



**CALIFORNIA
ENERGY COMMISSION**



**California Energy Commission
August 09, 2023 Business Meeting
Backup Materials for Agenda Item No 13a:
Air Products and Chemicals, 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

STATE OF CALIFORNIA
STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION: Air Products and Chemicals, 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 ZVI-23-002 with Air Products and Chemicals, Inc., for a \$2,780,123 grant to develop one multi-use hydrogen refueling station with multiple fueling positions for both light-duty and heavy-duty vehicles in Galt; 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 August 09, 2023.

AYE:
NAY:
ABSENT:
ABSTAIN:

Dated:

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: ZVI-23-002

B. Division Information

1. Division Name: Fuels and Transportation
2. Agreement Manager: Jane Berner
3. MS-44
4. Phone Number: 916-903-4286

C. Recipient's Information

1. Recipient's Legal Name: Air Products and Chemicals, Inc.
2. Federal ID Number: 23-1274455

D. Title of Project

Title of project: Renewable Hydrogen Multi-Modal Fueling Station

E. Term and Amount

1. Start Date: 08/09/2023
2. End Date: 12/31/2026
3. Amount: \$2,780,123.00

F. Business Meeting Information

1. Are the ARFVTP agreements \$75K and under delegated to Executive Director? No
2. The Proposed Business Meeting Date: 08-09-2023
3. Consent or Discussion? Discussion
4. Business Meeting Presenter Name: Jane Berner
5. Time Needed for Business Meeting: 5 minutes
6. The email subscription topic is: Clean Transportation Program, General Transportation

Agenda Item Subject and Description:

Air Products and Chemicals, Inc. Proposed resolution approving agreement ZVI-23-002 with Air Products and Chemicals, Inc., for a \$2,780,123 grant to develop one multi-use hydrogen refueling station with multiple fueling positions for both light-duty and heavy-duty vehicles in Galt, California, and adopting staff's determination that this action is exempt from CEQA. (General Fund Funding)
Contact: Jane Berner (Staff Presentation: 5 minutes)

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: Not Applicable



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: tit. 14, sections 15303, 15304

Section 15303 provides that projects which consist of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure, are categorically exempt from the provisions of the California Environmental Quality Act. The proposed project consists of installation of small new equipment, including hydrogen storage and dispensing equipment, at the site. Therefore, the proposed project falls within section 15303 and will not have a significant effect on the environment.

Section 15304 provides that projects which consist of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes, are categorically exempt from the provisions of the California Environmental Quality Act. For the installation of the equipment in this project, there will be minimal trenching to connect storage to dispensing equipment. The project site is an empty lot without existing trees. No trees will be removed in the project and the surface will be restored. This reflects exactly the example given in section 15304(f). Therefore, the proposed project falls within section 15304 and will not have a significant effect on the environment.

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.

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.

Not Applicable

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. Subcontractors

List all Subcontractors listed in the Budget(s) (major and minor).

Subcontractor Legal Company Name	CEC Funds	Match Funds
No subcontractors to report	\$0	\$0

I. Vendors and Sellers for Equipment and Materials/Miscellaneous

List all Vendors and Sellers listed in Budget(s) for Equipment and Materials/Miscellaneous.

Vendor/Seller Legal Company Name	CEC Funds	Match Funds
Rotoflow	\$627,704.00	\$627,704.00
Bennett	\$514,535.00	\$514,535.00
Gardner Cryogenics	\$432,500.00	\$432,500.00
CryoQuip	\$203,511.00	\$203,511.00
Fiba	\$86,385.00	\$86,385.00



J. Key Partners

List all key partner(s).

Key Partner Legal Company Name
Pacific Northwest National Laboratory

K. 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 Fund	21/22	601.129ZEV	\$2,780,123.00

TOTAL Amount: \$2,780,123.00

R&D Program Area: Not Applicable

Explanation for “Other” selection: Not Applicable

Reimbursement Contract #: Not Applicable

Federal Agreement #: Not Applicable

L. Recipient’s Contact Information

1. Recipient’s Administrator/Officer

Name: Sandy Kushner

Address: 1940 Air Products Blvd.

