



**CALIFORNIA  
ENERGY COMMISSION**



**California Energy Commission  
September 11, 2024 Business Meeting  
Backup Materials for Innovative Cold Storage Enterprises, Inc.**

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

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

**[PROPOSED]**

**RESOLUTION NO: 24-0911-03fi**

**STATE OF CALIFORNIA**

**STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION**

**RESOLUTION: Innovative Cold Storage Enterprises, Inc.**

**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-24-002 with Innovative Cold Storage Enterprises, Inc. for a \$3,967,972 grant. This agreement will replace two aging refrigeration systems with adiabatic air-cooled low-charge ammonia systems at a warehouse cold storage facility in San Diego. The upgraded systems will reduce greenhouse gas emissions, energy consumption, water use, and enable on-peak demand reductions; and

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

**CERTIFICATION**

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on September 11, 2024.

AYE:

NAY:

ABSENT:

ABSTAIN:

Dated:

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Kristine Banaag  
Secretariat



## GRANT REQUEST FORM (GRF)

### A. New Agreement Number

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

**New Agreement Number:** FPI-24-002

### B. Division Information

1. Division Name: ERDD
2. Agreement Manager: Eleanor Oliver
3. MS-:51
4. Phone Number: 916-232-8181

### C. Recipient's Information

1. Recipient's Legal Name: Innovative Cold Storage Enterprises, Inc.
2. Federal ID Number: 33-0815912

### D. Title of Project

Title of project: Refrigeration System Upgrade at Innovative Cold Enterprise

### E. Term and Amount

1. Start Date: 9/11/2024
2. End Date: 3/30/2029
3. Amount: \$3,967,972.00

### F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 10/09/2024 .
3. Consent or Discussion? Consent
4. Business Meeting Presenter Name: Matthew Stevens
5. Time Needed for Business Meeting: 0 minutes.
6. The email subscription topic is: Food Production Investment Program

#### **Agenda Item Subject and Description:**

**INNOVATIVE COLD STORAGE ENTERPRISES, INC.** Proposed resolution approving agreement FPI-24-002 with Innovative Cold Storage Enterprises, Inc. for a \$3,967,972 grant, and adopting staff's recommendation that this action is exempt from CEQA. This agreement will replace two aging refrigeration systems with adiabatic air-cooled low-charge ammonia systems at a warehouse cold storage facility in San Diego. The upgraded systems will reduce greenhouse gas emissions, energy consumption, water use, and enable on-peak demand reductions. (FPIP funding) Contact: Matthew Stevens

### G. California Environmental Quality Act (CEQA) Compliance

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

Yes

If yes, skip to question 2.

If no, complete the following (PRC 21065 and 14 CCR 15378) and explain why Agreement is not considered a "Project":



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 answer the following questions.**

a) Agreement **IS** exempt?

Yes

Statutory Exemption?

No

If yes, list PRC and/or CCR section number(s) and separate each with a comma. If no, enter “None” and go to the next question.

PRC section number: None

CCR section number: None

Categorical Exemption?

Yes

If yes, list CCR section number(s) and separate each with a comma. If no, enter “None” and go to the next question.

CCR section number: Cal. Code Regs., tit. 14, § 15301 ; Cal. Code Regs., tit. 14, § 15302 ;

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

No

If yes, explain reason why Agreement is exempt under the above section. If no, enter “Not applicable” and go to the next section. §

