-specific design of the microgrid, in order to ensure that it meets the community priorities identified above. Based on community feedback and in consultation with the CAM, the recipient can offer to optimize outreach through one or more of the following:
 - expand the project to process more material and to provide more benefits to the community, including DACs;
 - expand outreach programs including workforce training, educational seminars, and teaching on energy and sustainability;
 - capitalize on the project's flexibility, for example by increasing power production for the RWTP, or expanding a portion of the project into a parallel system designed to specifically support RWTP operation; and / or
 - expand visibility of the project and of the community by advocating for trade shows and events in the area, increase tourism, and increase convention-related revenue, if desired by the community.
- Complete and document three neighborhood outreach sessions during the project operation / demonstration phase within DACs surrounding the project site to educate the community and document / showcase the benefits that the microgrid system is having on the local community.
- Promote microgrid benefits within the community as a means to enhance power reliability, enhance critical services (i.e., the RWTP) reliability, and reduce pollution, including in disadvantaged areas such as DACs.
- Provide *Community and Stakeholder Outreach Report* which will include but not be limited to:
 - Holding and documenting a minimum of three community and stakeholder outreach sessions, one annual community and stakeholder site visit, one annual tour session and one session to coincide with the facility ribbon cutting ceremony for community members and stakeholders.

Products

- Neighborhood Outreach Meeting Report
- Community and Stakeholder Outreach Report

Subtask 2.6 Measurement and Verification

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Scope of Work

The goal of this subtask is to develop and implement a Measurement and Verification Plan.

The Recipient shall:

- Develop a *Measurement and Verification Plan* that will conduct measurement, verification, and evaluation of key metrics that will include, but will not be limited to:
 - Items from *Data Collection and Documentation Plan* as determined by the CAM (Subtask 2.3 above)
 - 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 or CA ISO for any DR services provided
 - Gross Electricity Production
 - Electricity Stored
 - Electricity Distributed from Battery
 - Electricity Distributed to RBF
 - Electricity Distributed to Grid
 - Biogas Production
 - Biogas to Cogeneration
 - RNG exported to pipeline
 - Utility Demand Response Calls
 - Peak Power Consumption Offset
 - GHG Reductions
 - Food Waste Processed
 - Installed Capital Cost
 - O&M Costs
 - Capacity Factor
 - Jobs Created

Products

- Measurement and Verification Plan (draft and final)

TASK 3 EVALUATION OF PROJECT BENEFITS

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:
 - For Product Development Projects and Project Demonstrations:
 - Published documents, including date, title, and periodical name.

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- 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.
 - 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.

- Prepare a *Business Case Report* which shall discuss the following:
 - How the microgrid system meets the critical needs of the intended end

EXHIBIT A

Scope of Work

- user/operator.
- Define why the specific configuration has a high probability of being replicated in the future without EPIC funds.
- Other areas as determined by the CAM.

Products:

- Kick-off Meeting Benefits Questionnaire
- Mid-term Benefits Questionnaire
- Final Meeting Benefits Questionnaire
- Business Case Report (draft and final)

TASK 4 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

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:

- 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:
 - 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.
- When directed by the CAM, participate in annual EPIC symposium(s) sponsored by the California Energy Commission.
- 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:

- Initial Fact Sheet (draft and final)

EXHIBIT A

Scope of Work

- 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)

TASK 5 PRODUCTION READINESS PLAN

The goal of this task is to determine the steps that will lead to the manufacturing of technologies developed in this project or to the commercialization of the project's results.

The Recipient shall:

- Prepare a *Production Readiness Plan*. The degree of detail in the plan should be proportional to the complexity of producing or commercializing the proposed product, and to its state of development. As appropriate, the plan will discuss the following:
 - Critical production processes, equipment, facilities, personnel resources, and support systems needed to produce a commercially viable product.
 - Internal manufacturing facilities, supplier technologies, capacity constraints imposed by the design under consideration, design-critical elements, and the use of hazardous or non-recyclable materials. The product manufacturing effort may include "proof of production processes."
 - The estimated cost of production.
 - The expected investment threshold needed to launch the commercial product.
 - An implementation plan to ramp up to full production.
 - The outcome of product development efforts, such as copyrights and license agreements.
 - Patent numbers and applications, along with dates and brief descriptions.
 - Other areas as determined by the CAM.

