STATE OF CALIFORNIA

GRANT REQUEST FORM (GRF)

CEC-270 (Revised 12/2019) CALIFORNIA ENERGY COMMISSION

A) New Agreement # ARV-20-014 (to be completed by CGL office)

B) Division	Agreement Manager:	MS-	Phone
600 Fuels and Transportation Division	Madison Jarvis	27	916-237-2555

C) Recipient's Legal Name	Federal ID #
SunLine Transit Agency	95-3177387

D) Title of Project
Develop and Deploy Liquid Hydrogen Fueling Infrastructure at SunLine Transit

E) Term and Amount

Start Date	End Date	Amount
05 / 12 / 2021	03 / 31 / 2025	$ 4,986,250

F) Business Meeting Information

☐ ARFVTP agreements $75K and under delegated to Executive Director

Proposed Business Meeting Date 05 / 12 / 2021 ☐ Consent ☒ Discussion

Business Meeting Presenter Madison Jarvis Time Needed: 5 minutes

Please select one list serve. Altfuels (AB118- ARFVTP)

Agenda Item Subject and Description:

SUNLINE TRANSIT AGENCY. Proposed resolution approving Agreement ARV-20-014 with SunLine Transit Agency for a $4,986,250 grant to expand their existing heavy-duty hydrogen fueling infrastructure to include a new stand-alone liquid hydrogen station to support current and future transit fueling needs and adopting staff's determination that this action is exempt from CEQA. (ARFVTP Funding) Contact: Madison Jarvis. (Staff Presentation: 5 minutes)

G) California Environmental Quality Act (CEQA) Compliance

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

   ☒ Yes (skip to question 2) ☐ No (complete the following (PRC 21065 and 14 CCR 15378)):

   Explain why Agreement is not considered a "Project":

   Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because .

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

   a) ☒ Agreement **IS** exempt.

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

   ☒ Categorical Exemption. List CCR section number: 15301, 15303

   ☐ Common Sense Exemption. 14 CCR 15061 (b) (3) Explain reason why Agreement is exempt under the above section: Cal. Code Regs., tit. 14, sect. 15301 provides that projectswhich consist of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, and which involve negligible or no expansion ofuse beyond that existing at the time of the lead agency's determination, are categorically exempt from the provisions of the California Environmental Quality Act.

The hydrogen refueling project would not significantly expand the use beyond that already existing at potential sites; and the square footage of equipment installation is estimated to be relatively small. Cal. Code Regs., tit. 14, sect. 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 ofexisting 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. This meets the requirements of 14 CCR 15303 because the hydrogen refueling equipment may consist of hydrogen storage tanks, compression, and dispensing equipment at an existing site. Cal. Code Regs., tit. 14, sect. Cal. Code Regs., tit. 14, sect. 15306 provides that projects which consist of basic data collection, research, experimental management, and resource evaluation activities which do not result in serious or major disturbance to an environmental resource, are categorically exempt from the provisions of the California Environmental Quality Act. The proposed project requires collection of operational data from the deployed hydrogen refueling infrastructure for all the fuel cell buses that will fuel at the station.

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**
Zen and the Art of Clean Energy Solutions, Inc.	$ 357,500.00
	$
	$

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

Legal Company Name:

J) Budget Information

STATE OF CALIFORNIA

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Funding Source	Funding Year of Appropriation	Budget List Number	Amount
ARFVTP	FY 18/19	601.118L	$4,986,250
Funding Source			$
Funding Source			$
Funding Source			$
Funding Source			$

R&D Program Area: Select Program Area TOTAL: $

Explanation for "Other" selection

Reimbursement Contract #: Federal Agreement #:

