

Harbor Department
Agreement
National Renewable Energy Laboratory City of Los Angeles



Funds-In Agreement

19-3085

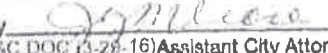
Standard Agreement

<p>1. Sponsor Name & Address City of Los Angeles Harbor Department 425 S. Palos Verdes St. San Pedro, CA 90731</p>	<p>4. Funds-In Agreement Number NREL No. FIA-19-1905 CARB No. G17-ZNZE-10</p>									
<p>2. Estimated Performance Period (in months) 23 months</p>	<p>5. Project title CARB ZANZEFF Shore to Store Project</p>									
<p>3. Financial</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">NREL Cost</td> <td style="width: 10%; text-align: center;">\$</td> <td style="width: 30%; text-align: right;">592,260.00</td> </tr> <tr> <td>DOE Administrative Charge</td> <td style="text-align: center;">\$</td> <td style="text-align: right;">00.00</td> </tr> <tr> <td>Total Cost to Sponsor</td> <td style="text-align: center;">\$</td> <td style="text-align: right;">592,260.00</td> </tr> </table> <p>Amount of first 90-day advance \$ 135,000.00 See attached invoice for advance payment instructions.</p>	NREL Cost	\$	592,260.00	DOE Administrative Charge	\$	00.00	Total Cost to Sponsor	\$	592,260.00	<p>6. Agreement Terms and Conditions This agreement consists of (1) this Standard Agreement, (2) Terms and Conditions and (3) the following:</p> <ul style="list-style-type: none"> a. Appendix A—Statement of Work b. Appendix B—Patent Rights c. Appendix C—Rights in Technical Data d. Appendix D—Additional Contract Terms <ul style="list-style-type: none"> i. Exhibit C – Affirmative Action Program Provisions ii. Exhibit D – Small Business Enterprise Program iii. Exhibit E – Equal Benefits Ordinance
NREL Cost	\$	592,260.00								
DOE Administrative Charge	\$	00.00								
Total Cost to Sponsor	\$	592,260.00								

<p>Sponsor—Representatives</p> <p>7. Technical representative Jacob Goldberg City of Los Angeles Harbor Department 425 S. Palos Verdes St. San Pedro, CA 90731 jgoldberg@portla.org</p> <p>8. Contract representative Guadalupe Diaz City of Los Angeles Harbor Department 425 S. Palos Verdes St. San Pedro, CA 90731 gdiaz@portla.org</p>	<p>NREL—Representatives</p> <p>9. Technical representative <i>Jason Lustbader</i> National Renewable Energy Laboratory 15013 Denver West Parkway RSF 300 Golden, CO 80401 303. 275-4443</p> <p>10. Contract representative <i>Anne Miller</i> National Renewable Energy Laboratory 15013 Denver West Parkway Golden, CO 80401 303. 384-7383</p>
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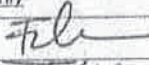
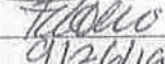
<p>11. Sponsor Acceptance</p> <p>Gene Seroka, Executive Director City of Los Angeles Harbor Department 425 S. Palos Verdes St. San Pedro, CA 90731</p>	<p>12. NREL Acceptance</p> <p>William T. Farris, Associate Lab Director National Renewable Energy Laboratory 15013 Denver West Parkway Golden, CO 80401</p>		
<p>Signature: </p>	<p>Date: 10/31/19</p>	<p>Signature: </p>	<p>Date: 9/10/19</p>

APPROVED AS TO FORM AND LEGALITY
September 27 2019
MICHAEL N. FEUER, City Attorney

By 
Assistant City Attorney



Funds-In Agreement with the National Renewable Energy Laboratory

Account#	89097	W.O. #	78246
Ctr/Div#	6000	Job Fac.#	637-00
Proj/Prog#	000		
Budget FY:		Amount:	
FY 19/20		\$435,000	
FY 20/21		\$157,260	
FY 21/22		\$ 0	
TOTAL		\$592,260	
For Acct/Budget Div. Use Only			
Verified by:			
Verified Funds Available:			
Date Approved:	9/26/19		

National Renewable Energy Laboratory
**Funds-In Agreement—NonFederal Sponsor
Strategic Partnership Projects**

General Terms and Conditions

Article I. Parties to the Agreement. The U.S. Department of Energy Contractor, Alliance for Sustainable Energy, LLC, manager of the National Renewable Energy Laboratory (hereinafter referred to as the "Contractor" or "NREL") has been requested by the "Sponsor," to perform the work set forth in the Statement of Work, attached hereto as Appendix A. It is understood by the Parties that, except for the intellectual property provisions of this Agreement, the Contractor is obligated to comply with the terms and conditions of its Management and Operating (M&O) prime contract No. DE-AC36-08GO28308 with the United States Government (hereinafter called the "Government") represented by the United States Department of Energy (hereinafter called the "Department" or "DOE") when providing goods, services, products, processes, materials, or information to the Sponsor under this Agreement.

Article II. Term of the Agreement. The Contractor estimated period of performance for completion of the Statement of Work is stated in Block 2 of the attached Face Page for this Funds-In Agreement. The term of this Agreement shall be effective as of the later date of (1) the date on which it is signed by the last of the Parties thereto, or (2) the date on which funds are received.

Article III. Costs.

- A. The Contractor estimated cost for the work to be performed under this Agreement is stated in Block 3 of the attached Face Page for this Funds-In Agreement.
- B. The Contractor has no obligation to continue or complete performance of the work at a cost in excess of the original estimated cost or any subsequent amendment.
- C. The Contractor agrees to provide at least thirty (30) days' notice to the Sponsor if the actual cost to complete performance will exceed its estimated cost.

