



STATE OF CALIFORNIA

# GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019)

CALIFORNIA ENERGY COMMISSION

## A) New Agreement # PIR-19-014 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
300 Energy Research Development	Abigail Jacob	51	916-327-1314

C) Recipient's Legal Name	Federal ID #
The Southern California Gas Company (SoCalGas)	95-1240705

D) Title of Project
Westin High Efficiency Gas Heat Pump Project

## E) Term and Amount

Start Date	End Date	Amount
6/30/2020	3/31/2024	\$ 1,446,850

## 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 Bradley Meister Time Needed: 5 minutes  
 Please select one list serve.

## Agenda Item Subject and Description:

THE SOUTHERN CALIFORNIA GAS COMPANY (SOCALGAS).  
 Proposed resolution approving agreement PIR-19-014 with The Southern California Gas Company (SoCalGas) for a \$1,446,850 grant to demonstrate an emerging and replicable gas heat pump technology that can reduce natural gas consumption for hot water heating by at least 35 percent in large commercial buildings and adopting staff's determination that this action is exempt under CEQA. (PIER NG funding) Contact: Bradley Meister.

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

- 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":
- If Agreement is considered a "Project" under CEQA:
  - Agreement **IS** exempt.
    - Statutory Exemption. List PRC and/or CCR section number:
    - Categorical Exemption. List CCR section number: Cal. Code Regs., tit 14, § 15301 ; Cal. Code Regs., tit 14, § 15306
    - Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section:  
 The activities funded by this agreement are exempt under Cal. Code Regs., tit. 14, § 15301 because they involve minor energy efficiency retrofit alterations to an existing building. The retrofits involve no expansion of existing use, with interior/exterior alterations to improve building performance.



# GRANT REQUEST FORM (GRF)

The activities funded by this agreement are exempt under Cal. Code Regs., tit. 14, § 15306 because the purpose is to install natural gas-fired heat pump systems in a large commercial building and monitor and analyze the thermal performance and energy use of the units. The project is strictly for information gathering purposes and involves basic data collection with no serious or major disturbance to an environmental resource.

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

Check all that apply

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

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

Legal Company Name:	Budget
The Grant Farm, Inc., DBA Momentum	\$ 230,000
Viridis Consulting LLC SB (Micro)	\$ 20,000
US Green Building Council - Los Angeles Chapter	\$ 50,000
Westin Bonaventure Hotel and Suites	\$ 230,000
Arup North America Ltd.	\$ 300,880
TBD - Installation Contractor	\$ 615,970

### 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
NG Subaccount, PIERDD	18-19	501.001M	\$1,446,850
Funding Source			\$
Funding Source			\$
Funding Source			\$

R&D Program Area: EERO: Buildings

TOTAL: \$1,446,850

Explanation for "Other" selection

Reimbursement Contract #:

Federal Agreement #:



# GRANT REQUEST FORM (GRF)

## K) Recipient's Contact Information

### 1. Recipient's Administrator/Officer

Name: Darren Hanway  
 Address: 555 W 5Th St  
 City, State, Zip: Los Angeles, CA  
 90013-1010  
 Phone: 213-244-3419  
 E-Mail: dhanway@socalgas.com

### 2. Recipient's Project Manager

Name: Darren Hanway  
 Address: 555 W 5Th St  
 City, State, Zip: Los Angeles, CA  
 90013-1010  
 Phone: 213-244-3419  
 E-Mail: dhanway@socalgas.com

## L) Selection Process Used

- Competitive Solicitation      Solicitation #: GFO-19-504
- 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 type="checkbox"/>            | Attached |
| 3. CEC 105, Questionnaire for Identifying Conflicts | <input checked="" type="checkbox"/> | Attached |
| 4. Recipient Resolution                             | <input type="checkbox"/>            | N/A      |
| 5. CEQA Documentation                               | <input type="checkbox"/>            | N/A      |

\_\_\_\_\_  
**Agreement Manager**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Office Manager**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Deputy Director**

\_\_\_\_\_  
**Date**

# EXHIBIT A Scope of Work

## I. TASK ACRONYM/TERM LISTS

### A. Task List

Task #	CPR <sup>1</sup>	Task Name
1		General Project Tasks
2	X	Design and Engineering
3		Site Preparation and Equipment Procurement
4	X	Equipment Installation and Commissioning
5		Measurement and Verification
6		Evaluation of Project Benefits
7		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 & Verification
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 the demonstration and deployment of emerging and replicable gas heat pump technology that can significantly reduce greenhouse gas (GHG) emissions in existing large commercial buildings through the optimal placement of the technology within the buildings.