City, State, Zip: Allentown, PA 18106

Phone: (610) 481-5540

E-Mail: kushnesa@airproducts.com

2. Recipient’s Project Manager

Name: Matthew Sovitski

Address: 1700 Santa Fe Avenue #925

City, State, Zip: Long Beach, CA 90813

Phone: (770) 317-1077

E-Mail: sovitsmj@airproducts.com

M. Selection Process Used

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



Selection Process	Additional Information
Competitive Solicitation #	GFO-22-607
First Come First Served Solicitation #	Not Applicable
Other	Not Applicable

N. Attached Items

- 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

Approved By

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

Agreement Manager: Jane Berner

Approval Date: 05/25/2023

Office Manager: Elizabeth John

Approval Date: 6/23/2023

Deputy Director: Melanie Vail

Approval Date: 6/29/2023

Exhibit A SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Hydrogen Safety Plan
3	X	Hydrogen Refueling Station Development
4	X	Data Collection and Analysis
5		Project Fact Sheet

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1-5	Matt Sovitski Air Products and Chemicals, Inc.	N/A	N/A
2, 3	Steve Hoffman Air Products and Chemicals, Inc.	N/A	N/A
1-5	Kristen Clevon Air Products and Chemicals, Inc.	N/A	N/A

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
AB	Assembly Bill
ADA	Americans with Disabilities Act
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CCR	California Code of Regulations
CEC	California Energy Commission
CPR	Critical Project Review
DMS	Division of Measurement Standards

Term/ Acronym	Definition
FCEB	Fuel cell electric bus
FCET	Fuel cell electric truck
FCEV	Fuel cell electric vehicle
FTD	Fuels and Transportation Division
GFO	Grant Funding Opportunity
HSP	Hydrogen Safety Panel
HySCapE	Hydrogen Station Capacity Evaluation model
NREL	National Renewable Energy Laboratory
PIIRA	Petroleum Industry Information Reporting Act
PNNL	Pacific Northwest National Laboratory
Recipient	Air Products and Chemicals, Inc.
SB	Senate Bill
ZEV	Zero Emission Vehicle

Background

The Budget Act of 2021 (Assembly Bill 128, Ting, Chapter 21, Statutes of 2021, as amended by Senate Bill (SB) 129, Skinner, Chapter 69, Statutes of 2021 and SB 170, Skinner, Chapter 240, Statutes of 2021) appropriated \$785,000,000 from the General Fund to support infrastructure deployments and manufacturing projects for zero-emission light-duty and medium- and heavy-duty vehicles.

On October 21, 2022, the California Energy Commission (CEC) released a Grant Funding Opportunity (GFO) entitled “Light-Duty Vehicle and Multi-Use Hydrogen Refueling Infrastructure.” This competitive grant solicitation was to support projects that will provide publicly available hydrogen refueling stations to enable continued growth of the California fuel cell electric vehicle (FCEV) market. In response to GFO-22-607, the Recipient submitted application #04 which was proposed for funding in the CEC’s Notice of Proposed Awards on April 12, 2023. GFO-22-607 and Recipient’s application are hereby incorporated by reference into this Agreement in their entirety.

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

Problem Statement:

California needs additional hydrogen refueling stations to reach the goal of 200 stations set by Executive Order B-48-18, especially in areas where there are no hydrogen refueling stations currently. In addition, the price of hydrogen must decrease to be competitive with gasoline and diesel to attract customers to the FCEV market and achieve emissions reduction benefits. California faces economic, environmental, and equity challenges due to climate change resulting from vehicular greenhouse gas emissions, and Californians face health impacts from vehicular emissions causing air pollution. The development of hydrogen refueling stations is one element of the state's commitment to provide fueling infrastructure for zero emission vehicles (ZEVs) that will reduce vehicular greenhouse gas emissions and air pollution.

Goals of the Agreement:

The goal of this Agreement is to develop and install a multi-use hydrogen refueling station in Galt, California, to demonstrate that hydrogen refueling infrastructure can be deployed at costs that will be attractive in an expected commercial marketplace. The project funded by this Agreement will directly increase the available hydrogen refueling infrastructure to support the continued growth of the FCEV market and to help attain the state's climate change and clean air goals.