Article IV. Funding and Payment. The Sponsor shall provide sufficient funds in advance to reimburse the Contractor for costs to be incurred in performance of the work described in this Agreement, and the Contractor shall have no obligation to perform in the absence of adequate advance funds. If the estimated period of performance exceeds 90 days and the estimated cost exceeds \$25,000, the Sponsor may, with the Contractor's approval, advance funds incrementally. In such a case, the Contractor will initially invoice the Sponsor in an amount sufficient to permit the work to proceed for 90 days and thereafter invoice the Sponsor monthly so as to maintain approximately a 90-day period that is funded in advance. Payment shall be due upon receipt of invoice, directly to the Contractor. Upon termination or completion, the Contractor shall refund any excess funds to the Sponsor. Sponsor shall enter this Agreement number on the check made payable to the Alliance for Sustainable Energy, LLC and mail payment to the following address:

Alliance for Sustainable Energy, LLC
Manager of the National Renewable Energy Laboratory
15013 Denver West Parkway
Golden, CO 80401
ATTN: Finance – Mailstop RSF041

Article V. Source of Funds. The Sponsor hereby warrants and represents that, if the funding it brings to this Agreement has been secured through other agreements or is being secured through existing International Agreements, such other agreements do not have any terms and conditions (including intellectual property) that conflict with the terms of this Agreement. If the Strategic Partnership Project entered into conflicts with existing International Agreements, the International Agreement terms and conditions will take precedence.

Article VI. Property. Upon termination of this Agreement, property or equipment produced or acquired with funds provided by the Sponsor shall be disposed of as instructed by the Sponsor. No Federal funds will be used to purchase property or equipment for this agreement. Property or equipment produced or acquired as part of this Agreement will be accounted for and maintained during the term of the Agreement in the same manner as Department property or equipment.

Article VII. Publication Matters. The publishing Party shall provide the other Party a 60-day period in which to review and comment on proposed publications that either disclose technical developments and/or research findings generated in the course of this Agreement, or identify Proprietary Information (as defined in Article XV, paragraph 1. of, Appendix C). The publishing Party shall not publish or otherwise disclose Proprietary Information identified by the other Party, except as provided by law.

Article VIII. Legal Notice. The Parties agree that the following Legal Notice shall be affixed to each report furnished to the Sponsor under this Agreement and to any report resulting from this Agreement which may be distributed by the Sponsor: "The National Renewable Energy Laboratory, 15013 Denver West Parkway, Golden, CO 80401 is a national laboratory of the U.S. Department of Energy managed by the Alliance for Sustainable Energy, LLC for the U.S. Department of Energy under Contract Number DE-AC36-08GO28308."

Article IX. Disclaimer. THE GOVERNMENT AND THE CONTRACTOR MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE RESEARCH OR ANY INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS STRATEGIC PARTNERSHIP PROJECT, OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE RESEARCH OR RESULTING PRODUCT; THAT THE GOODS, SERVICES, MATERIALS, PRODUCTS, PROCESSES, INFORMATION, OR DATA TO BE FURNISHED HEREUNDER WILL ACCOMPLISH INTENDED RESULTS OR ARE SAFE FOR ANY PURPOSE INCLUDING THE INTENDED PURPOSE; OR THAT ANY OF THE ABOVE WILL NOT INTERFERE WITH PRIVATELY OWNED RIGHTS OF OTHERS. NEITHER THE GOVERNMENT NOR THE CONTRACTOR SHALL BE LIABLE FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ATTRIBUTED TO SUCH RESEARCH OR RESULTING PRODUCT, INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DELIVERED UNDER THIS STRATEGIC PARTNERSHIP PROJECT.

Article X. General Indemnity. Reserved. The Parties agree that Sponsor is not providing material or equipment, is not sending its employees to the facility, and has not directed the Contractor to perform specific activities not normally performed by the Contractor at the facility.

Article XI. Product Liability Indemnity. Reserved. The Product Liability Indemnity is being reserved because this Agreement is for technical services that is not expected to generate any intellectual property. In the event intellectual property is generated, the Sponsor shall not have any preferential access to the generated intellectual property under this Agreement.

Article XII. Intellectual Property Indemnity—Limited.
The Sponsor represents and warrants that it is not aware of any activity under the Statement of Work that would infringe upon any intellectual property right of any third party, such as any patent, copyright, trade secret, or other intellectual property right. Sponsor agrees that it has exercised reasonable efforts and diligence in making this representation and warranty. The foregoing representation and warranty shall be ongoing during the term of the Agreement and considered to have been made again at and as of the date of each modification to the Statement of Work.

Article XIII. Notice and Assistance Regarding Patent and Copyright Infringement. The Sponsor shall report to the Department and the Contractor, promptly and in reasonable written detail, each claim of patent or copyright infringement based on the performance of this Agreement of which the Sponsor has knowledge. The Sponsor shall furnish to the Department and the Contractor, when requested by the Department or the Contractor, all evidence and information in the possession of the Sponsor pertaining to such claim.

Article XIV. Patent Rights—Use of Facilities. Terms and conditions regarding patent rights are set forth in Appendix B attached hereto and incorporated herein. Reference to "Facility Contractor" means Alliance for Sustainable Energy, LLC, which manages and operates the Government-owned, contractor-operated facility where the work under this Agreement is to be performed.

Article XV. Rights in Technical Data—Use of Facility. Terms and conditions regarding rights in technical data are set forth in Appendix C attached hereto and incorporated herein.

Article XVI. Assignment. Neither this Agreement nor any interest therein or claim thereunder shall be assigned or transferred by either Party, except as authorized in writing by the other Party to this Agreement, provided the Contractor may transfer it to

the Department, or its designee, with notice of such transfer to the Sponsor, and the Contractor shall have no further responsibilities except for the confidentiality, use, and/or non-disclosure obligations of this Agreement.

Article XVII. Similar or Identical Services. The Government and/or Contractor shall have the right to perform similar or identical services in the Statement of Work (SOW) for other sponsors as long as the Sponsor's Proprietary Information is not utilized.