### B. Problem/ Solution Statement

#### **Problem**

Large commercial buildings greater than 100,000 square feet utilize natural gas for space / climate conditioning and water heating. Adequate zero-emission technologies for large buildings are not readily available and can create significant economic burdens due to high power demand during peak electricity pricing periods.

#### **Solution**

Gas heat pumps are a high-efficiency technology that can be deployed to supplement or replace traditional boiler systems. Gas heat pumps have energy efficiency ratings (Coefficient of Performance) of 1.3 to 2.2 based on operating conditions, which is significantly higher than traditional boilers (approximately 80-85 percent efficient) and even newer high-efficiency boilers

---

<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**

(approximately 90-95 percent efficient). Gas heat pumps provide energy diversity to increase the resiliency of large commercial buildings, avoid costly electricity price spikes during peak times, and provide space cooling in the mechanical rooms where they are located, thus reducing the cooling loads associated with other mechanical processes.

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

##### **Agreement Goals**

The goals of this Agreement are to:

- Optimally deploy natural gas heat pump technology to provide domestic hot water for a large commercial facility in Southern California and greatly reduce GHG emissions and air quality impacts to local communities and populations located in the surrounding areas of the facility.
- Develop and distribute project benefits information to a wide audience of key stakeholders and decision makers.
- Promote sustainability in an equitable manner to maximize benefits to the local communities and populations located in the surrounding areas of this facility and many of California's hospitality centers.

Ratepayer Benefits: This Agreement will result in the ratepayer benefits of reduced energy utilization, reduced energy costs, and improved infrastructure resilience and reliability. The long-term value of the demonstration is expected to result in additional retrofit installations to develop cumulative and additive benefits across the state. The gas heat pumps achieve significantly greater efficiency than condensing and non-condensing natural gas boilers. Additionally, the project team expects that the deployment of gas heat pumps will yield the following qualitative benefits:

- Lower dependency on electricity for cooling and lower natural gas consumption for commercial buildings that implement the gas heat pump technology;
- Greater leverage of the existing natural gas infrastructure in California;
- Lower total cooling load for buildings (with optimally placed gas heat pump);
- Applicability as a retrofit for existing buildings or in new construction;
- Promotion of new architecture designs for incorporation of gas heat pumps into new hotels and commercial buildings; and
- Facilitating entry of renewable natural gas into the commercial building sector.

Technological Advancement and Breakthroughs: 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 promoting the adoption and utilization of high efficiency gas heat pump technologies in large commercial buildings, which utilize approximately 18 percent of the state's natural gas. Gas heat pumps have not been widely adopted in California based on relatively high upfront capital costs, which typically drive design considerations instead of focusing on the lifecycle savings from relatively low operating costs. The proposed project will demonstrate the long-term savings and value proposition of this high-efficiency technology.

##### **Agreement Objectives**

The objectives of this Agreement are to:

- Demonstrate energy efficiency savings of at least 35 percent reduction in natural gas consumption with a goal of less than seven year simple payback.

## EXHIBIT A Scope of Work

- Document quantifiable and measurable benefits in formats that raise awareness of technologies through education.
- Move the TRL from 8 to 9.
- Integrate equitable considerations regarding disadvantaged communities into the technology/knowledge transfer planning and activities from the onset of the project.

### III. TASK 1 GENERAL PROJECT TASKS

#### PRODUCTS

##### Subtask 1.1 Products

The goal of this subtask is to establish the requirements for submitting project products (e.g., reports, summaries, plans, and presentation materials). Unless otherwise specified by the Commission Agreement Manager (CAM), the Recipient must deliver products as required below by the dates listed in the **Project Schedule (Part V)**. Products that require a draft version are indicated by marking “**(draft and final)**” after the product name in the “Products” section of the task/subtask. If “(draft and final)” does not appear after the product name, only a final version of the product is required. With respect to due dates within this Scope of Work, “**days**” means working days.

##### The Recipient shall:

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

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

For products that require a final version only

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

For all products

- Submit all data and documents required as products in accordance with the following Instructions for Submitting Electronic Files and Developing Software:
  - **Electronic File Format**
    - Submit all data and documents required as products under this Agreement in an electronic file format that is fully editable and compatible with the Energy Commission’s software and Microsoft (MS)-operating computing platforms, or with any other format approved by the CAM. Deliver an electronic copy of the full text of any Agreement data and documents in a format specified by the CAM, such as memory stick or CD-ROM.