Cal. Code Regs., tit. 14, Section 15301 provides that the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing structures, facilities, mechanical equipment or topographical features involving negligible or no expansion of use beyond that existing are categorically exempt from the provisions of CEQA. This project will involve minor alteration of existing facilities and mechanical equipment at the existing cold storage facility in San Diego and will result in negligible or no expansion of the existing use. The project will replace existing inefficient equipment and will reduce energy consumption and greenhouse gas emissions. The equipment to be replaced includes advanced refrigeration system and piping and fittings. Site preparation may include installation of a new concrete pad, estimated dimensions of 9 feet by 24 feet, as supportive infrastructure in the existing engine room. The materials used to construct the system are chemically inert, not hazardous to human health, and do not have a significant effect on the environment. The systems purchased have safety certifications in compliance with relevant codes and standards. In addition, all required permits for installation and operation of the system will be obtained prior to system installation and demonstration. The demonstration will not have a significant impact on local air quality, noise, or traffic. For these reasons, the project will have a negligible or no expansion of use and not have a significant effect on the environment and falls under the categorical exemption listed in 14 C.C.R. § 15301.



Cal. Code Regs., tit. 14, Section 15302 provides an exemption where the project involved consists 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 same purpose and capacity as the structure replaced. This project involves the replacement of existing mechanical equipment at the existing cold storage facility in San Diego. This project will replace existing inefficient equipment at the existing food processing facility to reduce energy consumption and greenhouse gas emissions. The equipment to be replaced includes advanced refrigeration system and associated piping and fittings at the Recipient's cold storage facility in San Diego. The new equipment will be located on the same site as the equipment replaced, at the facility in San Diego, and have substantially the same purpose, refrigeration units, and refrigerant capacity as the equipment replaced. For these reasons, the project falls under categorical exemption listed in 14 C.C.R. §15302.

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

b) Agreement **IS NOT** exempt.  
**IMPORTANT:** consult with the legal office to determine next steps.  
No

If yes, answer yes or no to all that applies. If no, list all as “no” and “None” as “yes”.

Additional Documents	Applies
Initial Study	No
Negative Declaration	No
Mitigated Negative Declaration	No
Environmental Impact Report	No
Statement of Overriding Considerations	No
None	Yes



**H. Is this project considered “Infrastructure”?**

Yes

**I. Subcontractors**

List all Subcontractors listed in the Budget (s) (major and minor). Insert additional rows if needed. If no subcontractors to report, enter “No subcontractors to report” and “0” to funds. **Delete** any unused rows from the table.

Subcontractor Legal Company Name	CEC Funds	Match Funds
Chillest Industries LLC	\$ 99,999	\$0
Cascade Energy, Inc.	\$ 48,000	\$0

**J. Vendors and Sellers for Equipment and Materials/Miscellaneous**

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous. Insert additional rows if needed. If no vendors or sellers to report, enter “No vendors or sellers to report” and “0” to funds. **Delete** any unused rows from the table.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
No vendors to report	\$	\$

**K. Key Partners**

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

Key Partner Legal Company Name
No key partners to report

**L. Budget Information**

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

Funding Source	Funding Year of Appropriation	Budget List Number	Amount
GENERAL	22-23	303.103	\$ 1,100,000
GGRF	23-24	303.203	\$ 2,867,972

**TOTAL Amount:** \$ 3,967,972

R&D Program Area: ICMB: FPIP

Explanation for “Other” selection Not applicable

Reimbursement Contract #: Not applicable



Federal Agreement #: 101 Local Assistance

**M. Recipient's Contact Information**

**1. Recipient's Administrator/Officer**

Name: Austin Jones  
Address: 7350 Britannia Ct  
City, State, Zip: San Diego, CA 92154-7430  
Phone:  
E-Mail: austin@innovativecold.com

**3. Recipient's Project Manager**

Name: Austin Jones  
Address: 7350 Britannia Ct  
City, State, Zip: San Diego, CA 92154-7430  
Phone:  
E-Mail: austin@innovativecold.com

**N. Selection Process Used**

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

Selection Process	Additional Information
Competitive Solicitation #	GFO-23-305
First Come First Served Solicitation #	Not applicable
Other	Not applicable

**O. Attached Items**

1. List all items that should be attached to this GRF by entering "Yes" or "No".

Item Number	Item Name	Attached
1	Exhibit A, Scope of Work/Schedule	Yes
2	Exhibit B, Budget Detail	Yes
3	CEC 105, Questionnaire for Identifying Conflicts	Yes
4	Recipient Resolution	No
5	Awardee CEQA Documentation	No