Article XVIII. Export Control. Each Party is responsible for its own compliance with laws and regulations governing export control.

Article XIX. Termination. Performance of work under this Agreement may be terminated at any time by either Party, without liability, except as provided above, upon giving a thirty (30) day written notice to the other Party. The Contractor shall terminate this Agreement only when the Contractor determines, after direction from DOE, that such termination is in the best interest of the Government; provided, however, that the Contractor shall have the right to terminate unilaterally if the Sponsor shall have failed to advance the funds required by Article IV. In the event of termination, the Sponsor shall be responsible for the Contractor's costs (including closeout costs) through the effective date of termination, but in no event shall the Sponsor's cost responsibility exceed the total cost to the Sponsor as described in Article III, above. It is agreed that any obligations of the Parties regarding Proprietary Information or other intellectual property will remain in effect, despite early termination of the Agreement.

Article XX. Alternate Dispute Resolution. The Parties to this Agreement are encouraged to utilize the processes of Alternative Dispute Resolution (ADR) to settle any differences that may arise during the performance of this Agreement, although it is not mandatory that they do so. As a starting point, the language below is suggested.

- A. *Negotiation.* The Parties shall attempt in good faith to resolve any dispute arising out of or relating to this Agreement by negotiating between executives and/or officials who have authority to settle the controversy and who are at a higher level of management than the persons with direct responsibility for administration of this contract. Either Party may give the other Party written notice of any dispute not resolved in the normal course of business. Within 15 days after delivery of the notice, the receiving Party shall submit to the other a written response. The notice and the response shall include (a) a statement of each Party's position and a summary of arguments supporting that position, and (b) the name and title of the executive or official who will represent that Party and of any other person(s) who will accompany the executive or official. Within 30 days after delivery of the disputing Party's notice, the executives of both Parties shall meet at a mutually acceptable time and place, and thereafter as often as they reasonably deem necessary, to attempt to resolve the dispute. All reasonable requests for information made by one Party to the other will be honored. If the matter has not been resolved within 60 days of the disputing Party's notice, or if the Parties fail to meet within 30 days, either Party may initiate mediation of the controversy or claim as provided hereafter. All negotiations pursuant to this Agreement are confidential and shall be treated as compromise and settlement negotiations for purposes of the Federal Rules of Evidence and state rules of evidence.
- B. *Mediation.* In the event the dispute has not been resolved by negotiation as provided herein, the Parties agree to participate in mediation, using a mutually agreed upon mediator. The mediator will not render a decision, but will assist the Parties in reaching a mutually satisfactory agreement. The Parties agree to equally split the costs of the mediation. The first mediation session shall commence within thirty (30) days from the agreement. The Parties may contact the DOE Office of Dispute Resolution with questions or for assistance with selection of neutrals or samples of "Agreements to Mediate." All mediations are confidential and shall be treated as compromise and settlement negotiations for purposes of the Federal Rules of Evidence and State rules of evidence.
- C. *Arbitration.* Any dispute not otherwise satisfactorily resolved may be submitted to arbitration, pursuant to the Administrative Dispute Resolution (ADR) Act through a reputable ADR provider.

National Renewable Energy Laboratory

Funds-In Agreement

State Grant Project

Appendix A - Statement of Work

I. Title of project

CARB (CARB) Zero and Near Zero Emissions Freight (ZANZEFF) Shore to Store Project (Project)

II. Background

Parties to this agreement are:

Contractor: Alliance for Sustainable Energy, manager and operator of the National Renewable Energy Laboratory. NREL has a facility at 15013 Denver West Parkway, Golden, CO 80401.

Sponsor/CARB Grantee: City of Los Angeles Harbor Department, which manages the Port of Los Angeles in trust for the State of California, has a facility at 425 S. Palos Verdes Street, San Pedro, CA 90731.

III. Task Descriptions, Deliverables and Estimated Completion Dates

The Harbor Department has received a \$41,000,000 grant for the Project from the California Air Resources Board (CARB) to demonstrate zero emissions infrastructure and equipment (hydrogen fuel cell drayage trucks, hydrogen fueling stations and zero emissions cargo handling equipment) for transporting and handling maritime freight, at existing locations State-wide.

The National Renewable Energy Laboratory (NREL/Contractor) is a member of the team that will be performing on this Project, among other Project partners Equilon Enterprises LLC (d/b/a Shell Oil Products US) (Shell), Kenworth Truck Company (Kenworth), Toyota Motor North America (Toyota), and the Port of Hueneme (POH).

Contractor will be responsible for undertaking all aspects of data collection and processing from Project participants (Toyota Logistics Services, Total Transportation Services, Inc., Southern Counties Express, United Parcel Service and Port of Hueneme) and delivering such data and analysis to Sponsor for the Sponsor's reports as administrative project manager to CARB

Summary

NREL will develop an in-use data collection plan for baseline and advanced vehicles, including 10 hydrogen fuel cell trucks, 2 electric yard tractors, and 2 hydrogen fuel cell forklifts. NREL will support data collection on the baseline and advanced vehicles. Both maintenance and infrastructure data will be collected from the team. NREL will perform analysis and reporting on the collected vehicle, infrastructure, and maintenance data. NREL will also use advanced data

