

A) New Agreement # FPI-19-019 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
ERDD	Hannah Craig	51	916-327-2457

C) Recipient's Legal Name	Federal ID Number
Pacific Ethanol Stockton LLC	20-3168349

D) Title of Project
Stockton Animal Feed Energy Reduction (SAFER)

E) Term and Amount

Start Date	End Date	Amount
6/30/2020	3/31/2024	\$ 6,000,000

F) Business Meeting Information

ARFVTP agreements \$75K and under delegated to Executive Director
Proposed Business Meeting Date 6/10/2020 Consent Discussion
Business Meeting Presenter Kaycee Chang Time Needed: 5 minutes

Agenda Item Subject and Description:

Pacific Ethanol Stockton, LLC

PACIFIC ETHANOL STOCKTON LLC. Proposed resolution approving agreement FPI-19-019 with Pacific Ethanol Stockton LLC for a \$6,000,000 grant to install an evaporator that uses waste steam recompression to reduce natural gas consumption and consequent GHG emissions, and adopting staff's determination that this action is exempt from CEQA. This project is expected to benefit priority populations through criteria pollutant emission reductions. (FPIP funding) Contact: Kaycee Chang.

G) California Environmental Quality Act (CEQA) Compliance

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

Yes (skip to question 2)

No (complete the following (PRC 21065 and 14 CCR 15378)):

Explain why Agreement is not considered a "Project":

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

a) Agreement **IS** exempt.

Statutory Exemption. List PRC and/or CCR section number:

Categorical Exemption. List CCR section number: Cal. Code Regs., tit 14, § 15302 ; Cal. Code Regs., tit 14, § 15303

Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section:

Class 2 projects consist of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the

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

Legal Company Name:

J) Budget Information

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
GGRF	18-19	301.002AB	\$6,000,000
			\$
			\$
			\$
			\$
			\$

R&D Program Area: EERO: FPIP TOTAL: \$ 6,000,000

Explanation for "Other" selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient's Contact Information

1. 1. Recipient's Administrator/Officer

Name: Paul Koehler
Address: 400 Capitol Mall

City, State, Zip: Sacramento, CA 95814-4407
Phone: 916-403-2790
E-Mail: paulk@pacificethanol.com

2. Recipient's Project Manager

Name: Paul Koehler
Address: 400 Capitol Mall

City, State, Zip: Sacramento, CA 95814-4407
Phone: 916-403-2790
E-Mail: paulk@pacificethanol.com

L) Selection Process Used

X Competitive Solicitation Solicitation #: GFO-19-901p2

First Come First Served Solicitation Solicitation #:

M) 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 type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 5. CEQA Documentation | <input type="checkbox"/> N/A | <input type="checkbox"/> Attached |

Agreement Manager

Date

Office Manager

Date

Deputy Director

Date

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I. TASK ACRONYM/TERM LISTS

A. Task List

Task #	CPR¹	Task Name
1		General Project Tasks
2		Site Preparation and Equipment Procurement
3	X	Equipment Installation
4	X	Measurement and Verification
5		Technology/Knowledge Transfer Activities

B. Acronym/Term List

Acronym/Term	Meaning
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CPR	Critical Project Review
GHG	Greenhouse Gas
M&V	Measurement and Verification
MVR	Mechanical Vapor Recompression
Recipient	Pacific Ethanol Stockton LLC

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

A. Purpose of Agreement

The purpose of this Agreement is to purchase and install a Mechanical Vapor Recompression (MVR) system to reduce natural gas consumption and consequent greenhouse gas (GHG) emissions at the Recipient's biofuels and animal food production facility. Natural gas and electricity consumption will be measured before and after the equipment is installed to verify GHG emission reductions.

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

Producing distillers grain uses significant volumes of steam, thereby consuming large amounts of natural gas. In addition, production margins in the industry are tight and producers are seeking ways to reduce costs and increase operational efficiencies in the industry. There is potential to reduce natural gas consumption and associated emissions and fuel costs through the use of MVR systems. However, businesses cannot justify the large upfront costs of equipment upgrades without sufficient demonstration and verification of benefits.

Solution

The MVR project is an energy efficient method to produce steam by recompression of used steam, to higher pressure and temperature into usable steam. This process reduces natural gas and increases electricity but results in a net annual reduction of GHG emissions.

C. Goals and Objectives of the Agreement

Agreement Goals

The goal of this agreement is to reduce natural gas consumption, greenhouse gas emissions, and fuel operating costs at the Recipient's biofuels and animal food production facility and promote more efficient technologies in relevant industries.