A further goal is to provide cost-competitive hydrogen for multi-use vehicles at consumer pricing that can be sustained in the next 3-5 years without government funding programs for infrastructure.

Objectives of the Agreement:

The objectives of this Agreement are to install an innovative, low-cost, multi-use hydrogen refueling station in Galt, California, and to integrate this scope with the existing fueling infrastructure being developed by the Recipient, with the result that the station network will reduce the capital and operating cost at the point-of-use of the fuel and provide hydrogen at pricing that is attractive for a number of fuel cell-based transportation applications. Another objective is to support fuel cell deployment in multiple vehicle market segments in addition to personal passenger FCEVs, including fuel cell electric trucks (FCETs) for goods movement and fuel cell electric buses (FCEBs) for public transportation. Further, an objective is to ensure safe and efficient on-stream time of a new hydrogen refueling station and to provide customers with an excellent customer experience.

The station will be located on the currently undeveloped lot on the northwest corner of Carol Drive and Amador Avenue in Galt, just east of State Route 99. The station shall be designed to achieve a dedicated daily fueling capacity of 6,000 kilograms, with four light-duty vehicle fueling positions capable of simultaneous fueling with a daily light-duty fueling capacity of 1,616 kilograms per the Hydrogen Station Capacity Evaluation (HySCapE) model, and at least two heavy-duty truck fueling positions capable of simultaneous fueling.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

August 2023

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Exhibit A - Scope of Work

ZVI-23-002
Air Products and Chemicals, Inc.

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The Commission Agreement Manager (CAM) shall designate the date and location of this meeting and provide an agenda to the Recipient prior to the meeting.

The Recipient shall:

- Attend a “Kick-Off” meeting with the CAM, the Commission Agreement Officer (CAO), and a representative of the CEC Accounting Office. The Recipient shall bring their Project Manager, Agreement Administrator, Accounting Officer, and any others determined necessary by the Recipient or specifically requested by the CAM to this meeting.
- Provide a written statement of project activities that have occurred after the notice of proposed awards but prior to the execution of the agreement using match funds. If none, provide a statement that no work has been completed using match funds prior to the execution of the agreement. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.
- Discuss the following administrative and technical aspects of this Agreement:
 - Agreement Terms and Conditions
 - Critical Project Review (Task 1.2)
 - Match fund documentation (Task 1.7) No reimbursable work may be done until this documentation is in place.
 - Permit documentation (Task 1.8)
 - Subawards needed to carry out project (Task 1.9)
 - The CAM’s expectations for accomplishing tasks described in the Scope of Work
 - An updated Schedule of Products and Due Dates
 - Monthly Calls (Task 1.4)
 - Quarterly Progress Reports (Task 1.5)
 - Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
 - Final Report (Task 1.6)

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits
- Written Statement of Match Share Activities

Commission Agreement Manager Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

CPRs provide the opportunity for frank discussions between the CEC and the Recipient. The goal of this task is to determine if the project should continue to receive CEC funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule, or budget.

The CAM may schedule CPR meetings as necessary, and meeting costs will be borne by the Recipient.

Meeting participants include the CAM and the Recipient and may include the CAO, the Fuels and Transportation Division (FTD) program lead, other CEC staff and Management as well as other individuals selected by the CAM to provide support to the CEC.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the CEC, but they may take place at another location or remotely.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. Prepare a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see section 8 of the Terms and Conditions). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Lead Commissioner for Transportation for his or her concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.

- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

CAM Products:

- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement.

The Recipient shall:

- Meet with CEC staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

This meeting will be attended by, at a minimum, the Recipient and the CAM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the CAM.

The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The CAM will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the CAM about the following Agreement closeout items:

- What to do with any equipment purchased with CEC funds (Options)
- CEC request for specific “generated” data (not already provided in Agreement products)
- Need to document Recipient’s disclosure of “subject inventions” developed under the Agreement
- “Surviving” Agreement provisions
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements

- Schedule for completing closeout activities

Task 1.4 Monthly Calls

The goal of this task is to have calls at least monthly between 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 verbal answers to the CAM during the call.