National Renewable Energy Laboratory

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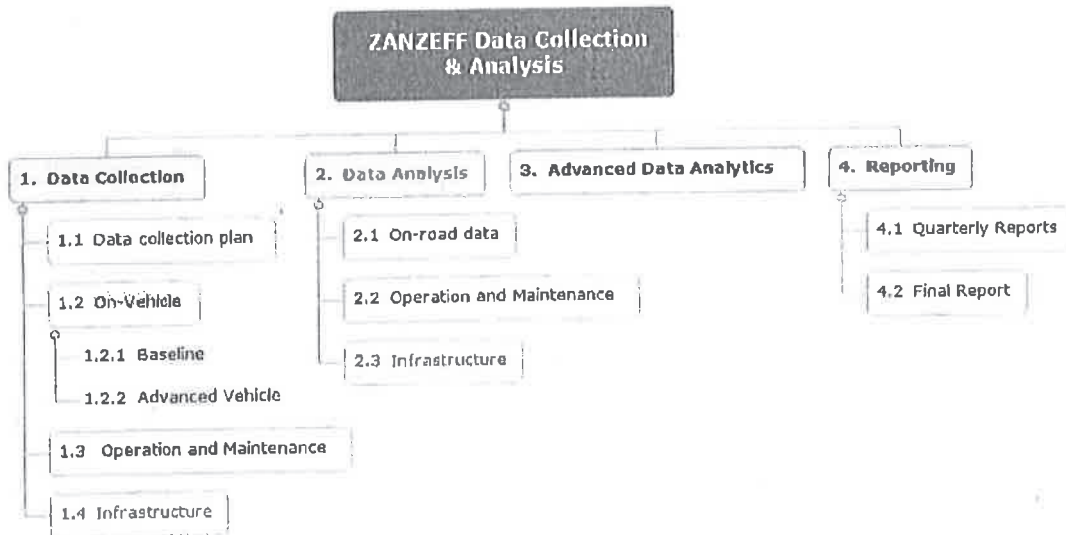
State Grant Project

Appendix A - Statement of Work

analytic methods to explore the datasets and provide additional insights. Results will be reported on a quarterly basis. NREL will lead writing of and deliver the final report.

Scope

The project scope and tasks are outlined in the following work breakdown structure.



1. Data Collection

1.1. Data Collection Plan

NREL will develop a data collection plan for the baseline and advanced vehicles. Trucks will be equipped with a data logger which records GPS and controller area network (CAN) data. The data collection will include global positioning system (GPS), fuel efficiency (miles/kWh), battery state-of-charge (SOC), mileage/odometer readings, runtime, idle time, battery temperature, speed, charging current/voltage, and ambient

National Renewable Energy Laboratory

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Appendix A - Statement of Work

conditions. An example list of potential data channels is shown in Figure 1, the final list will be determined by need and availability.

	Conventional Parameters		Additional Electric Parameters
Datetime	Accelerator Pedal Position	EGR Mass Flow Rate	Power Electronics Temperature
GPS Time	Demanded Torque	Intake Air Mass Flow Rate	Battery SOC
GPS Latitude	Actual Engine Torque	Engine Fuel Rate	Defroster Status
GPS Longitude	Engine Torque Mode	High Res. Engine Fuel Rate	High Voltage Enabled
GPS Number of Sats.	Engine Percent Load	Engine Trip Fuel	Shifter Position
GPS Altitude	Max Available Torque	Engine Coolant Temperature	Battery Current
GPS Speed	Nominal Friction Percent Torque	Engine Fuel Temperature	Battery Voltage
EBS Brake Switch	Exhaust Gas Mass Flow Rate	Engine Oil Temperature	Motor Rotor Temperature
Brake Switch	Engine Speed At Idle Point 1	Engine Intercooler Temperature	Motor Stator Temperature
Parking Brake Switch	Engine Percent Torque At Idle Point 1	EGR Temperature	Motor Electrical Power
Trans. Shift In Progress	Engine Speed At Point 2	Intake Manifold Temperature	Cabin Setpoint Temperature
Trans. Torque Converter Lock	Engine Percent Torque At Point 2	Ambient Air Temperature	Cabin Return Temperature
Trans. Shift In Progress	Engine Speed At Point 3	Engine Intake Temperature	Displayed Vehicle Efficiency
Trans. Input Speed	Engine Percent Torque At Point 3	Engine Fuel Delivery Pressure	HVAC Power
Selected Gear	Engine Speed At Point 4	Engine Oil Pressure	DC-DC Power
Gear Ratio	Engine Percent Torque At Point 4	Vehicle Speed	Steering Power
Current Gear	Engine Speed At Point 5	Barometric Pressure	Air Compressor Power
Trans. Oil Temperature	Engine Percent Torque At Point 5	Engine Boost Pressure	
Engine Protect Lamp	Engine Speed At High Idle Point 6	Engine Intake Pressure	
Engine Warning Lamp	Engine Gain Of Endspped Governor	Pneumatic Supply Pressure	
Engine Stop Lamp	Engine Reference Torque	Air Compressor Status	
Engine Starter Mode	Engine Speed	Estimated Fan Speed %	

Figure 1: Potential data channels for on-board data collection

Field data collection will be sufficient to meet the project requirements, providing information such as:

- **Vehicle Specification:** These will be recorded for each test vehicle including manufacturer, model, model year, gross vehicle weight, fuel capacity, and fuel proposal system.
- **Vehicle / Equipment Performance:** A combination of on-board and off-board vehicle data to characterize miles between road calls, number of road calls, battery degradation, vehicle availability, and zero emissions range.
- **Fuel / Energy Consumption:** Using a combination of vehicle data, refueling logs, and infrastructure information, calculated summary statistics including fuel/electricity use/hydrogen use, fuel price, refueling SOC, refueling/charging time, distance to refueling/charging, refueling/charging source, fueling/charging frequency, fuel efficiency, idle fuel energy use, and all-electric range/average electric range for hybrid electric vehicles.
- **Maintenance (Vehicle and Infrastructure):** Monthly logs of maintenance, which NREL will consolidate with the data set. These will include the type of maintenance (schedule, unscheduled, configuration change) and the repairs done.

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Data will include, as available, date, description of problem, repair performance, parts replaces, cost of parts, costs of labor, and odometer reading. Repair records will also be kept for any fueling/charging infrastructure maintenance required.