Products:

- Production Readiness Plan (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 25, 2018

Telephone: CALNET (916) 327-2356

From: **David Chambers, Assoc. Elec. Engineer**
Research and Development Division
California Energy Commission

Subject: California Environmental Quality Act Analysis for EPC-17-054

I, David Chambers, am an Associate Electrical Engineer in Energy Research and Development Division, California Energy Commission, and the Commission's Agreement Manager for proposed Agreement EPC-17-054 ("Agreement"), Rialto Resilient Clean Power Microgrid (the "Project").

The project proposed under the Agreement will develop a microgrid at the Rialto Bioenergy Facility (RBF). The work will involve the construction, demonstration, and operation of a microgrid to manage distributed energy resources, demand loads, and renewable electricity export. In addition to the installation of microgrid controller, 2.0 MW cogeneration unit, 2.0 MWh battery storage, Supervisory Control and Data Acquisition system and switchgear to allow islanding in case of a utility outage.

The Project will be performed in coordination with the construction of the RBF, for which the Energy Commission issued a grant award at the May 2018 Business Meeting (ARV-17-019).

Pursuant to my work in developing the Agreement, including the Scope of Work for the Agreement, I have reviewed the lead agency, the City of Rialto's (the "City"), Notice of Exemption ("NOE") Environmental Assessment Review No. 2018-0065, filed on June 15, 2018 with the County of San Bernardino, for the project titled "Rialto Bioenergy Facility Microgrid Battery System" which is part of the Project; and California Environmental Quality Act ("CEQA") 2018 Final Environmental Impact Report for the "Rialto Bioenergy Facility project" ("FEIR") ; the Resolution of the City certifying the EIR, adopting a Mitigation, Monitoring and Reporting Program, and adopting a Statement of Overriding Considerations (Resolution No. 18-7310), the City's filed Notice of Determination.

Based on my review of the above-mentioned documents, it is my opinion that the work to be performed under the proposed Agreement falls within the scope of the lead agency's documents and the Agreement will not result in any new significant environmental impacts than those already considered by the lead agency. I have not found any new mitigation measures within the Energy Commission's authority that

would lessen or further mitigate the Project's impacts. It is my opinion that the significant environmental impacts identified by the lead agency will be sufficiently mitigated to below significant levels or economic, legal, social, technological, or other benefits of the Project outweigh the significant unavoidable and mitigatable environmental impact. The reasons for my conclusion are as follows.

As determined by the City, as lead agency, the Rialto Bioenergy Facility Microgrid Battery System, which is part of the Project, is categorically exempt under 15301 Existing Facilities, which allows for the operation, repair, maintenance, or minor alteration of existing public or private facilities or mechanical equipment involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. Subsection (a) allows for interior or exterior modifications including partitions, plumbing and electrical conveyances. This project will result in the installation of a modular energy storage electrical conveyance at an existing facility. This project meets the guidelines established by CEQA and is in compliance with the General Plan and Zoning designations for the site.

The Project also consists of optimizing power management at the RBF, an organics management facility that will digest and extract energy from sewage sludge and food waste. The installation of a new, permanent, advanced microgrid system that will include a microgrid controller, 2.0 MWh of battery electric storage, a 2.0 MW biogas-fueled cogeneration unit, a microgrid control system and Supervisory Control and Data Acquisition (SCADA) interface at the RBF. Optimization will start with deep interface between the microgrid controller and RBF's SCADA system, to demonstrate feedback between power management and process control. This interconnection will provide microgrid-optimized biogas production and storage, supporting at least 3 days of islanding capability, even if feedstock is interrupted. During normal operations, the microgrid's 2.0 MW of new cogeneration and 2 MWh of battery storage will be capable of shaving 100% of grid draw during peak RBF power demand. The mitigation measures adopted by the lead agency will reduce potentially significant impacts to biological resources, cultural resources, geology and soils, hazards, and hazardous material, and hydrology and water quality to less than significant levels. The economic, legal, social, technological, or other benefits of the project balanced by the lead agency outweigh the significant unavoidable environmental impact to air quality of the Project. These findings are supported by the City's FEIR and Resolution No. 18-7310, including its Mitigation, Monitoring and Reporting Program and the Statement of Overriding Considerations.