## **EXHIBIT A**

### **Scope of Work**

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

- Data sets will be in MS Access or MS Excel file format (version 2007 or later), or any other format approved by the CAM.
  - Text documents will be in MS Word file format, version 2007 or later.
  - Documents intended for public distribution will be in PDF file format.
  - The Recipient must also provide the native Microsoft file format.
  - Project management documents will be in Microsoft Project file format, version 2007 or later.
- **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);

## **EXHIBIT A**

### **Scope of Work**

- Permit documentation (subtask 1.8);
- Subcontracts (subtask 1.9); and
- Any other relevant topics.

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

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



## **EXHIBIT A**

### **Scope of Work**

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

- Prepare a *CPR Report* for each CPR meeting that: (1) discusses the progress of the Agreement toward achieving its goals and objectives; and (2) includes recommendations and conclusions regarding continued work on the project.
- Submit the CPR Report along with any other *Task Products* that correspond to the technical task for which the CPR meeting is required (i.e., if a CPR meeting is required for Task 2, submit the Task 2 products along with the CPR Report).
- Attend the CPR meeting.
- Present the CPR Report and any other required information at each CPR meeting.

#### **The CAM shall:**

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

#### **Recipient Products:**

- CPR Report(s)
- Task Products (draft and/or final as specified in the task)

#### **CAM Products:**

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

#### **Subtask 1.4 Final Meeting**

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

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

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

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.

## EXHIBIT A Scope of Work

- The administrative portion of the meeting will involve a discussion with the CAM and the CAO of the following Agreement closeout items:
  - Disposition of any state-owned equipment.
  - Need to file a Uniform Commercial Code Financing Statement (Form UCC-1) regarding the Energy Commission's interest in patented technology.
  - The Energy Commission's request for specific "generated" data (not already provided in Agreement products).
  - Need to document the Recipient's disclosure of "subject inventions" developed under the Agreement.
  - "Surviving" Agreement provisions such as repayment provisions and confidential products.
  - Final invoicing and release of retention.
- Prepare a *Final Meeting Agreement Summary* that documents any agreement made between the Recipient and Commission staff during the meeting.
- Prepare a *Schedule for Completing Agreement Closeout Activities*.
- Provide *All Draft and Final Written Products* on a CD-ROM or USB memory stick, organized by the tasks in the Agreement.

### Products:

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

## REPORTS AND INVOICES

### Subtask 1.5 Progress Reports and Invoices

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

### The Recipient shall:

- Submit a monthly *Progress Report* to the CAM. Each progress report must:
  - Summarize progress made on all Agreement activities as specified in the scope of work for the preceding month, including accomplishments, problems, milestones, products, schedule, fiscal status, and an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. See the Progress Report Format Attachment for the recommended specifications.
- Submit a monthly or quarterly *Invoice* that follows the instructions in the "Payment of Funds" section of the terms and conditions, including a financial report on Match Fund and in-state expenditures.

### 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.

# EXHIBIT A

## Scope of Work

### 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.

## EXHIBIT A Scope of Work

- Include a brief description of the project results in the Abstract.
- Submit a draft of the report to the CAM for review and comment. The CAM will provide written comments to the Recipient on the draft product within 15 days of receipt
- Consider incorporating all CAM comments into the Final Report. If the Recipient disagrees with any comment, provide a written response explaining why the comment was not incorporated into the final product
- Submit the revised Final Report and responses to comments within 10 days of notice by the CAM, unless the CAM specifies a longer time period or approves a request for additional time.
- Submit one bound copy of the *Final Report* to the CAM along with *Written Responses to Comments on the Draft Final Report*.

### Products:

- Final Report (draft and final)
- Written Responses to Comments on the Draft Final Report

### CAM Product:

- Written Comments on the Draft Final Report

## **MATCH FUNDS, PERMITS, AND SUBCONTRACTS**

### **Subtask 1.7 Match Funds**

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

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

### **The Recipient shall:**

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

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

- 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

## EXHIBIT A Scope of Work

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)*

## **EXHIBIT A**

### **Scope of Work**

#### **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;
- U.S. Department of Energy research managers, or experts from other federal or state agencies relevant to the project;
- Public interest environmental groups;

## **EXHIBIT A**

### **Scope of Work**

- Utility representatives;
- Air district staff; and
- Members of relevant technical society committees.