- **Service calls:** Detailed logs will be kept for all required service calls including date, length of repair, description of problem, repair performed, parts replaced, odometer reading, time out of service, response time.
- **Costs**
 - Capital costs for advanced technology vehicles and vehicle upgrades will be reported. Infrastructure/facility costs for fueling/charging and maintenance bay will be reported.
 - Operating costs will be tracked for both baseline and advanced technology vehicles. This will include maintenance costs for both vehicles and infrastructure.
- **User and fleet experience:** User/fleet experience will be quantified through a user survey. This will include questions related to vehicle availability, performance (power and energy) to meet operation demands, operation and maintenance challenges, part availability, perceived safety, refueling experience, and other barriers.
- **Facilities performance:** This will be quantified through data collection on facility electrical demand and/or emissions.

1.2. On-Vehicle Data Collection

On-board data collection devices will be installed on the demonstration and baseline vehicles to capture appropriate and necessary data from the vehicles for the length of the test. Kenworth will provide loggers for their demonstration vehicles, while NREL will provide loggers for the other demonstration and baseline vehicles. Electrical and hydrogen infrastructure hardware associated with the ZANZEFF vehicles will also be instrumented by vehicle manufactures, fleet or infrastructure service provider (if not available on vehicle datalogger) as needed with appropriate data loggers to provide electrical and hydrogen energy use data. Frequency of data transmission from vehicles and infrastructure to data servers will depend on file size. NREL's existing electronic data collection and analysis system will be used to automate uploads and filter and convert files into NREL's Fleet Analysis Toolkit, which will be used to process the data

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and provide summary reports described in later tasks. NREL's in-house data processing capabilities include:

- Automated, secure data transfer from Vector loggers to NREL's secure commercial fleet data center
- 25 TB of data storage arrays and tape backup
- NREL's Fleet Analysis Toolkit (described earlier in this section)

1.3. Operation and Maintenance Data Collection

Monthly maintenance, safety, and operation cost data/records will be supplied by fleet operations or manufactures on all test vehicles and associated infrastructure.

1.4. Infrastructure

Once the hydrogen station is operational, NREL will collect information provided by project partners on hydrogen production, delivery, and dispensing. Data provided by the infrastructure partners will include but not be limited to performance data including quantity of fuel produced and dispensed, energy used for hydrogen production, storage, cooling, compression, and dispensing, estimated cost to produce fuel, fueling times, station down time, servicing and maintenance information, and driver/operator feedback on refueling.

2. Data Analysis

NREL will apply its set of data and analysis tools to both consolidate the data and provide analysis reports.

2.1. On-road data: Analysis of on-road data collected from loggers will be provided on a quarterly basis and will include, but not limited to:

- Vehicle efficiency by trip
- Cargo ton-mile/energy unit
- Fuel consumption
- Charging and refueling profiles (including times, durations, and amounts)
- Vehicle usage, route profiles & drive characteristics
- Miles driven (total and per trip)
- Time spent charging (per vehicle)
- Start and end SOC
- Charge efficiency / electrical energy efficiency through drivetrain
- Fuel cell & battery durability
- Hydrogen refueling efficiency and usage information
- Fuel efficiency
- Drive cycle cycle-versus-range calculations
- Idle time statistics

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- Driveline temperatures
- Air conditioning/auxiliary load impacts
- Effective vehicle range calculations (efficiency and SOC observations)
- Voltage transients in battery pack
- Estimated cost savings versus baseline

Example reports from similar projects can be found on NREL's Fleet DNA website:
<https://www.nrel.gov/transportation/fleetest-fleet-dna.html>

2.2. Operations and maintenance data: Operations and maintenance data collected from fleets will be processed using NREL's data analysis protocols. The analysis will be performed and reported on a quarterly basis and will include, but not limited to:

- Mileage accumulation
- Fuel and energy usage as reported by fleet
- Maintenance cost per mile (part costs and labor hours)
- Maintenance cost per day
- Maintenance cost details by vehicle system (propulsion and energy storage)
- Scheduled vs unscheduled maintenance costs
- Total vehicle operating costs (maintenance and fuel)
- Reliability/uptime analysis
- Infrastructure operating and capital costs.

2.3 Infrastructure

The hydrogen infrastructure data collected in task 1.4 regarding hydrogen production, deliver, and dispensing will be analyzed and reported to CARB on a quarterly basis.

3. Advanced Data Analytics

Going beyond standard data analysis and reports in Task 4, advanced data analytic methods will be applied to provide insight and learning from the data collected. Methods such as advanced clustering, non-linear classification or regression, operational feature construction, geospatial analysis, and Lagrangian hotspot analysis, will be explored to expand understanding of vehicle operation and performance and further inform vehicle design as well as identify opportunities for infrastructure improvements.

4. Reporting

4.1. Quarterly reports will be prepared on Task 1 and Task 2 activities.

4.2. Final report: A final report will be prepared to summarize the data collection, analysis, and findings.

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Required Input

- Fuel cell truck on-road data
- Access to and support for baseline truck and other advanced vehicle instrumentation
- Infrastructure data
- Maintenance data

Deliverables

1. Data collection plan (3 months from start of project)
2. Quarterly data reports
3. Final report

Schedule

The period of performance will be through April 15, 2021.

APPENDIX B-1 (NO R&D PERFORMED)

RESERVED. No research, development, or demonstration is to be conducted in the performance of the Statement of Work.