Land use:

The Project proposes to install and connect a microgrid and 2.0 MW of new cogeneration to the RBF on their 5.7-acre parcel of land located at 503 East Santa Ana Avenue within the Heavy Industrial zone of the Agua Mansa Specific Plan. There are no sensitive land uses near the Project site.

Biological Resources:

Because construction could have potentially significant impacts on the movement of candidate, sensitive, or special status species, construction of the Project could cause a significant impact, and mitigation is required as Mitigation Measure BIO-1. All trenches must be inspected twice daily to ensure no wildlife become entrapped. Trenches shall be covered at night. All pipes must be inspected prior to closure to ensure no wildlife are present. If a potential den or wildlife is observed at any time during construction, a qualified biologist must be contacted to determine the

appropriate course of action. With the implementation of this mitigation measure, biological resource impacts during construction of the Project will be reduced to a less than significant level.

Cultural Resources:

The project will have onsite and off-site ground disturbing activities during construction which would create a potentially significant impact and mitigation is required as Mitigation Measure CR-1 and Mitigation Measure CR-2. CR-1 requires that the grading permit contain a clause that, in the event that subsurface archaeological resources are encountered during ground disturbing activities in the Project area, these activities must be suspended in the vicinity of the find until the deposits are recorded and evaluated by a qualified archaeologist. CR-2 requires monitoring of ground-disturbing construction activities below depths of 5 feet by a qualified paleontologist to avoid inadvertent impacts to buried paleontological deposits. With the implementation of the mitigation measures, cultural resource/tribal cultural resource impacts during construction of the Project will be reduced to a less than significant level.

Geology and Soils:

The project location and onsite activities will be consistent with the current uses of the site and surrounding areas. The project site is completely developed as a result of the previous EnerTech Project. Additional grading activities are expected to result in potential impacts to expose persons or structures to substantial adverse effects. In order to reduce this impact, the City adopted Mitigation Measure G-1. G-1 requires that prior to Grading Plan approval, the applicant shall demonstrate to the satisfaction of the City Engineer that the soils on the site are stable for construction of the Project or that the grading plan or facility engineering has been designed to account for any site-specific soils issues related to the landfill. With the implementation of the mitigation measure, impacts to geology and soils during construction of the Project will be reduced to a less than significant level.

Hazards and Hazardous Materials:

The project will be storing food waste and biosolids in large receiving bins located at the facility. In order to reduce the potential significant hazard through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, the City adopted Mitigation Measure HAZ-1. HAZ-1 requires that prior to operations, the project will prepare and implement a California Accidental Release Prevention Program (CalARP) compliant Risk Management Plan for sulfuric acid. CalARP is authorized under Health and Safety Code Sections 25531 to 25543.3, with program regulations in California Code of Regulations Title 19, Section 2735.1 through 2785.1. The intent of the Risk Management Plan is to provide basic information that may be used by first responders to prevent or mitigate damage to public health and safety and the environment from the release or threatened release of a hazardous material. With the implementation of the mitigation measure, impacts to hazards and hazardous material during construction of the project will be reduced to a less than significant level.

Water Quality:

Construction of the project has the potential to result in a violation of water quality standards, waste discharge requirements, or otherwise substantially degrade water

quality. In order to reduce this impact, the City adopted Mitigation Measures W-2 and W-4 which requires that prior to issuance of City permits, the project applicant apply to be enrolled in the existing National Pollutant Discharge Elimination System Statewide general Permit for Storm Water Discharges from Construction Activity and file Form 200 completely as required by the Santa Ana Regional Water Quality Control Board to document/discard the disposal of the water that was dewatered from the sludge. Additionally, the project will be subject to annual storm water reporting requirements to State Water Resources Control Board in addition to the preparation of a SWPPP and monitoring plan. With the implementation of these mitigation measures, impacts to hydrology and water quality during construction of the project will be reduced to a less than significant level.