Agreement Objectives

The objectives of this Agreement are to:

- Install MVR technology at the Recipient's biofuels and animal food production facility;
- Reduce annual natural gas consumption by at least 4,600,000 MMBTU/year and consequent GHG emissions by at least 18,000 MTCO₂e/year;
- Measure fuel and electricity consumption before and after project installation to verify project benefits;
- Share lessons learned and project benefits with relevant industries; and
- Offer \$25,000 in scholarship funds in partnership with the Northern California Association of Energy and offer co-operative internships to students at the University of the Pacific Stockton.

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

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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:

- 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.

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○ **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 1.6);
- Permit documentation (subtask 1.7);
- Subcontracts (subtask 1.8); 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;

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- An updated Project Schedule;
 - Technical products (subtask 1.1);
 - Progress reports and invoices (subtask 1.5);
 - Final Report (subtask 1.6); 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, 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.
- 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.

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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.
 - 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).

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- 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 quarterly *Progress Report* to the CAM. Each progress report must:
 - Summarize progress made on all Agreement activities as specified in the scope of work for the 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 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 according to the Project Schedule. When creating the Final Report, the Recipient must use the Style Manual provided by the CAM.

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The Recipient shall:

- 1) Prepare a *Final Report* for this Agreement in accordance with the 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)
 - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
 - Executive summary (**required**) following the Executive Summary Template
 - Include a summary table that includes the following information, but is not limited to (**required**):
 - Recipient name;
 - Project description;
 - Project location(s);
 - Census tract;
 - Dates: project selected and completed;
 - GGRF dollars allocated;
 - Leveraged and/or match funds;
 - Estimated/actual total project GHG emission reductions;
 - Estimated/actual energy saved (kWh, therms, or other fuels) for energy efficiency projects;
 - Estimated/actual energy generated (kWh or therm equivalents) for renewable energy projects;
 - Other benefits or results;
 - Other market sectors that can benefit from the project
 - Benefits to priority populations.
 - Appendices - Include a copy of the M&V report for each demonstration site funded by the Energy Commission grant). (**required**)
 - 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.
- Submit a draft of the report to the CAM for review and comment according to the project schedule. 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.

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- 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 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.

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- 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*)

IV. TECHNICAL TASKS

TASK 2 SITE PREPARATION AND EQUIPMENT PROCUREMENT

The goal of this task is to procure the necessary equipment and materials for the installation of drop-in, commercially available equipment and to prepare the site for equipment installation.

The Recipient shall:

- Procure equipment by:
 - Discussing equipment, electrical, and installation requirements with potential California-based vendors;
 - Finalizing equipment specifications;
 - Preparing Equipment List. For each item, provide the name of the item and make, model, size, capacity or other information as appropriate to the item. Items may include additional evaporator stages, heat exchangers, electric pumps and motors, electrical panels and other upgrades, MVR units, insulation for holding tanks and pipes, M&V sensors and related equipment, machine-to-machine communications for automation, and plant automation software with artificial intelligence;
 - Issuing bid documents, reviewing responses, and selecting California-based vendors; and
 - Placing equipment orders in a staggered fashion to correspond with proposed installation timeline.
- Secure all permits needed for installation of all equipment.

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- Prepare proposed locations at the site for installation of the new equipment. Steps include:
 - Preparing the installation timeline;
 - Identifying drop sites for new equipment; and
 - Accept delivery of new equipment at chosen site.
- Provide a *Site Preparation and Equipment Procurement Memo* that shall include, but not be limited to:
 - Summary of the steps to prepare the site
 - Copy of the performance specifications for each piece of equipment purchased by the grant
 - Summary of the bids received and from whom
 - Copies of all required permits needed for installation.
 - Status of the planned installation including preliminary schedule for equipment delivery and installation.
 - Copies of final procurement documents and purchase orders

Products:

- Site Preparation and Equipment Procurement Memo

TASK 3 EQUIPMENT INSTALLATION

The goal of this task is to install the necessary equipment for this project, to start up and commission it, and to resume normal plant operations.

The Recipient shall:

- Shut down plant processes as required.
- Uninstall existing version(s) of equipment.
- Install new equipment.
- Install Measurement and Verification (M&V) meters and equipment.
- Conduct pre-startup safety review.
- Perform cold commissioning, which will include:
 - Completion and system check out; and
 - Confirmation of operational readiness.
- Perform hot commissioning, which will include:
 - Performance testing of new systems;
 - Performance testing of integration with existing food production system;
 - Performing test run of production; and
 - Optimize system performance in response to testing in order to meet stated performance specification.
- Prepare *CPR Report #1* in accordance with subtask 1.3.
- Participate in a CPR Meeting.
- Provide an *Equipment Installation Memo* that shall include, but not be limited to:
 - Summary of the equipment installation requirements;
 - Identification of barriers involved during installation and discuss the steps taken to overcome those barriers; and
 - Discuss results of equipment start-up and commissioning with respect to whether the equipment as installed meets the stated performance specifications.