APPENDIX C-1 RIGHTS IN TECHNICAL DATA (UNLIMITED RIGHTS/NONPROPRIETARY)

1. The following definitions shall be used.
 - A. "Facility Contractor" means Alliance for Sustainable Energy, LLC as Operator of the National Renewable Energy Laboratory, operating under DOE Prime Contract No. DE-AC36-08GO28308 or any successor contractor thereof.
 - B. "Generated Information" means information produced in the performance of this Agreement or any Facility subcontract under this Agreement.
 - C. "Proprietary Information" means information which is developed at private expense, is marked as Proprietary Information, and embodies (1) trade secrets or (2) commercial or financial information which is privileged or confidential under the Freedom of Information Act (5 USC § 552 (b)(4)).
 - D. "Unlimited Rights" means the right to use, disclose, reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, in any manner and for any purpose, and to have or permit others to do so.
2. For work performed at the DOE Facility, the Sponsor agrees to furnish to the Facility Contractor or leave at the facility that information, if any, which is (1) essential to the performance of work by the Facility Contractor personnel or (2) necessary for the health and safety of such personnel in the performance of the work. Any information furnished to the Facility Contractor shall be deemed to have been delivered with Unlimited Rights unless marked as Proprietary Information. The Sponsor agrees that it has the sole responsibility for appropriately identifying and marking all documents containing Proprietary Information furnished by the Sponsor.
3. The Sponsor, Facility Contractor, and the Government shall have Unlimited Rights in all Generated Information, except for information which is disclosed in a Subject Invention disclosure being considered for patent protection.
4. The Government and Facility Contractor agree not to disclose properly marked Proprietary Information without written approval of the Sponsor, except to Government employees who are subject to the statutory provisions against disclosure of confidential information set forth in the Trade Secrets Act (18 USC § 1905).
5. The Sponsor is solely responsible for the removal of all of its Proprietary Information from the facility by or before termination of this Agreement. The Government and Facility Contractor shall have Unlimited Rights in any information which is not removed from the facility by termination of this Agreement. The Government and Facility Contractor shall have Unlimited Rights in any Proprietary Information which is incorporated into the facility or equipment under this Agreement to such extent that the facility or equipment is not restored to the condition existing prior to such incorporation.
6. The Sponsor agrees that the Facility Contractor will provide to the Department a nonproprietary description of the work performed under this Agreement.
7. The Government shall have Unlimited Rights in all Generated Information produced or information provided to the Facility Contractor by the Parties under this Agreement, except for information which is disclosed in a Subject Invention disclosure being considered for patent protection, or which is marked as being Proprietary Information.
8. Copyrights. The Parties may assert copyright in any of their Generated Information. Subject to the other provisions of this clause, and to the extent copyright is asserted, the Government reserves for itself and others acting in its behalf, a paid - up, world-wide, irrevocable, non-exclusive license for Governmental purposes to publish, distribute, translate, duplicate, exhibit, prepare derivative works, and perform any such copyrighted works.
9. The terms and conditions of this article shall survive the Agreement, in the event that the Agreement is terminated before completion of the Statement of Work.

APPENDIX D TO FUNDS-IN AGREEMENT FIA-19-1905 ADDITIONAL CONTRACT TERMS

This Appendix D to Funds-In Agreement contains required City of Los Angeles Harbor Department ("City" or "Sponsor") provisions. It is understood by the parties that the Sponsor is the recipient of a Grant Agreement from the California Air Resources Board (CARB) Number G17- ZNZE-10 titled "Zero-and Near Zero-Emission Freight Facilities Project. And is subject to the terms and conditions of that Grant Agreement. Sponsor shall use California State funds received from its Grant Agreement to pay for the work to be performed under the Statement of Work, attached as Appendix A. Further, the parties acknowledge Sponsor's obligations to flow down certain requirements from the State of California and City of Los Angeles incorporated in this Appendix D to Funds-In-Agreement FIA-19-1905 -- Additional Contract Terms.

I. EFFECTIVE DATE AND TERM OF AGREEMENT

- A. This Agreement shall be in full force and effect commencing from the effective date pursuant to Agreement General Terms and Conditions Article II and shall continue until the earlier of the following occurs:
1. Three (3) years have lapsed from the effective date of this Agreement; or
 2. Funding under the Grant Agreement is no longer available for any reason. City shall provide written notice to Contractor and in accordance with Agreement General Terms and Conditions Article XIX, and shall be responsible for the Contractor's costs (including closeout costs) through the effective date of termination. Contractor shall remain responsible for complying with its reporting and recordkeeping requirements; or
 3. Pursuant to Agreement General Terms and Conditions Article XIX, either of the Parties terminates this Agreement upon thirty (30) days' notice in writing of its election to cancel and terminate this Agreement. In the event of City's termination election, Contractor shall be entitled to reimbursement for expenses incurred in accordance with Agreement General Terms and Conditions Article XIX Termination as of the date the 30-days' notice period ends. Contractor shall remain responsible for complying with its reporting and recordkeeping requirements for work prior to the termination effective date. It is agreed that City may hire additional contractors to perform the services described in this Agreement either during or after the term of this Agreement; or
 4. In the event of Contractor's termination election, the Agreement shall be terminated with respect to Contractor. City and Contractor shall meet and confer on whether and to what extent the Project may continue without Contractor's participation. Contractor shall be entitled to reimbursement for expenses incurred in accordance with the Agreement General Terms and Conditions Article XIX Termination. Contractor shall remain responsible for complying with its reporting and recordkeeping requirements for work prior to the termination effective date.

II. REIMBURSEMENT AND PAYMENT

A. Subject to the General Terms and Conditions of Agreement, Article IV Funding and Payment, the parties acknowledge and agree that the City shall not be obligated to reimburse Contractor for expenditures made for the Project unless payment has been authorized and approved.

B. The maximum amount to be reimbursed to Contractor pursuant to this Agreement and the Grant Agreement shall be Five Hundred Ninety Two Thousand Two Hundred Sixty Dollars (\$592,260).

C. Subject to the General Terms and Conditions of Agreement, Article IV Funding and Payment, Contractor will invoice Sponsor for an advance payment of \$155,000 upon execution of this Agreement. Thereafter Contractor will invoice Sponsor each month for costs incurred the prior month until the full Agreement amount is received. Sponsor will pay invoices within 30-60 days of receipt following the effective date of this Agreement for Project activities. Each such invoice shall be signed by the Contractor and shall include the following certification:

"I certify under penalty of perjury that the above bill is just and correct according to the terms of Agreement No. _____ and that payment has not been received.