STATE OF CALIFORNIA  
CALIFORNIA ENERGY COMMISSION

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

### **Approved By**

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

**Agreement Manager:** Eleanor Oliver

**Approval Date:** 7/23/2024

**Branch Manager:** Alex Horangic

**Approval Date:** 7/26/2024

**Director:** Delegated to Branch Manager

**Approval Date:** 7/26/2024



**Exhibit A**  
**Scope of Work**  
**Innovative Cold Storage Enterprises, Inc.**

**I. TASK ACRONYM/TERM LISTS**

**A. Task List**

<b>Task #</b>	<b>CPR<sup>1</sup></b>	<b>Task Name</b>
1		General Project Tasks
2		Project Engineering Design
3		Site Preparation and Equipment Procurement
4	X	Equipment Installation
5	X	Measurement and Verification
6		Technology/Knowledge Transfer Activities

**B. Acronym/Term List**

<b>Acronym/Term</b>	<b>Meaning</b>
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
CPR	Critical Project Review
GHG	Greenhouse Gas
GWP	Global Warming Potential
M&V	Measurement and Verification
Recipient	Innovative Cold Storage Enterprises, Inc.

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

**A. Purpose of Agreement**

The purpose of this Agreement is to fund Recipient's project to replace one aging and inefficient freon (R-22) refrigeration systems and to retrofit another with two adiabatic air-cooled low-charge ammonia refrigeration systems at the Recipient's warehouse cold storage facility in San Diego. The installation of the new systems will reduce energy use, water use, and greenhouse gas (GHG) emissions, and enable on-peak demand reductions.

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

**Exhibit A**  
**Scope of Work**  
**Innovative Cold Storage Enterprises, Inc.**

**B. Problem/ Solution Statement**

**Problem**

The refrigeration equipment currently in use at the Recipient's warehouse, which is a cold storage facility in San Diego is aging and inefficient, risking leakage despite diligent maintenance practices. Conventional refrigeration systems utilize refrigerants with Global Warming Potential (GWP) ratings that range from 1,500 to 4,000 times the potency of carbon dioxide. At the Recipient's facility, the existing refrigeration systems use a freon (R-22) refrigerant, which is considered a safe refrigerant that has been widely used along with other hydrochlorofluorocarbons and hydrofluorocarbons. However, despite being safe, it has a high GWP rating of 1,810 and ozone-depleting properties.

**Solution**

The Recipient will install two ammonia (GWP rating of 0) refrigeration systems to replace one freon (R-22) refrigeration systems and significantly downsize a second, eliminating leak potential and reducing consequent GHG emissions. The new systems will enable load balancing and efficiency optimization for dynamic loads, reducing energy consumption and operating costs. The upgraded systems will also significantly reduce water usage and GHG emissions. This project will provide an industry example for effective conversion from conventional refrigeration systems to advanced, high-efficiency, low-GWP refrigeration systems.

**C. Goals and Objectives of the Agreement**

**Agreement Goals**

The goals of this Agreement are to:

- Reduce electricity use in the cold storage process at the Recipient's San Diego facility.
- Reduce GHG emissions associated with the use of a high-GWP refrigerant at the Recipient's San Diego facility.
- Reduce energy costs associated with the cold storage process at the Recipient's San Diego facility.
- Demonstrate the market potential of energy-efficient equipment to a broad range of California processors/industries.
- Benefit priority population and low-income communities in California by reducing GHG emissions generated.

**Agreement Objectives**

The objectives of this Agreement are to:

- Design and install two ammonia-based refrigeration systems, including but not limited to variable frequency drives, intelligent control systems, and adiabatic condensers

**Exhibit A**  
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- Develop and implement Measurement and Verification (M&V) protocols to monitor and verify energy savings, efficiency, leakage rate, water usage, and GHG emission reductions.
- Reduce electricity consumption by approximately 940,000 kilowatt-hours per year and GHG emissions by approximately 1,700 metric tons of carbon dioxide equivalent per year.
- Share the knowledge gained, project results, lessons learned and benefits with California processors, other industries and the public.