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Products:

- Equipment Installation Memo (draft and final)
- CPR Report #1

TASK 4 MEASUREMENT AND VERIFICATION

The goal of this task is to report the benefits resulting from this project by performing measurement and verification (M&V) energy consumption before and after project installation to verify GHG emission reductions.

The Recipient shall:

- Enter into agreement with M&V subcontractor per Task 1.9.
- Coordinate site visits with the M&V subcontractor at the demonstration site
- Develop M&V protocol for pre-installation measurement (and calculations):
 - Electric, natural gas and/or other fossil fuel consumption and GHG emissions (use appropriate emissions factor from the FPIP grant solicitation) of the equipment/process/system(s)/sub-system(s) that are to be upgraded and/or replaced and/or modified.
 - Ensure installation of sub-metering equipment and data loggers for pre/post data analysis.
- Prepare and provide a detailed *M&V Plan* to include but not be limited to:
 - Description of the monitoring equipment and instrumentation which will be used.
 - Description of the key input parameters and output metrics which will be measured.
 - Description of the M&V protocol and analysis methods to be employed.
 - Description of the independent, third-party M&V services to be employed, if applicable.
- Perform three months (or shorter period as approved in writing by the CAM) of pre-installation measurements (and calculations) based on the M&V protocol for pre-installation.
- Prepare and provide a Pre-Installation M&V Findings Report that includes M&V protocol, pre-install measurements (and calculations), analysis, and results performed in this task.
- Develop M&V protocol for post-installation measurements (and calculations) of:
 - Electric, natural gas and/or other fossil fuel consumption and GHG emissions (use appropriate emissions factor from Attachment 8 of the grant solicitation) of the equipment/process/system(s)/sub-system(s) that will be upgraded and/or replaced and/or modified
- Perform 12 months (or shorter period as approved in writing by the CAM) of post-installation measurements based on M&V protocol for post-installation.
- Provide a summary of post-installation M&V progress in Progress Report(s) (see subtask 1.5) which shall include but not be limited to:
 - A narrative on operational highlights from the reporting period, including any stoppages in operation and why; and
 - A summary of M&V findings from the reporting period.
- Analyze post-installation electrical, natural gas and/or other fossil fuel consumption and GHG emissions.

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- Prepare and provide a *Post-Installation M&V Findings Report* that includes M&V protocol, pre and post install measurements (and calculations), analysis, and results performed in this task. Results should at a minimum report on the reduction or additions of electricity, natural gas and/or other fossil fuel usage and overall reductions of GHG emissions that directly result from this project and include the following:
 - Provide all key assumptions used to estimate and determine energy and GHG reductions (and additions, if applicable).
 - 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.
 - Discuss whether the energy and GHG emission reductions identified in section II.C were met.
- Prepare *CPR Report #2* in accordance with subtask 1.3.
- Participate in a CPR Meeting.

Products:

- M&V Plan (draft and final)
- Pre-Installation M&V Findings Report (draft and final)
- Post-Installation M&V Findings Report(s) (draft and final)
- CPR Report #2

TASK 5 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES

The goal of this task is to make the knowledge gained, project results, and lessons learned available to the public and key decision makers and to provide scholarships and cooperative internships to engineering students through partnership with Northern California Association of Energy Engineers and with University of the Pacific Stockton.

The Recipient shall:

- 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 workshops 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 site or related project photographs.
- In partnership with Northern California Association of Energy Engineers and with the University of the Pacific Stockton, develop *Scholarship Agreements for Students* to provide scholarships totaling \$25,000 to engineering students associated with University of California at Davis; California State University, Sacramento; University of the Pacific Stockton; and California State University, Chico.
- In partnership with Northern California Association of Energy Engineers and the University of the Pacific Stockton develop *Cooperation Agreements* to offer cooperative internships to engineering students.

EXHIBIT A
Scope of Work
Pacific Ethanol Stockton LLC

Products:

- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Scholarship Agreements for Students.
- Cooperation Agreements

V. PROJECT SCHEDULE

Please see the attached Excel spreadsheet.

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: PACIFIC ETHANOL STOCKTON LLC.

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

RESOLVED, that the CEC approves Agreement FPI-19-019 with Pacific Ethanol Stockton LLC for a \$6,000,000 grant to install an evaporator that uses waste steam recompression to reduce natural gas consumption and consequent GHG emissions. This project is expected to benefit priority populations through criteria pollutant emission reductions; and

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

CERTIFICATION

The undersigned Secretariat to the 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 CEC held on June 10, 2020.

AYE:

NAY:

ABSENT:

ABSTAIN:

Cody Goldthrite
Secretariat