(Contractor's Signature)"

D. Contractor must include on the face of each itemized invoice submitted for payment its Business Tax Registration Certificate number, as required at the Article VI - BUSINESS TAX REGISTRATION CERTIFICATE of this Appendix D. No invoice will be processed for payment by City without this number shown thereon. All invoices shall be approved by the Executive Director or his or her designee prior to payment. All invoices due and payable and found to be in order shall be paid as soon as, in the ordinary course of City business, the same may be approved and paid. Contractor shall submit appropriate supporting documents with each invoice. The City may require, and a Contractor shall provide, all documents reasonably required to determine whether amounts on the invoice are allowable expenses under this Agreement.

E. For payment and processing, all invoices should be mailed to the following address:

Accounts Payable Section
Harbor Department, City of Los Angeles
P.O. Box 191
San Pedro, CA 90733-0191

F. Advance Payment Requirements: Contractor is the manager of NREL with Funds In Agreements solely funded by advance payments by each client for each project. The General Terms and Conditions of Agreement, Article IV requires City to provide 90-days advance funding for costs to be incurred in the performance of this Agreement. Upon termination or completion of the project work under this Agreement, Contractor shall refund any excess advance funds to City.

G. In accordance with General Terms and Conditions of Agreement, Article IV Funding and Payment, City shall enter the NREL Project No. FIA-19-1905 on all checks made payable to the Alliance for Sustainable Energy, LLC and mail payment to the following address:

Alliance for Sustainable Energy, LLC
Manager of the National Renewable Energy Laboratory
15013 Denver West Parkway Golden,
CO 80401
ATTN: Finance -- Mailstop RSF041

III. EMISSION REDUCTION CREDITS

Any emissions reduction credits generated by the work performed pursuant to this Agreement cannot be used or claimed by Contractor for any purpose.

IV. RECORDKEEPING AND AUDIT

A. Contractor shall keep and maintain full, complete and accurate books of accounts and records of the services it performs under this Agreement in accordance with generally accepted accounting principles consistently applied. Such books and records shall be maintained by Contractor for a period of three (3) years after completion of services to be performed under this Agreement or until all disputes, appeals, litigation or claims arising from this Agreement have been resolved, whichever period is longest.

B. During the term of this Agreement, City may audit, review and copy any and all books of accounts and records of the services related to this Agreement or performance of the Scope of Work at City's expense.

V. INDEPENDENT CONTRACTOR

Contractor and any of its subcontractors are independent contractors and not agents or employees of City in the performance of the work required by this Agreement. No Contractor or subcontractor shall represent itself as an agent or employee of the City and no Contractor or subcontractor shall have power to bind the City in contract or otherwise.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement. Contractor represents that no work under this Agreement shall be performed by Contractor on Port of Los Angeles premises.

VI. BUSINESS TAX REGISTRATION CERTIFICATE

The Contractor represents that it has obtained and presently holds a Business Tax Registration Certificate(s) required by the City of Los Angeles Business Tax Ordinance (Article 1, Chapter II, Article 21.00 and following, of the Los Angeles Municipal Code). For the term covered by this Agreement, the Contractor shall maintain, or obtain as necessary, all such Certificates required under said ordinance and shall not allow any such Certificate to be revoked or suspended. For information, see the City website at <https://business.lacity.org/start/BTRC>

VII. AFFIRMATIVE ACTION

Contractor, during the performance of this Agreement, shall not discriminate in its employment practices against any employee or applicant for employment because of employee's or applicant's race, religion, national origin, ancestry, sex, age, sexual orientation, disability, marital status, domestic partner status, or medical condition in accordance with the provisions of Section 10.8.4 of the Los Angeles Administrative Code. See Exhibit C.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement.

VIII. SMALL/VERY SMALL BUSINESS ENTERPRISE PROGRAM AND LOCAL BUSINESS PREFERENCE PROGRAM

It is the policy of the Department to provide Small Business Enterprises (SBE), Very Small Business Enterprises (VSBE) and Minority-Owned, Women-Owned, Disabled Veteran Business Enterprises and all Other Business Enterprises (MBE/WBE/DVBE/OBE) an equal opportunity to participate in the performance of all City contracts in all areas where such contracts afford such participation opportunities. Contractor shall assist the City in implementing this policy and shall use its best efforts to afford the opportunity for SBEs, VSBEs, MBEs, WBEs, DVBEs, and OBEs to achieve participation in subcontracts where such participation opportunities present themselves and attempt to ensure that all available business enterprises, including SBEs, VSBEs, MBEs, WBEs, DVBEs, and OBEs, have equal participation opportunity which might be presented under this Agreement. See Exhibit D.

It is also the policy of the Department to support an increase in local and regional jobs. The Department's Local Business Preference Program aims to benefit the Southern California region by increasing jobs and expenditures within the local and regional private sector. Contractor shall assist the City in implementing this policy and shall use its best efforts to afford the opportunity for Local Business Enterprises to achieve participation in subcontracts where such participation opportunities present themselves.

NOTE: Prior to being awarded a contract with the City, Contractor and all Subcontractors must be registered on the City's Contracts Management and Opportunities Database, Los Angeles Business Assistance Virtual Network (LABAVN), at <http://www.labavn.org>.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement.

IX. CONFLICT OF INTEREST

It is hereby understood and agreed that the parties to this Agreement have read and are aware of the provisions of Section 1090 et seq. and Section 87100 et seq. of the California Government Code relating to conflict of interest of public officers and employees, as well as the Los Angeles Municipal Code (L.A.M.C) Municipal Ethics and Conflict of Interest provisions of Section 49.5.1 et seq. and the Conflict of Interest Codes of the City and the Department. All parties hereto agree that they are unaware of any financial or economic interest of any public officer or employee of City relating to this Agreement. Notwithstanding any other provision of this Agreement, it is further understood and agreed that if such financial interest does exist at the inception of this Agreement, City may immediately terminate this Agreement by giving written notice thereof.

