**Attachment 2**

**Exhibit A**

**SCOPE OF WORK**

**TECHNICAL TASK LIST**

*<Insert the Task numbers and Task names for your Agreement.*

| **Task #** | **Task Name** |
| --- | --- |
| 1 | Administration |
| 2 | <Insert Task Name> |

**KEY NAME LIST**

*<Insert the Task numbers and the Key names for each Task in your Project. Include Key names only if the value of the project would significantly change without those personnel, subcontractors, or partners. Add additional lines as needed. Alternatively, you may delete this table if there are no key names.>*

| **Task #** | **Key Personnel** | **Key Subcontractor(s)** | **Key Partner(s)** |
| --- | --- | --- | --- |
| 1 | <Name> | <Name> | <Name> |
| 2 | <Name> | <Name> | <Name> |

**GLOSSARY**

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

| **Term/ Acronym** | **Definition** |
| --- | --- |
| CAM | Commission Agreement Manager |
| Clean Transportation Program | Formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program |
| CPR | Critical Project Review |
| FTD | Fuels and Transportation Division |
| HSP | Hydrogen Safety Panel |
| NREL | National Renewable Energy Laboratory |
| PNNL | Pacific Northwest National Laboratory |
| Recipient | An applicant awarded a grant under a California Energy Commission solicitation |
|  | <Insert additional rows as needed.> |

**Background**

Assembly Bill (AB) 118 (Nùñez, Chapter 750, Statutes of 2007), created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change, clean air, and alternative energy policies. AB 8 (Perea, Chapter 401, Statutes of 2013) re-authorizes the Clean Transportation Program through January 1, 2024. The Clean Transportation Program has an annual budget of approximately $100 million and provides financial support for projects that:

* Reduce California’s use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
* Produce sustainable alternative and renewable low-carbon fuels in California.
* Expand alternative fueling infrastructure and fueling stations.
* Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
* Retrofit medium- and heavy-duty on-road and non-road vehicle fleets to alternative technologies or fuel use.
* Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
* Establish workforce training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

**Problem Statement:**

*<see instructions>*

**Goals of the Agreement:**

The goal of this Agreement is to… <see instructions>

**Objectives of the Agreement:**

The objectives of this Agreement are to… <see instructions>

**TASK 1 ADMINISTRATION**

**Task 1.1 Attend Kick-off Meeting**

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement. The 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 Commission Agreement Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Agreement Manager to this meeting.
* Discuss the following administrative and technical aspects of this Agreement:
* Agreement Terms and Conditions
* Critical Project Review (Task 1.2)
* Match fund documentation (Task 1.6) No reimbursable work may be done until this documentation is in place.
* Permit documentation (Task 1.7)
* Subcontracts needed to carry out project (Task 1.8)
* The CAM’s expectations for accomplishing tasks described in the Scope of Work
* An updated Schedule of Products and Due Dates
* Monthly Progress Reports (Task 1.4)
* Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
* Final Report (Task 1.5)

**Recipient Products:**

* Updated Schedule of Products
* Updated List of Match Funds
* Updated List of Permits

**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 Commission Agreement Manager 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 Commission Grants Officer, the Fuels and Transportation Division (FTD) biofuel 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.
* 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, the Commission Grants Office Officer, and the Commission Agreement Manager. 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 Commission Agreement Manager.

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 Commission Agreement Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Agreement Manager and the Grants Officer about the following Agreement closeout items:

* What to do with any equipment purchased with CEC funds (Options)
* CEC’s 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 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 Monthly 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. Each progress report is due to the Commission Agreement Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
* In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

**Product:**

* Monthly Progress Reports

Task 1.5 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. 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.

The Recipient shall:

* Prepare an Outline of the Final Report, if requested by the CAM.
* Prepare a Final Report 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 one bound copy of the Final Report with the final invoice.

**Products:**

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

**Task 1.6 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 shall be spent concurrently or in advance of CEC funds for each task during the term of this Agreement. 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 Commission Agreement Manager 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 Commission Agreement Manager if during the course of the Agreement additional match funds are received.
* Notify the Commission Agreement Manager 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 1.7 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 shall 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 Commission Agreement Manager 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 Commission Agreement Manager.
* As permits are obtained, send a copy of each approved permit to the Commission Agreement Manager.
* If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Agreement Manager 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 1.8 Obtain and Execute Subcontracts**

The goal of this task is to ensure quality products and to procure subcontractors 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. It will also provide the CEC an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, and that the budgeted expenditures are reasonable and consistent with applicable cost principles.