Product:

- Email to CAM concurring with call summary notes.

Task 1.5 Quarterly Progress Reports

The goal of this task is to periodically 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 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, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:

- Prepare a Quarterly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including 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>.

Product:

- Quarterly Progress Reports

Task 1.6 Final Report

The goal of the Final Report is to assess the project's success in achieving the Agreement's goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, results, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the FTD project management processes.

The Final Report shall be a public document and is limited to 25 pages. If the Recipient has obtained confidential status from the CEC and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

In addition to any other applicable requirements, the Final Report must comply with the Americans with Disabilities Act (ADA) of 1990 (42 U.S.C. 12101 et seq.), which prohibits discrimination on the basis of disability; all applicable regulations and guidelines issued pursuant to the ADA; Cal. Gov. Code sects. 7405 and 11135; and Web Content Accessibility Guidelines 2.0, or a subsequent version, as published by the Web Accessibility Initiative of the World Wide Web Consortium at a minimum Level AA success criteria.

The Recipient shall:

- Prepare an Outline of the Final Report, if requested by the CAM.
- Prepare a Final Report complying with ADA requirements and following the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
- Submit Final Report in Microsoft Word format or similar electronic format as approved by the CAM.

Products:

- Outline of the Final Report, if requested
- Draft Final Report
- Final Report

Task 1.7 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the CEC budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the CEC awarding this Agreement and none have been identified at the time this Agreement starts, then state such in the letter. If match funds were a part of the proposal that led to the CEC awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its 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 shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR meeting.

Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.8 Identify and Obtain Required Permits

The goal of this task 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. Although the CEC budget for this task will be zero dollars, the Recipient may budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement 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 the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the CAM.
- As permits are obtained, send a copy of each approved permit to the CAM.

- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)
- A copy of each final approved permit (if applicable)

Task 1.9 Obtain and Execute Subawards

The goal of this task is to ensure quality products and to procure subrecipients required to carry out the tasks under this Agreement consistent with the Agreement Terms and Conditions and the Recipient's own procurement policies and procedures.

The Recipient shall:

- Manage and coordinate subrecipient activities.
- If requested by the CAM, submit a draft of each subaward required to conduct the work under this Agreement to the CAM for review.
- If requested by the CAM, submit a final copy of the executed subaward.
- If Recipient intends to add new subrecipients or change subrecipients, then the Recipient shall notify the CAM.

Products:

- Letter describing the subawards needed, or stating that no subawards are required
- Draft subcontracts (if requested)
- Final subcontracts (if requested)

TECHNICAL TASKS

TASK 2 HYDROGEN SAFETY PLAN

The goal of this task is to develop a detailed hydrogen safety plan that the Recipient and any subcontractors or individuals involved in station construction, operation, and maintenance will follow throughout the project and as long as the station operates. The Recipient will collaborate with the Pacific Northwest National Laboratory (PNNL) Hydrogen Safety Panel (HSP) to ensure the plan is comprehensive and demonstrates a strong commitment to safety.

The Recipient shall:

- Develop a *Preliminary Hydrogen Safety Plan* (for PNNL HSP review).
- Submit the preliminary plan to the PNNL HSP for assessment.
- Receive the *PNNL HSP's assessment* and provide a copy to the CAM.
- Discuss the PNNL HSP's assessment with members of the PNNL HSP.
- Evaluate the PNNL HSP's comments and determine how to address them in the final plan.
- Prepare a *Memo on how the PNNL HSP's comments will be addressed* and provide a copy to the CAM.
- Collaborate with the PNNL HSP and CAM to resolve any questions or issues pertaining to the Hydrogen Safety Plan.
- Prepare a Final Hydrogen Safety Plan.
- Submit the final Hydrogen Safety Plan to the PNNL HSP.
- Submit a *Written Notification of Submission of the Final Hydrogen Safety Plan* to the PNNL HSP to the CAM.