### **III. TASK 1 GENERAL PROJECT TASKS**

#### **PRODUCTS**

##### **Subtask 1.1 Products**

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

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

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

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

**Exhibit A**  
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**Innovative Cold Storage Enterprises, Inc.**

For products that require a final version only

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

For all products

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

Instructions for Submitting Electronic Files and Developing Software:

○ **Electronic File Format**

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

The following describes the accepted formats for electronic data and documents provided to the CEC as products under this Agreement, and establishes the software versions that will be required to review and approve all software products:

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
- Text documents will be in MS Word file format, version 2007 or later.
- Project management documents will be in Microsoft Project file format, version 2007 or later.

○ **Software Application Development**

Use the following standard Application Architecture components in compatible versions for any software application development required by this Agreement (e.g., databases, models, modeling tools), unless the CAM approves other software applications such as open source programs:

- Microsoft ASP.NET framework (version 3.5 and up). Recommend 4.0.
- Microsoft Internet Information Services (IIS), (version 6 and up) Recommend 7.5.
- Visual Studio.NET (version 2008 and up). Recommend 2010.
- C# Programming Language with Presentation (UI), Business Object and Data Layers.
- SQL (Structured Query Language).
- Microsoft SQL Server 2008, Stored Procedures. Recommend 2008 R2.
- Microsoft SQL Reporting Services. Recommend 2008 R2.
- XML (external interfaces).

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

**MEETINGS**

**Subtask 1.2 Kick-off Meeting**

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

**The Recipient shall:**

- Attend a “Kick-off” meeting with the CAM, and other CEC staff relevant to the Agreement. The Recipient’s Project Manager and any other individuals deemed necessary by the CAM or the Project Manager shall participate in this meeting. The administrative and technical aspects of the Agreement will be discussed at the meeting. Prior to the meeting, the CAM will provide an agenda to all potential meeting participants. The meeting may take place in person or by electronic conferencing (e.g., Teams, Zoom), with approval of the CAM.

The Kick-off meeting will include discussion of the following:

- How Recipient plans to accomplish tasks it has described in the Scope of Work;
  - An updated Project Schedule;
  - Terms and conditions of the Agreement;
  - Invoicing and auditing procedures;
  - Equipment purchases;
  - Administrative and Technical products (subtask 1.1);
  - CPR meetings (subtask 1.3);
  - Monthly Calls (subtask 1.5)
  - Quarterly Progress reports (subtask 1.6)
  - Final Report (subtask 1.7)
  - Match funds (subtask 1.8);
  - Permit documentation (subtask 1.9);
  - Agreement changes;
  - Performance Evaluations; and
  - Any other relevant topics.
- Provide *Kick-off Meeting Presentation* to include but not limited to:
    - Project overview (i.e. project description, goals and objectives, technical tasks, expected benefits, etc.)
    - Project schedule that identifies milestones
    - List of potential risk factors and hurdles, and mitigation strategy

**Exhibit A**  
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**Innovative Cold Storage Enterprises, Inc.**

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

**The CAM shall:**

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

**Recipient Products:**

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

**CAM Product:**

- Kick-off Meeting Agenda

**Subtask 1.3 Critical Project Review (CPR) Meetings**

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

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

**The Recipient shall:**

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

**Exhibit A**  
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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* with a list of expected CPR participants in advance of the CPR meeting. If applicable, the agenda may 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. A determination of unsatisfactory progress This may result in project delays, including a potential Stop Work Order, while the CEC determines whether the project should continue.
- Provide the Recipient with a *Progress Determination* on continuation of the project, in accordance with the schedule. The Progress Determination may include a requirement that the Recipient revise one or more products.