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

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

#### **Products:**

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

#### **Subtask 1.11 TAC Meetings**

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

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

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

#### **The TAC shall:**

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

## **EXHIBIT A**

### **Scope of Work**

#### **Products:**

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

#### **IV. TECHNICAL TASKS**

##### **TASK 2: DESIGN AND ENGINEERING**

The goal of this task is to design and engineer the necessary equipment and supporting systems to install the gas heat pump systems while minimizing disruption to facility operations.

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

- Review existing engineering documentation for the water heating system within the facility.
- Evaluate the opportunities and challenges with already identified potential locations for the gas heat pump systems and evaluate other locations if necessary.
- Coordinate with the project team to identify a preferred location for the gas heat pump systems and design approach.
- Complete design documentation.
- Develop bid specifications.
- Submit a *Design Report* that includes, but is not limited to:
  - Summary of the steps taken to reach the final design, layout and site location(s);
  - Identification of barriers involved and discuss the steps taken to overcome those barriers;
  - Discussion of the final engineering design and equipment layout for each site;
  - Relevant non-confidential engineering documents, if any; and
  - Discussion of the status of all permits needed for installation (e.g., building, air permits, etc.).
- Prepare *CPR Report #1* in accordance with subtask 1.3. (CPR Meetings).
- Participate in CPR meeting.

#### **Products:**

- Design Report (draft and final)
- CPR Report #1

##### **TASK 3: SITE PREPARATION AND EQUIPMENT PROCUREMENT**

The goal of this task is to procure the necessary equipment and materials for the installation of gas heat pumps consistent with the design documentation.

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

- Procure equipment by:
  - Discussing equipment, electrical, and installation requirements with potential vendors;
  - Issuing bid documents, reviewing responses, and selecting vendors; and
  - Placing equipment orders in a staggered fashion to correspond with the proposed installation timeline.
- Secure all permits needed for installation of all equipment, consistent with Task 1.8



## **EXHIBIT A**

### **Scope of Work**

- Prepare proposed locations at the site(s) for installation of the new equipment, including:
  - Preparing the installation timeline;
  - Identifying drop sites for the new equipment; and
  - Accepting delivery of the new equipment at the chosen site(s).
- Provide a *Site Preparation and Equipment Procurement Report* that 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;
  - Status of the planned installation including preliminary schedule for equipment delivery and installation for each site; and
  - Installation timelines for each site.

#### **Products:**

- Site Preparation and Equipment Procurement Report (draft and final)

#### **TASK 4: EQUIPMENT INSTALLATION AND COMMISSIONING**

The goal of this task is to install the necessary equipment for this project, to commission the equipment, and to integrate the equipment into normal facility operations.

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

- Install the equipment as outlined in Design Report and Site Preparation and Equipment Procurement Report as follows:
  - Shut down facility processes as required;
  - Install new equipment;
  - Install measurement and verification (M&V) meters and equipment; and
  - 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 a test run of production; and
    - Optimize system performance in response to testing in order to meet stated performance specifications.
- Provide an *Equipment Installation Report* that shall include, but not be limited to:
  - Summary of the equipment installation requirements for each demonstration site;
  - Identification of barriers involved during installation and discuss the steps taken to overcome those barriers; and
  - Discuss results of equipment start-up and commissioning at each site with respect to whether the equipment as installed meets the stated performance specifications.
- Prepare *CPR Report #2* in accordance with subtask 1. (CPR Meetings).
- Participate in CPR meeting.

## **EXHIBIT A**

### **Scope of Work**

#### **Products:**

- Equipment Installation Report (draft and final)
- CPR Report #2

#### **TASK 5: MEASUREMENT AND VERIFICATION**

The goal of this task is to measure and report the energy use and performance resulting from the operation of installed equipment, including reduction in natural gas utilization, increased efficiency, and air emission benefits.

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

- Develop an M&V protocol for pre-installation and post-installation measurement and calculation of electricity and natural gas usage.
- Prepare and submit a detailed *M&V Plan* 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 which will be measured;
  - A description of the M&V protocol and analysis methods to be employed; and
  - A description of the independent, third-party M&V services to be employed, if applicable.
- Perform three months (or shorter period if 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.
- Perform 12 months (or shorter period if approved in writing by the CAM) of post-installation measurements based on the 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 their causes; and
  - A summary of M&V findings from the reporting period.
- Prepare and provide a *Post-Installation M&V Findings Report* that includes the M&V protocol, post-installation measurements and calculations, analysis, and results of electricity and natural gas use and other work performed in this task, and discussion of whether the project goals and objectives were met (Section II.C).