Products:

- Preliminary Hydrogen Safety Plan (deliver to PNNL HSP directly)
- A copy of the PNNL HSP's assessment of the Preliminary Hydrogen Safety Plan
- Memo describing how the PNNL HSP's comments will be addressed in the Final Hydrogen Safety Plan
- Written notification of submission of the final Hydrogen Safety Plan to the PNNL HSP

TASK 3 HYDROGEN REFUELING STATION DEVELOPMENT

The goal of this task is to complete the design review, installation and start up/commissioning of a new liquid-based hydrogen refueling station at the Carol Drive, Galt, CA site (northwest of the intersection with Amador Avenue).

Task 3.1 Hydrogen Refueling Station Design Reviews

The goal of this task is to work with the PNNL HSP in early hydrogen refueling station design reviews the station in Task 3, before the Recipient submits the station building plans to the authority having jurisdiction for the building permit "plan check."

The Recipient shall:

- Evaluate system options and finalize the station equipment design.
- Finalize the station layout with all applicable national, state, and local codes.
- Develop and finalize the site/station equipment safety plan and hazard review.

- Develop site station design safety plan with input from the PNNL HSP.
- Submit a *Written Notification of Completion* of the PNNL HSP design review to the CAM.
- Provide a copy of the *Final Site Plan* for the hydrogen refueling station to be submitted to the authority having jurisdiction to the CAM.

Products:

- Written notification of completion of PNNL HSP design review
- A copy of the final site plan for the hydrogen refueling station to be submitted to the authority having jurisdiction

Task 3.2 Station Engineering, Equipment Procurement, and Site Installation

The goal of this task is to perform process and design engineering so that the required hydrogen refueling station components can be procured and assembled into skid-mounted engineered systems for delivery to the site for installation. Site construction will be performed which will include any site preparations and any foundations, piping, electrical systems, or underground services as required.

The Recipient shall:

- Design hydrogen refueling station equipment to applicable codes and standards for hydrogen fuel quality, production, compression, purification, fueling, storage devices and construction/operation.
- Develop a *Station Equipment List*.
- Provide a copy of the equipment list to the CAM.
- Meet with the utility company serving the station site.
- Complete hydrogen refueling station operating and hazard reviews.
- Procure all long lead time components.
- Fabricate components onto skids, where applicable.
- Function test skidded components prior to shipping to site.
- Perform site preparation services including utility upgrades, foundations, piping/electrical, and underground services, where applicable.
- Install and inspect/test equipment to all applicable codes.
- Provide a *Written Summary Report* on completion of the function testing of station equipment to the CAM.
- Provide *Photographs of the Installed Station Equipment* to the CAM.

Products:

- Equipment list

- Written summary report on completion of the function testing of station equipment
- Photographs of the installed station equipment

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

Task 3.3 Station Commissioning and Operations Start-Up

The goal of this task is to test, commission and start-up the hydrogen refueling station, including verification of the refueling protocol, to allow for the station to achieve open retail status.

The Recipient shall:

- Establish written *Operations and Maintenance Procedures and Plans* and provide them to the CAM in Quarterly Progress Reports.
- Perform operational readiness inspection for the new hydrogen refueling station.
- Test and verify station performance.
- Perform California Division of Measurement Standards (DMS) acceptance testing of the hydrogen refueling station.
- Provide *Documentation of Passing the California DMS Acceptance Test* to the CAM.
- Achieve open retail station status.
- Prepare and submit the *Completed Open Retail Station Checklist* (Exhibit H) to the CAM, which will include the results of the first passing hydrogen quality test.
- Maintain and operate the station.

Products:

- Operation and Maintenance Procedures and Plans, in the Quarterly Progress Reports
- Documentation of passing the California DMS acceptance test
- Completed Open Retail Station Checklist

Task 3.4 Virtual Inspections

The goal of this task is to have members of the PNNL HSP and Recipient conduct a virtual inspection of the hydrogen refueling station between 6 and 12 months after becoming open retail.

The Recipient shall:

- Work directly with the PNNL HSP to schedule a time to conduct a virtual inspection of the open retail station.

- Hold the virtual inspection such that members of the PNNL HSP can visually inspect, via a web-based meeting, the installed station equipment.
- Prepare *Summary Notes of the Virtual Inspection*, including, but not limited to, date, time, and participants in the virtual inspection; elements of the inspection; feedback from the PNNL HSP and any resulting action items. Provide a copy to the CAM.