**Recipient Products:**

- CPR Report(s)

**CAM Products:**

- CPR Agenda(s)
- Progress Determination

**Subtask 1.4 Final Meeting**

The goal of this subtask is to complete the closeout of this Agreement.

**The Recipient shall:**

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

The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be divided into two separate meetings at the CAM's discretion.

- The technical portion of the meeting will involve the presentation of findings, conclusions, and recommended next steps (if any) for the Agreement. The CAM will determine the appropriate meeting participants.
- The administrative portion of the meeting will involve a discussion with the CAM of the following Agreement closeout items:
  - Disposition of any procured equipment.

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

**Products:**

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

**MONTHLY CALLS, REPORTS AND INVOICES**

Monthly Calls, Progress Reports, and Invoices will help the CAM determine that CEC funds to Recipient for its project are spent in accordance with the Agreement terms, and that the Recipient is on-track to complete its project before CEC funds liquidate.

**Subtask 1.5 Monthly Calls**

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

The objectives of this task are to verbally summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, to verify match funds are being proportionally spent concurrently or in advance of CEC funds or are being spent in accordance with an approved Match Funding Spending Plan, to form the basis for determining whether invoices are consistent with work performed, and to answer any other questions from the CAM. Monthly calls might not be held on those months when a quarterly progress report is submitted or the CAM determines that a monthly call is unnecessary.

**The CAM shall:**

- Schedule monthly calls.
- Provide questions to the Recipient prior to the monthly call.
- Provide call summary notes to Recipient of items discussed during call.

**The Recipient shall:**

- Review the questions provided by CAM prior to the monthly call
- Provide answers to the CAM during the call.



**Exhibit A**  
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**Product:**

- Email to CAM concurring with call summary notes.

**Subtask 1.6 Quarterly Progress Reports and Invoices**

The goals of this subtask are to: (1) periodically verify Recipient's satisfactory and continued progress is made towards achieving the project objectives of this Agreement; and (2) ensure that invoices contain all required information for reimbursement.

**The Recipient shall:**

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

**Recipient Products:**

- Quarterly Progress Reports
- Invoices

**CAM Product:**

- Invoice template

**Subtask 1.7 Final Report**

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

**Subtask 1.7.1 Final Report Outline**

**The Recipient shall:**

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

**Recipient Products:**

- Final Report Outline (draft and final)

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**CAM Products:**

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

**Subtask 1.7.2 Final Report**

**The Recipient shall:**

- Prepare a *Final Report* for this Agreement in accordance with the approved Final Report Outline, Energy Commission Style Manual, and Final Report Template provided by the CAM with the following considerations:
  - Ensure that the report includes the following items, in the following order:
    - Cover page (**required**)
    - Credits page on the reverse side of cover with legal disclaimer (**required**)
    - Acknowledgements page (optional)
    - Preface (**required**)
    - Abstract, keywords, and citation page (**required**)
    - Table of Contents (**required**, followed by List of Figures and List of Tables, if needed)
    - Executive summary (**required**)
    - Body of the report (**required**)
    - References (if applicable)
    - Glossary/Acronyms (If more than 10 acronyms or abbreviations are used, it is required.)
    - Bibliography (if applicable)
    - Appendices (if applicable) (Create a separate volume if very large.)
    - Attachments (if applicable)
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt.
- Incorporate all CAM comments into the *Final Report*. If the Recipient disagrees with any comment, provide a *Written Responses to Comments* explaining why the comments were not incorporated into the final product.
- Submit the revised *Final Report* electronically with any Written Responses to Comments within 10 days of receipt of CAM's Written Comments on the Draft Final Report, unless the CAM specifies a longer time period or approves a request for additional time.