K) Recipient's Contact Information

1. Recipient's Administrator/Officer

Name: Yvonne Eckert

Address: 32-505 Harry Oliver Trail

City, State, Zip: Thousand Palms, CA 92276

Phone: (760) 343-3456 ext.1221

E-Mail: yeckert@sunline.org

2. Recipient's Project Manager

Name: Harman Singh

Address: 32-505 Harry Oliver Trail

City, State, Zip: Thousand Palms, CA 92276

Phone: (760) 343-3456 ext.1205

E-Mail: hsingh@sunline.org

L) Selection Process Used

☒ Competitive Solicitation Solicitation #: GFO-20-602

☐ First Come First Served Solicitation Solicitation #: - -

M) The following items should be attached to this GRF

1.	Exhibit A, Scope of Work		☒ Attached
2.	Exhibit B, Budget Detail		☒ Attached
3.	CEC 105, Questionnaire for Identifying Conflicts		☒ Attached
4.	Recipient Resolution	☐ N/A	☒ Attached
5.	CEQA Documentation	☐ N/A	☒ Attached

Agreement Manager **Date**

Office Manager **Date**

Deputy Director **Date**

Exhibit A
SCOPE OF WORK

TECHNICAL TASK LIST

Task #	CPR	Task Name
1		Administration
2		Hydrogen Safety Plan
3	X	Design, Procurement, and Installation
4	X	Commissioning
5		Data Collection and Analysis
6		Project Fact Sheet

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Harman Singh - SunLine Yvonne Eckert - SunLine		Zen and the Art of Clean Energy Solutions Inc. (Zen)
2	Bill Loper-SunLine	TBD-Turnkey LH2 Station Provider	
3	Rudy LeFlore-SunLine Bill Loper-SunLine Dean Holm-SunLine Sabina Russell - Zen	TBD-Turnkey LH2 Station Provider	Zen
4	Sabina Russell - Zen		Zen
5	Sabina Russell - Zen		Zen

GLOSSARY

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

Term/ Acronym	Definition
CAM	Commission Agreement Manager
CAO	Commission Agreement Officer
CEC	California Energy Commission
Clean Transportation Program	Formerly known as Alternative and Renewable Fuel and Vehicle Technology Program
CNG	Compressed Natural Gas
CPR	Critical Project Review
FAT	Factory Acceptance Test

Term/ Acronym	Definition
FCEB	Fuel Cell Electric Bus
FTD	Fuels and Transportation Division
GHG	Greenhouse Gas
HSP	Hydrogen Safety Panel
ICT	Innovative Clean Transit
LH2	Liquid Hydrogen
NREL	National Renewable Energy Laboratory
Recipient	SunLine Transit Agency
SAT	Site Acceptance Test
SOD	Station Operational Date
ZEB	Zero-emission Bus

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). 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 ARFVTP through January 1, 2024. The ARFVTP 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.

The Energy Commission issued solicitation GFO-20-602 for Zero-Emission Transit Fleet Infrastructure Deployment. To be eligible for funding under GFO-20-602, projects must also be consistent with the CEC's Clean Transportation Program Investment Plan, updated annually. In response to GFO-20-602, SunLine Transit Agency (Recipient) submitted application 11, which was proposed for funding in the CEC's Notice of Proposed Awards on February 22, 2021. GFO-20-602 and Recipient's aforementioned applications 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 the CEC's Award, the 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's Innovative Clean Transit (ICT) Regulation requires all public transit agencies to transition to 100% zero-emission bus fleets by 2040. The most significant challenge facing transit agencies through the start-up and scale-up phases of the transition to zero-emission operations is the financial requirements. Zero-emission buses (ZEBs) are more expensive to procure than traditional compressed natural gas (CNG) buses and the new infrastructure required to operate and maintain the ZEBs requires significant capital expenditure. SunLine Transit Agency (Recipient) has begun the transition to a zero-emission fleet, with 24% of their fleet already transitioned and has received approval of their ICT plan, which lays out a detailed deployment plan to complete the transition. However, this plan cannot be achieved without increased fueling capacity at their transit facilities. This proposed project will provide the financial support necessary to expand the Recipient's hydrogen fueling capacity, as well as provide resiliency for their existing hydrogen station, and support their transition to a 100% zero-emission transit operation in accordance with California regulations.