**The Recipient shall:**

* Manage and coordinate subcontractor activities.
* Submit a draft of each subcontract required to conduct the work under this Agreement to the Commission Agreement Manager for review.
* Submit a final copy of the executed subcontract.
* If Recipient decides to add new subcontractors, then the Recipient shall notify the CAM.

**Products:**

* Draft subcontracts
* Final subcontracts

**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 each 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.
* Submit the preliminary plan to the PNNL HSP for assessment.
* 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.
* Inform the CAM of how it will address the PNNL HSP’s comments.
* 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.

**Products:**

* 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

**TASK 3 DEVELOPMENT OF THE INITIAL BATCH OF STATIONS**

The goal of this task is to ... *<Complete the sentence with a brief description of the goal(s)*. *Please be brief,* *two to three sentences maximum> at the following locations:*

* *<List Address>*
* *<List Address>*
* *<List Address>*

**Task 3.1 Early Hydrogen Station Design Review**

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

**The Recipient shall:**

* *<Insert verb in active tense ... complete the sentence.>*
* *<Insert verb in active tense ... complete the sentence.>*
* *<Etc. See instructions>*

**Products:**

* *<Insert 1st product (name only) and include draft and final versions as necessary>*
* *<Insert 2nd product (name only) and include draft and final versions as necessary>*
* *<Etc. See instructions>*

**Task 3.2 Station Engineering, Equipment Procurement, and Site Installation**

**The Recipient shall:**

* *<Insert verb in active tense ... complete the sentence.>*
* *<Insert verb in active tense ... complete the sentence.>*
* *<Etc. See instructions>*

**Products:**

*<Products incorporate the knowledge and understanding gained by performing the activities, and are* ***submitted to the CEC*** *for review, comment and approval. Products include, but are not limited to, written reports that describe methods, test plans, results of testing, analysis of data, conclusions, and recommendations for future study, workshop agendas and summaries, description and photographs of equipment/product developed, summaries of advisory group meetings, computer software with written instructions for data input and use of the software, if intended for public or CEC use, and production prototypes. For each product there must be a bullet under “The Recipient Shall:” explaining it in more detail.>*

* *<Insert 1st product (name only) and include draft and final versions as necessary>*
* *<Insert 2nd product (name only) and include draft and final versions as necessary>*
* *<Etc. See instructions>*

**Task 3.3 Station Commissioning and Operations Start-Up**

**The Recipient shall:**

* *<Insert verb in active tense ... complete the sentence.>*
* *<Insert verb in active tense ... complete the sentence.>*
* *<Etc. See instructions>*

**Products:**

* *<Insert 1st product (name only) and include draft and final versions as necessary>*
* *<Insert 2nd product (name only) and include draft and final versions as necessary>*
* *<Etc. See instructions>*

**Task 3.4 Data Collection and Analysis**

The goal of this task is to collect operational data from the project and include the data and analysis in quarterly submittals of the National Renewable Energy Laboratory (NREL) Data Collection Tool, to perform and report hydrogen quality test results, and to collect and analyze data from the project for economic and environmental impacts and include in the Final Report.

**The Recipient shall:**

* Prepare and submit the NREL Data Collection Tool for each station once the station becomes open retail, and continue to do so every quarter until one year after the final station in the Recipient’s tranche becomes open retail.
* Perform and submit results of purity using hydrogen collected, at the nozzle for each hose at each open retail station. Purity tests for each station in the Recipient’s tranche 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; and,
* as needed when the hydrogen lines are potentially exposed to contamination due to maintenance or other activity.

Hydrogen purity readings shall be collected according to 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.

* Once all the stations in the Recipient’s tranche are open, collect at least 12 months of data for all of the stations in the tranche, including:
  + - 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
  + Specific jobs and economic development resulting from this project.
  + Report of total, all-in capital costs (including expenses outside the Agreement budget) and a summary of typical operation and maintenance costs of the station(s).
* 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 California Code Regulations.
* Provide a quantified estimate of the project’s carbon intensity values or provide a California Air Resources Board approved pathway carbon intensity.
* Estimate annual life-cycle greenhouse gas emission reduction.
* Compare any project performance and expectations provided in the proposal to the CEC with actual project performance and accomplishments.

**Products:**

* Quarterly NREL Data Collection Tool
* Initial, biannual and as needed hydrogen purity test results
* Data collection information and analysis will be included in the Final Report