**Products:**

- Draft Final Report
- Written Responses to Comments (*if applicable*)
- Final Report

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**CAM Product:**

- Written Comments on the Draft Final Report

***MATCH FUNDS, PERMITS, AND SUBAWARDS***

**Subtask 1.8 Match Funds**

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

While the costs to obtain and document match funds are not reimbursable under this Agreement, the Recipient may spend match funds for this task. Match funds must be identified in writing, and the Recipient must obtain any associated commitments before incurring any costs for which the Recipient will request reimbursement.

**The Recipient shall:**

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

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

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

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- Provide a *Match Funds Reduction Notification Letter* to the CAM if existing match funds are reduced during the course of the Agreement. Reduction of match funds may trigger a CPR meeting.

**Products:**

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

**Subtask 1.9 Permits**

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

**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.

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**Products:**

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

**Subtask 1.10 Subawards**

The goals of this subtask are to: (1) procure subawards required to carry out the tasks under this Agreement; and (2) ensure that the subawards are consistent with the terms and conditions of this Agreement. The CEC will not participate in negotiation of subawards but may request a copy to monitor project progress.

**The Recipient shall:**

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

**Products:**

- Subawards *(if requested by the CAM)*

**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 PROJECT ENGINEERING DESIGN**

The goal of this task is to design the necessary equipment and plan the equipment layout for the project site. The pieces of equipment and their corresponding layouts that need to be designed include, but are not limited to the condensing units, evaporators sizing and selection, and electrical and mechanical logistics. The equipment will be installed at the Recipient’s facility in San Diego.

**The Recipient shall:**

- Determine evaporator locations of the new evaporator coils.

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- Review mounting points and verify sufficient load strength for the new evaporators.
- Calculate evaporator loads and necessary line sizes based on determined locations.
- Determine the location of the refrigeration systems.
  - Verify roof strength if condensers will be mounted over a mechanical room
- Define isolation process for the remaining R-22 equipment serving the blast freezers.
- Draft the piping and instrumentation diagrams of the two fully designed refrigeration systems, which will include, but not to be limited to:
  - Detailing all major equipment, piping with line sizes, and valves located on the two new refrigeration systems.
- Complete an energy analysis on the electrical system to confirm that there is sufficient amperage on each of the circuits intended to serve the new refrigeration systems.
- Specify wire gauges and other electrical protection needed for the new equipment.
- Draft a one-line electrical diagram of the updated facility. It shall include, but not be limited to:
  - Detailing all major circuits, their energy specifications, and the major equipment on each circuit at the facility.
- Provide a *Project Design Memo* to help the CEC understand how funds are spent, to support continued reimbursement and describe how the Recipient will overcome barriers of its project. It shall include, but not be limited to:
  - Summary of the steps taken to reach the final design and final layout;
  - Identification of barriers involved and discuss the steps taken to overcome those barriers;
  - Discussion of the final engineer design and equipment layout for each site.

**Products:**

- Project Design Memo (draft and final)

**TASK 3 SITE PREPARATION AND EQUIPMENT PROCUREMENT (*Mandatory task*)**

The goal of this task is to procure the necessary equipment and materials for this project and prepare the site for equipment installation.

**The Recipient shall:**

- Prepare all mechanical, electrical, and structural engineering drawings and materials to secure all required permits necessary to conduct site preparation and equipment installation.
- Secure final equipment, including performance specifications for each piece of equipment, and secure bids from California-based vendors.
- Secure preliminary schedule for equipment delivery and installation.

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- Identify the preliminary plans for site preparation and secure any necessary contractors.
- Conduct site preparation for new equipment.
- Provide a *Site Preparation and Equipment Procurement Memo* to help the CEC understand how funds are spent, to support continued reimbursement and describe how the Recipient will overcome barriers of its project. It shall include, but not be limited to:
  - Summary of the steps to prepare the site(s);
  - 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 at each site;
  - Copies of the final procurement documents and purchase orders; and
  - Status of the planned installation including a preliminary schedule for equipment delivery and installation for each site.

**Products:**

- Site Preparation and Equipment Procurement Memo

**TASK 4 EQUIPMENT INSTALLATION (*Mandatory task*)**

The goal of this task is to install and commission the equipment for this project.