Air Quality:

The Project will contribute to a cumulatively considerable net increase of a criteria pollutant for which the project region is in nonattainment under applicable federal or State ambient air quality standards. Nearly all operational emissions of the Project would be below South California Air Quality Management District (SCAQMD) daily thresholds. However, the emissions of oxides of nitrogen (NO_x) would exceed the 55 lbs./day threshold. NO_x emissions from operations would be mainly associated with combustion sources. In order to reduce this impact, the City adopted Mitigation Measures 4.8.1 and 4.9.1 which require the applicant to enter into a Title V permit with the SCAQMD and further reduce NO_x emissions as part of the air permit application process. With the implementation of the mitigation measures 4.8.1 and 4.9.1, NO_x emissions would be reduced but would remain above the 55 lbs./day threshold of significance. Since there are no reasonably feasible mitigation measures for operational air quality emissions of NO_x, this impact is considered significant and unavoidable.

Statement of Overriding Consideration:

Although nearly all of the long-term operational emissions for the Project would be below SCAQMD daily thresholds, the NO_x emissions would exceed the 55 lbs./day threshold of significance. The City, after balancing the specific economic, legal, social, technological and other benefits of the Project, determined that the unavoidable adverse environmental impacts may be considered acceptable due to the following specific considerations which outweigh the unavoidable, adverse environmental impact in reaching its decision to approve the Project. The City considered each of the following considerations as sufficient to support approval of the Project in accordance with CEQA.

1. Revitalize existing industrial area. The Project site is on a non-operational biosolids plant. This regional biosolids processing facility, developed by EnerTech, is on City of Rialto property and has been unproductive for several years. The Project would reuse some of the existing equipment and would put into operation this existing non-operational industrial site.
2. Develop Renewable Energy from Organic Waste Streams. The Project will produce 13.38 MW in equivalent electricity of renewable energy from up to 1080 tons per day combination of food waste, liquid waste, and municipal biosolids. Renewable energy will be produced in the form of electricity (3.0 MW) used for sale for SCE through the BioMAT Power Purchase Agreement and biogas upgraded for delivery to the Southern California Gas Company (8.2 MW of equivalent power) for use in offsite power generation and vehicle fuels. The Project will be converting organic waste streams by 2019 and assist large-

- quantity commercial food waste generators with meeting the AB 1826's new mandatory commercial organic waste recycling program requirements.
3. Reduce Regional Greenhouse Gases. The Project would reduce GHG emissions by over 433,000 metric tons of carbon dioxide equivalents over the next 10 years regionally through diverting 1,080 tons per day of food waste and municipal biosolids from landfill disposal and converting it into renewable energy.
 4. Create an Additional Income Stream for the City of Rialto and Employment Opportunities for the Region. The Project would generate lease and tipping fee income for the City of Rialto from the use of City property.
 5. Implementation of the Agua Mansa Industrial Corridor Specific Plan. The Project will replace old industrial uses to more modern, clean industrial development consistent with the Agua Mansa Industrial Corridor Specific Plan.

The City concluded that economic and social benefits and important public policy objectives from the Project will outweigh the significant unavoidable adverse environmental impact of the Project. Given the substantial social and economic benefits that will accrue to the City and to the region from the implementation of the Project, it is my opinion that the Project's identified benefits override the Project's identified significant unavoidable and immitigable environmental impact. Therefore, I recommend adopting the Notice of Exemption and California Environmental Quality Act findings and statement of overriding considerations for Rialto Bioenergy Facility, LLC's Microgrid project and approving Agreement EPC-17-054, with Rialto Bioenergy Facility, LLC.