Products:

- Virtual inspection summary notes

Task 4 DATA COLLECTION AND ANALYSIS

The goal of this task is to collect operational data from the project and to analyze that data for economic and environmental impacts.

The Recipient shall:

- Complete and submit the *NREL Data Collection Tool* (Exhibit F) for the hydrogen refueling station once the station becomes open retail and continue to do so every quarter for one year.
- Perform and submit *Hydrogen Purity Test Results* from purity testing using hydrogen collected at the nozzle for each hose at the open retail hydrogen refueling station. Purity tests will be performed:
 - At the time the station becomes open retail (to meet the open retail definition)
 - Every six months after the station becomes open retail during the approved term of this agreement
 - As needed when the hydrogen lines are potentially exposed to contamination due to maintenance or other activity.

Hydrogen purity test readings shall be collected according to California Code of Regulations (CCR) Title 4 Business Regulations, Division 9 Measurement Standards, Chapter 6 Automotive Products Specifications, Article 8 Specifications for Hydrogen Used in Internal Combustion Engines and Fuel Cells, Sections 4180 and 4181.

- Collect and provide the following data:
 - Number, type, date, and location of the hydrogen refueling station installed.
 - Nameplate capacity of the installed equipment, in kilograms per day (kg/day) for hydrogen.
 - Number of fueling positions at the station.
 - Location type, such as existing retail gasoline station.

- Total cost per hydrogen refueling station, the subsidy from the CEC per refueling station, federal subsidy per refueling station, utility subsidy per refueling station, and privately funded share per refueling station.
- Collect and provide 12 months of *Data on Refueling Events* (throughput, usage, and operations data from the project including, but not limited to):
 - The data requested in the *NREL Data Collection Tool*
 - Number of refueling sessions
 - Average hydrogen refueling station downtime
 - Average fill size and duration
 - Types of vehicles using the hydrogen refueling station equipment
 - Applicable retail price for hydrogen fuel
 - Normal operating hours, up time, down time, and explanations of variations
 - Gallons of gasoline and/or diesel fuel displaced (with associated mileage information)
 - Expected air emissions reduction, for example:
 - Non-methane hydrocarbons
 - Oxides of nitrogen
 - Particulate Matter
 - Formaldehyde
- Identify any current and planned use of renewable energy at the facility.
- Identify the source of the hydrogen using the biannual *Renewable Hydrogen Report* (Exhibit G) template.
- Comply with the Petroleum Industry Information Reporting Act (PIIRA) and complete [CEC Form A15](https://a15.energy.ca.gov/) on an annual basis for submission to the CEC's PIIRA Data Collection Unit (<https://a15.energy.ca.gov/>).
- Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the CCR.
- Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Provide a quantified estimate of the project's carbon intensity values for life-cycle greenhouse gas emissions and explain the approved Low Carbon Fuel Standard pathway used.
- Compare any project performance and expectations provided in the proposal to CEC with actual project performance and accomplishments.

- Provide a *Data Collection and Information Analysis Report* that lists and analyzes all the data and information described above that is not provided in another specified product.

Products:

- Quarterly NREL Data Collection Tool
- Initial, biannual, and as needed hydrogen purity test results
- Biannual Renewable Hydrogen Report
- Data on refueling events will be submitted electronically in Quarterly Progress Reports
- Data Collection and Information Analysis Report

[CPR WILL OCCUR DURING THIS TASK. See Task 1.2 for details.]

TASK 5 PROJECT FACT SHEET

The goal of this task is to develop an initial and final project fact sheet that describes the CEC-funded project and the benefits resulting from the project for the public and key decision makers.

The Recipient shall:

- Prepare an *Initial Project Fact Sheet* at start of the project that describes the project and the expected benefits. Use the format provided by the CAM.
- Prepare a *Final Project Fact Sheet* at the project's conclusion that describes the project, the actual benefits resulting from the project, and lessons learned from implementing the project. Use the format provided by the CAM.
- 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:

- Initial Project Fact Sheet
- Final Project Fact Sheet
- High Quality Digital Photographs