Goals of the Agreement:

The goal of this Agreement is to expand the Recipient's transit bus hydrogen fueling capacity by deploying a new stand-alone liquid hydrogen (LH2) fueling station, capable of fueling 350 bar heavy-duty transit buses in less than 15 minutes per fill. The LH2 station will provide both additional capacity and resiliency for the existing fueling infrastructure, allowing SunLine to meet and exceed its zero-emission bus deployment targets as stated in their ICT Plan.

Objectives of the Agreement:

The objectives of this Agreement are to:

- Expand SunLine Transit Agency's hydrogen fueling capabilities to include a stand-alone LH2 fueling station that will provide SunLine Transit Agency with increased hydrogen fueling capability, allowing them to accelerate fuel cell electric bus (FCEB) deployment, and support/exceed their ICT ZEB deployment plan.
- Tie the new LH2 station into SunLine's existing electrolyzer station in order to deliver hydrogen to two existing hydrogen dispensers to provide fueling system resiliency should the electrolyzer be inoperable.
- Develop an LH2 station that could be scalable under extraordinary conditions to provide full fleet fueling capability at the Thousand Palms facility should the electrolyzer experience an unplanned failure.
- Tie the new LH2 station into SunLine's existing public dispenser in order to provide fueling support to other local early adopters of heavy-duty vehicles.
- Provide back-to-back fill capability of 35 kg in less than 15 minutes without having to wait to recharge.
- Reduce GHG emissions and local criteria pollutants from SunLine's transit operations through continued deployment of FCEBs.

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 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 California Energy Commission (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.
- 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 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)
- CPR Presentation

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 CAO, 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 and the CAO 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 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 CAM 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
- 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 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 1.7 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 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 1.8 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 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 CAM 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:

- Letter describing the subcontracts needed, or stating that no subcontracts are required
- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

TASK 2 HYDROGEN SAFETY PLAN AND HYDROGEN SAFETY DESIGN REVIEW

The goal of this task is to develop a detailed hydrogen safety plan that the Recipient and all subcontractors or individuals involved in the construction, operation, and maintenance of the hydrogen fueling infrastructure will follow throughout the life of the Agreement and as long as station is in operation.

The Recipient shall:

- Collaborate with the Pacific Northwest National Laboratory or Center for Hydrogen Safety's Hydrogen Safety Panel (HSP) to ensure the plan is comprehensive and demonstrates a strong commitment to safety.
- Prepare a *Preliminary Hydrogen Safety Plan* that includes, but is not limited to the following:
    - A description of the Recipient's work and activities to ensure safety, the unique technologies being demonstrated, and the evaluation results of any hazard analysis performed.
    - A description about how the Recipient will adhere to the most recent public guidelines for safety planning for hydrogen and fuel cell projects.

- A description about how the Recipient will conform to the most current version of the National Fire Protection Association (NFPA) 2, Hydrogen Technologies Code being used by the authority having jurisdiction (AHJ) where the facilities and equipment will be located
- A description about how the Recipient will provide safety training for all operators to conduct the demonstration.

- Submit the *Preliminary Hydrogen Safety Plan* to the HSP for assessment.
- Collaborate with the HSP and the CAM to address questions, comments, or issues pertaining to the plan and prepare a Final Hydrogen Safety Plan.
- Participate in design reviews with the HSP before submitting design plans to the AHJ and other relevant regulatory organizations, such as the Federal Railroad Administration or United States Coast Guard.
- Prepare a *Design Review Memo* describing how the HSP's comments will be incorporated into the design plans.
- Report unintended hydrogen releases to the Certified Unified Program Agency (CUPA) and the CEC.
- Report safety incidents

Products:

- Preliminary Hydrogen Safety Plan
- Final Hydrogen Safety Plan
- Design Review Memo
- Safety Incident Report using the NREL Data Collection Tool (if and when applicable)
-

TASK 3 DESIGN, PROCUREMENT, AND INSTALLATION

The goal of this task is to design, order, and install a liquid hydrogen refueling station to provide additional fueling capacity and resiliency for the Recipient's existing fueling infrastructure. The LH2 station will be capable of operating as a stand-alone station as well as tied into the Recipient's existing electrolyzer refueling station to provide resiliency. In combination with the existing 900 kg/day electrolyzer based fueling infrastructure, the LH2 station will be capable of fueling 57 fixed route FCEBs and 39 paratransit FCEBs when the Recipient's transit fleet is fully transitioned to ZEBs in 2033.