California Energy Commission

July 11, 2018 Business Meeting – Agenda Item #8

RIALTO BIOENERGY FACILITY, LLC. Project: “Rialto Resilient Clean Power Microgrid” (EPC-17-054)

The full California Environmental Quality Act (CEQA) supporting documentation for EPC-17-054 can be obtained at:

http://www.energy.ca.gov/research/epic/environmental_review_documents.html

STATE OF CALIFORNIA

**STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION**

RESOLUTION - RE: RIALTO BIOENERGY FACILITY, LLC

WHEREAS, the Energy Commission is considering proposed Agreement EPC-17-054, Rialto Resilient Clean Power Microgrid (hereinafter “EPC-17-054”), a grant to fund the construction, demonstration, and operation of a microgrid to manage distributed energy resources, demand loads, and renewable electricity export (the “Project”); and

WHEREAS, the Project is proposed to be built at the Rialto Bioenergy Facility in the City of Rialto, California; and

WHEREAS, the City of Rialto is the Lead Agency for purposes of the California Environmental Quality Act (“CEQA”) for the Project; and

WHEREAS, on March 27, 2018, the City of Rialto adopted Resolution No. 18-7310, certifying a Final Environmental Impact Report for the Project (“FEIR”), adopting a Mitigation, Monitoring and Reporting Program (“MMRP”), making CEQA findings of fact, and adopting a Statement of Overriding Considerations for the Rialto Bioenergy Facility and filed the corresponding Notice of Determination with the County of San Bernardino on March 28, 2018, copies of which are posted on the Energy Commission website; and

WHEREAS, the FEIR for the Rialto Bioenergy Facility found that there were significant, unavoidable air quality environmental effects that could not be mitigated; and

WHEREAS, the City of Rialto, on June 15, 2018 filed a Notice of Exemption with the County of San Bernardino regarding the energy storage portion of the Project under the categorical exemption for existing facilities; and

Prior to acting on Agreement EPC-17-054, the Energy Commission desires to make certain findings pursuant to CEQA Guidelines, title 14, sections 15091, 15092, 15093, 15096, and 15162;

NOW THEREFORE, BE IT RESOLVED:

1. To the extent relevant to EPC-17-054, the Energy Commission has considered the information contained in the City of Rialto’s FEIR, MMRP, NOD, NOE, CEQA findings of fact, Statement of Overriding Considerations, and March 27, 2018 Resolution identified above (collectively referred to as the “Lead Agency CEQA Documents”);
2. As a responsible agency, the Energy Commission finds that the Lead Agency CEQA Documents are adequate and there have been no changes necessitating any changes or a supplement to the Lead Agency CEQA Documents for the Project;
3. Since the City of Rialto certified the FEIR and made all of the associated findings in the Lead Agency CEQA Documents, there have been no proposed substantial Project changes or substantial changes with respect to Project circumstances that would require major revisions to FEIR or Lead Agency CEQA Documents due to

the involvement of new significant environmental effects or an increase in the severity of previously identified significant effects, and there is no new information of substantial importance that would change the conclusions set forth therein;

4. Any changes to the Project are within the jurisdiction of the City of Rialto and the changes have already been adopted as it relates to the Project; and
5. 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 Lead Agency CEQA Documents identified above, that the mitigation measures incorporated will prevent EPC-17-054 from having any significant environmental impacts, or on balance, there are economic, legal, social, technological or other benefits, associated with the Project which serve to outweigh the Project's significant unavoidable effects, including the revitalization of an existing industrial area, additional income for the City of Rialto, job opportunities, the reduction of regional greenhouse gas emissions, and the production of renewable energy from organic waste; and

BE IT FURTHER RESOLVED, that the Executive Director or his or her designee is authorized to prepare and file, on behalf of the Energy Commission, a Notice of Exemption for the energy storage component of the Project and a Notice of Determination for the remainder of the Project; and

BE IT FURTHER RESOLVED, that the Energy Commission approves Agreement EPC-17-054 with Rialto Bioenergy Facility, LLC 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 July 11, 2018.

AYE: *[List Commissioners]*

NAY: *[List Commissioners]*

ABSENT: *[List Commissioners]*

ABSTAIN: *[List Commissioners]*

Cody Goldthrite,
Secretariat