**The Recipient shall:**

- Prepare site for installation of new equipment
  - Prepare concrete pad, redesign the engine room, and upgrade electrical panel to support the installation of the refrigeration systems
- Install new ammonia-based refrigeration systems, including but not to be limited to:
  - Pre-assembled compressors, condensers, evaporators, associated piping, valving, and insulation, variable frequency drives, and ammonia-based refrigeration.
- Commission the new refrigeration systems for proper operation and energy-efficient control parameters.
- Decommission existing refrigeration systems at site.
- Provide an *Equipment Installation Memo* to help the CEC understand how funds are spent, support continued reimbursement and describe how the Recipient will overcome barriers of its project. It shall include, but not be limited to:
  - Summary of the equipment installation requirements for the demonstration site;
  - Identification of barriers involved during installation and discuss the steps taken to overcome those barriers;
  - Discuss results of equipment start-up and commissioning at each site with respect to whether the equipment as installed meets the stated performance specifications.

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- Prepare a *CPR Report #1* in accordance with subtask 1.3.
- Participate in a CPR Meeting.

**Products:**

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

**TASK 5 MEASUREMENT AND VERIFICATION (*Mandatory task*)**

The goal of this task is to report the benefits resulting from this project by performing measurement and verification (M&V) of greenhouse gas (GHG) and energy consumption reduction.

**The Recipient shall:**

- Enter into an agreement with M&V subcontractor per Task 1.9 (if using an outside vendor)
- Coordinate site visits with the M&V subcontractor at the demonstration site(s)
- Develop M&V protocol for pre-installation measurement (and calculation):
  - 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 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* for each project demonstration site to include but not be limited to:
  - A description of the monitoring equipment and instrumentation which will be used;
  - A description of the key input parameters and output metrics that will be measured;
  - A description of the M&V protocol and analysis methods to be employed;
  - A description of the independent, third-party M&V services to be employed, if applicable.
- Perform three months (or a 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* for each demonstration site 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.



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- Perform at least 12 months or two seasons, for seasonal facilities, (or a 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.
- Prepare and provide a *Post-Installation M&V Findings Report* for each demonstration site 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 of electricity, natural gas and/or other fossil fuel usage and reductions of GHG emissions that directly result from this project.
- 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.
- Prepare a *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 6 TECHNOLOGY/KNOWLEDGE TRANSFER ACTIVITIES (*Mandatory task*)**

The goal of this task is to make the knowledge gained, project results, and lessons learned available to the public and key decision-makers.

**The Recipient shall:**

- Complete and update the project profile on the CEC's public online project and recipient directory on the Energize Innovation website ([www.energizeinnovation.fund](http://www.energizeinnovation.fund)), and provide *Documentation of Project Profile on EnergizeInnovation.fund*, including the profile link, as determined by the CAM.
- If the Prime Recipient is an Innovation Partner on the project, complete and update the organizational profile on the CEC's public online project and recipient directory on the Energize Innovation website ([www.energizeinnovation.fund](http://www.energizeinnovation.fund)), and

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provide *Documentation of Organization Profile on EnergizeInnovation.fund*, including the profile link, as determined by the CAM.

- When directed by the CAM, develop *Presentation Materials* to be presented at a CEC sponsored conference/workshop(s) on the project.
- When directed by the CAM, participate in annual symposium(s) sponsored by the CEC.
- Provide at least (6) six *High Quality Digital Photographs* (minimum resolution of 1300x500 pixels in landscape ratio) of pre and post technology installation at the project sites or related project photographs.

**Products:**

- Documentation of Project Profile on EnergizeInnovation.fund
- Documentation of Organization Profile on EnergizeInnovation.fund
- Presentation Materials (*draft and final*)
- High Quality Digital Photographs

**V. PROJECT SCHEDULE**

Please see the attached Excel spreadsheet.