Task 3.1 Early LH2 Station Design Review

The goal of this task is to work with the PNNL HSP in an early hydrogen station design review for the Turnkey LH2 station being developed in Task 3, before the Recipient submits the station building plans to the authorities having jurisdiction for the "plan check."

The Recipient shall:

- Finalize requirements and site interfaces for the liquid hydrogen fueling station. Prepare a *Liquid Hydrogen Station and Subsystem Requirements Document* and provide to the CAM.
- Finalize project timing and scope. Prepare a *Finalized Project Schedule* and provide to the CAM.
- Review the preliminary design and specifications of the LH2 Station.
- Prepare a *Preliminary Design Drawings and Specifications* and provide to the CAM. *Preliminary Design Drawings and Specifications* will include preliminary design drawings and specifications for:
    - Civil;
    - Mechanical;
    - Process;
    - Electrical; and
    - Controls.
- Provide Preliminary LH2 Station design and specifications to PNNL HSP for review.
- Meet with PNNL HSP and CAM to address and resolve questions/issues pertaining to the LH2 Station design.
- Submit a copy of the *PNNL HSP Assessment of the Preliminary LH2 Station Design* to the CAM.

Products:

- Liquid Hydrogen Station and Subsystem Requirements Document
- Finalized Project Schedule
- Preliminary Design Drawings and Specifications
- PNNL HSP Assessment of the Preliminary LH2 Station Design

Task 3.2 Liquid Hydrogen Station Final Design

The goal of this task is to finalize the LH2 hydrogen station design incorporating input from PNNL HSP's early design review.

The Recipient shall:

- Finalize the design and specifications of the LH2 Station.
- Provide *Final Design Drawings and Specifications* to the CAM. *Final Design Drawings and Specifications* will include, but is not limited to:
    - Mechanical and Process design and equipment details;
    - Electrical and Controls design; and
    - Civil site work design.

Products:

- Final Design Drawings and Specifications

Task 3.3 Procure Equipment

The goal of this task is to procure equipment, including long lead items, required to build the LH2 station.

The Recipient shall:

- Prepare and provide an *Equipment List* to the CAM.
- Purchase equipment from *Equipment List*.
- Notify CAM when Equipment Purchase Orders have been placed.
- Provide copies of *Equipment Purchase Orders* to the CAM.

Products:

- Equipment List
- Equipment Purchase Orders

Task 3.4 Equipment Build and Integration

The goal of this task is to build, test, integrate, and ship the LH2 station equipment to the Recipient's transit facility in Thousand Palms.

The Recipient shall:

- Track build progress of the station equipment to ensure timing matches with *Finalized Project Schedule*.
- Provide photographs and *Written Status Report(s)* of equipment build progress at subcontractor factory to the CAM.
- Prepare and provide a *Written Notification of Factory Acceptance Test Completion* to the CAM once equipment build and testing has been completed.
- Prepare and provide *Written Notification of Equipment Delivery* once equipment is delivered to site, received, and ready for installation. Include photographs of equipment at the site.

Products:

- Photographs of Equipment
- Written Status Report(s)
- Written Notification of Factory Acceptance Test Completion
- Written Notification of Equipment Delivery

Task 3.5 Station Engineering and Site Preparation

The goal of this task is to complete all permitted site construction, utility connections and civil, mechanical, electrical work to prepare for installation of the hydrogen fueling station equipment.

The Recipient shall:

- Perform site preparation work, including but not limited to, construction, utility connections, and civil, mechanical, and electrical works to prepare the site for

equipment installation.

- Prepare and provide *Written Notification of Site Preparation Completion* to the CAM. The letter shall include, but is not limited to:
    - Completed civil work;
    - Mechanical work;
    - Electrical work; and
    - Utility interconnections.

Products:

- Written Notification of Site Preparation Completion

Task 3.6 On-Site Equipment Installation

The goal of this task is to install the turnkey LH2 station at the Recipient's transit facility in Thousand Palms.