#### **Products:**

- M&V Plan (draft and final)
- Pre-Installation M&V Findings Report (draft and final)
- Post-Installation M&V Findings Report (draft and final)

## EXHIBIT A Scope of Work

### TASK 6: EVALUATION OF PROJECT BENEFITS

The goal of this task is to evaluate 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.
    - 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.

## **EXHIBIT A**

### **Scope of Work**

- An estimate of how the project information has affected energy use and cost, or have resulted in other non-energy benefits.
  - An estimate of energy and non-energy benefits.
  - Data on potential job creation, market potential, economic development, and increased state revenue as a result of project.
  - A discussion of project product downloads from websites, and publications in technical journals.
  - A comparison of project expectations and performance. Discuss whether the goals and objectives of the Agreement have been met and what improvements are needed, if any.
- Respond to CAM questions regarding responses to the questionnaires.

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

#### **Products:**

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

#### **TASK 7: 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.

## **EXHIBIT A**

### **Scope of Work**

- 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)
- Final Project Fact Sheet (draft and final)
- Presentation Materials (draft and final)
- High Quality Digital Photographs
- Technology/Knowledge Transfer Plan (draft and final)
- Technology/Knowledge Transfer Report (draft and final)

#### **V. PROJECT SCHEDULE**

Please see the attached Excel spreadsheet.

**To:** Office of Planning and Research  
 PO Box 3044  
 1400 Tenth Street, Room 113  
 Sacramento, CA 95812-3044

**From:** California Energy Commission  
 1516 Ninth Street, MS-48  
 Sacramento, CA 95814

**Project Applicant:** The Southern California Gas Company (SoCalGas)

**Project Title:** Westin High Efficiency Gas Heat Pump Project

**Project Location – Specific:** 404 S Figueroa St

**Project Location – City:** Los Angeles 90071      **Project Location – County:** Los Angeles

**Description of Nature, Purpose and Beneficiaries of Project:**

This project will deploy, test, and measure the benefits of gas heat pumps in a Los Angeles hotel (1 million square feet), in order to demonstrate a reduction of natural gas consumption of 35%, at a minimum, and to develop replicable approaches for other large commercial buildings. The benefits of this project, as related to the California Investor-Owned Utility natural gas ratepayers, are to increase grid resiliency, reduce financial burden for natural gas services, and improved safety by reducing greenhouse gas emissions.

**Name of Public Agency Approving Project:** California Energy Commission

**Name of Person or Agency Carrying Out Project:** The Southern California Gas Company (SoCalGas)

**Exempt Status:** *(check one)*

- Ministerial Exemption (Pub. Resources Code § 21080(b)(1); Cal. Code Regs., tit 14, § 15268);
- Declared Emergency (Pub. Resources Code § 21080(b)(3); Cal. Code Regs., tit 14, § 15269(a));
- Emergency Project (Pub. Resources Code § 21080(b)(4); Cal. Code Regs., tit 14, § 15269(b)(c));
- Categorical Exemption. State type and section number  
Cal. Code Regs., tit 14, § 15301 ; Cal. Code Regs., tit 14, § 15306
- Statutory Exemptions. State code number.
- Common Sense Exemption. (Cal. Code Regs., tit 14, §15061(b)(3))

**Reasons why project is exempt:**

The activities funded by this agreement are exempt under Cal. Code Regs., tit. 14, § 15301 because they involve minor energy efficiency retrofit alterations to the existing hotel (1 million square feet). The retrofits involve no expansion of existing use, with interior/exterior alterations to improve building performance.

The activities funded by this agreement are exempt under Cal. Code Regs., tit. 14, § 15301 because the purpose of installing natural gas fired heat pump systems in the hotel is to monitor and analyze the thermal performance and energy consumption. The project is strictly for information gathering purposes and involves basic data collection with no serious or major disturbance to an environmental resource.

**Lead Agency**

**Contact Person:** Abigail Jacob **Area code/Telephone/Ext:** 916-327-1314

**If filed by applicant:**

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project?  Yes  No

**Signature:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Title:** \_\_\_\_\_

**Signed by Responsible Agency**

**Signed by Lead Agency**

**Signed by Applicant**

**Date received for filing at OPR:** \_\_\_\_\_

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: SOUTHERN CALIFORNIA GAS COMPANY.

**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 PIR-19-014 with the Southern California Gas Company for a \$1,446,850 grant to demonstrate an emerging and replicable gas heat pump technology that can reduce natural gas consumption for hot water heating by at least 35 percent in large commercial buildings. This technology will be demonstrated in a large commercial building in Southern California; and

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

**CERTIFICATION**

The undersigned Secretariat to the 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