The Recipient shall:

- Prepare and provide a *Written Notification of Equipment Installation Commencement* to the CAM.
- Install hydrogen fueling station.
- Prepare and provide a *Written Notification of Equipment Installation Completion* to the CAM. Include photographs of installed station.

Products:

- Written Notification of Equipment Installation Commencement
- Written Notification of Equipment Completion

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

TASK 4 COMMISSIONING

The goal of this task is to commission the LH2 station and conduct the final Site Acceptance Test (SAT) and permit inspections in order to make the station operational. Subcontractor will train Recipient on operations and maintenance procedures for the station and provide Operations and Maintenance manuals.

The Recipient shall:

- Receive Operations and Maintenance manuals for the LH2 Station.
- Receive training on Operations and Maintenance procedures of the LH2 station.
- Prepare and provide a *Written Notification of Training Completion* to the CAM.
- Commission station equipment to ensure vehicles can be successfully fueled.
- Prepare and provide a *Written Notification of Successful Vehicle Fills* to the CAM.
- Conduct final Site Acceptance Test for the LH2 station and sign off on the final SAT report.
- Prepare and provide a *Written Notification of Site Acceptance Test Completion* to

the CAM.

- Complete permit inspection of the LH2 Station. Provide copies of signed and approved *Permit Inspection Report(s)*.
- Prepare and provide a *Written Notification of Station Operation* when station is operational.

Products:

- Written Notification of Training Completion
- Written Notification of Successful Vehicle Fills
- Written Notification of Site Acceptance Test Completion
- Permit Inspection Report(s)
- Written Notification of Station Operation

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

TASK 5 DATA COLLECTION AND ANALYSIS

The goal of this task is to collect operational data from the project, to analyze that data for economic and environmental impacts, and to include the data and analysis in the Final Report. Data and analysis on this hydrogen fueling project will be submitted quarterly using 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:

- Acquire 17 FCEBs and place into service.
- Develop data collection test plan and/or prepare and submit the NREL Data Collection Tool once the hydrogen refueling station becomes operational and continue to do so every quarter until the end of the agreement.
- Perform and submit results of purity using hydrogen collected, at the nozzle for each hose at each open retail station. Purity tests for the station will be performed:
  - at the time the station becomes operational
  - every six months after the station becomes operational 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.

- Collect 12 months of throughput for the 17 FCEBs, usage, and operations data from the project including, but not limited to:

- Normal operating hours, up time, down time, and explanations of variations
- Hydrogen quantity delivered
- Hydrogen quantity dispensed
- Duration of active fueling
- Types of vehicles using the hydrogen fueling equipment
- Applicable price for hydrogen fuel
- Payment method for public charging, if applicable
- Maximum capacity of the new fueling system
- Station servicing and maintenance information
- Safety incidents
- Energy used for hydrogen storage, cooling, compression, and dispensing
- 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
- Duty cycle of the current fleet and the expected duty cycle of future vehicle acquisitions
- 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.

- Identify any current and planned use of renewable energy/fuel at the facility.
- Identify the source of the fuel.
- Describe any energy efficiency measures used in the facility that may exceed Title 24 standards in Part 6 of the California Code Regulations.
- Provide data on potential job creation, economic development, and increased state revenue as a result of expected future expansion.
- Estimate annual life-cycle greenhouse gas emission reduction.
- Compare any project performance and expectations provided in the proposal to CEC with actual project performance and accomplishments.

Products:

- Proof of Acquisition of 17 FCEBs and documentation of first date of service for each bus
- 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

TASK 6 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

RESOLUTION NO: 21-0512-7b

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: SUNLINE TRANSIT AGENCY

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 ARV-20-014 with SunLine Transit Agency for a $4,986,250 grant to expand their existing heavy-duty hydrogen fueling infrastructure to include a new stand-alone liquid hydrogen station to support current and future transit fueling needs; 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 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 May 12, 2021.

AYE:
NAY:
ABSENT:
ABSTAIN:

_____
Patricia Carlos
Secretariat