During the term of this Agreement, Contractor shall inform the Department in writing when Contractor, or any of its subcontractors, employs or hires in any capacity, and for any length of time, a person who has worked for the Department as a Commissioner, officer or employee. Said notice shall include the individual's name and current position and their prior position and years of employment with the Department. Written notice shall be provided by a Contractor to the Department within thirty

(30) days of the employment or hiring of the individual.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement.

X. COMPLIANCE WITH APPLICABLE LAWS

Contractor shall at all times in the performance of its obligations comply with all applicable laws, statutes, ordinances, rules and regulations, and with the reasonable requests and directions of Executive Director.

XI. GOVERNING LAW / VENUE

This Agreement shall be governed by and construed in accordance with the laws of the State of California, without reference to the conflicts of law, rules and principles of such State. The parties agree that all actions or proceedings arising in connection with this Agreement shall be tried and litigated exclusively in the State or Federal courts located in the County of Los Angeles, State of California, in the judicial district required by court rules.

XII. NOTICES

In all cases where written notice is to be given under this Agreement, service shall be deemed sufficient if said notice is deposited in the United States mail, postage prepaid. When so given, such notice shall be effective from the date of mailing of the same. For the purposes hereof, unless otherwise provided by notice in writing from the respective parties, notice to the Department shall be addressed to Director of Environmental Management, Los Angeles Harbor Department, P.O. Box 151, San Pedro, California 90733-0151, and notice to Contractor shall be addressed to it at the addresses set forth above. Nothing herein contained shall preclude or render inoperative service of such notice in the manner provided by law.

XIII. TAXPAYER IDENTIFICATION NUMBER (TIN)

The Internal Revenue Service (IRS) requires that all consultants and suppliers of materials and supplies provide a TIN to the party that pays them. Contractor declares that it has an authorized TIN which shall be provided to the Department prior to payment under this Agreement. No payments will be made under this Agreement without a valid TIN.

XIV. SERVICE CONTRACTOR WORKER RETENTION POLICY AND LIVING WAGE POLICY REQUIREMENTS

The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 5771 on January 13, 1999, agreeing to adopt the provisions of Los Angeles City Ordinance No. 171004 relating to Service Contractor Worker Retention (SCWR), Section 10.36 et seq. of the Los Angeles Administrative Code, as the policy of the Department. Further, Charter Section 378 requires compliance with the City's Living Wage requirements as set forth by ordinance, Section 10.37 et seq. of the Los Angeles Administrative Code. Contractor shall comply with the policy wherever applicable. Violation of this provision, where applicable, shall entitle the City to terminate this Agreement and otherwise pursue legal remedies that may be available.

The parties do not anticipate Contractor using any Service Contractor Workers in the performance of this Agreement.

XV. WAGE AND EARNINGS ASSIGNMENT ORDERS / NOTICES OF ASSIGNMENTS

Contractor and any subcontractors are obligated to fully comply with all applicable state and federal employment reporting requirements for Contractor or any subcontractor's employees. Contractor and any subcontractors shall certify that the principal owner(s) are in compliance with any Wage and Earnings Assignment Orders and Notices of Assignments applicable to them personally. Contractor and any subcontractors will fully comply with all lawfully served Wage and Earnings Assignment Orders and Notices of Assignments in accordance with Cal. Family Code Sections 5230 et seq. Contractor and any subcontractors will maintain such compliance throughout the term of this Agreement.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement.

XVI. EQUAL BENEFITS POLICY

The Board of Harbor Commissioners of the City of Los Angeles adopted Resolution No. 6328 on January 12, 2005, agreeing to adopt the provisions of Los Angeles City Ordinance No. 172,908, as amended, relating to Equal Benefits, Section 10.8.2.1 et seq. of the Los Angeles Administrative Code, as a policy of the Department. Contractor shall comply with the policy wherever applicable. Violation of this policy shall entitle the City to terminate any Agreement with Contractor and pursue any and all other legal remedies that may be available. See Exhibit E.

XVII. COMPLIANCE WITH LOS ANGELES CITY CHARTER SECTION 470(c)(12)

Contractor, all subcontractors, and their Principals are obligated to fully comply with City of Los Angeles Charter Section 470(c)(12) and related ordinances, regarding limitations on campaign contributions and fundraising for certain elected City officials or candidates for elected City office if the agreement is valued at \$100,000 or more and requires approval of a City elected official. Additionally, Contractor is required to provide and update certain information to the City as specified by law. Any Contractor subject to Charter Section 470(c)(12) shall include the following notice in any contract with a subcontractor expected to receive at least \$100,000 for performance under this Agreement:

"Notice Regarding Los Angeles Campaign Contribution and Fundraising Restrictions

As provided in Charter Section 470(c)(12) and related ordinances, you are a subcontractor on Harbor Department Agreement No. _____. Pursuant to City Charter Section 470(c)(12), subcontractor and its principals are prohibited from making campaign contributions and fundraising for certain elected City officials or candidates for elected City office for 12 months after the Agreement is signed. Subcontractor is required to provide to Contractor names and addresses of the subcontractor's principals and contact information and shall update that information if it changes during the 12 month time period. Subcontractor's information must be provided to Contractor within 10 business days. Failure to comply may result in termination of the Agreement or any other available legal remedies including fines. Information about the restrictions may be found at the City Ethics Commission's website at <http://ethics.lacity.org/> or by calling 213-978-1960."

Contractor, its subcontractors, and its Principal shall comply with these requirements and limitations. Violation of this provision shall entitle the City to terminate this Agreement and pursue any and all legal remedies that may be available.

The parties do not anticipate Contractor using any subcontractors in the performance of this Agreement.

XVIII. STATE TIDELANDS GRANTS

This Agreement is entered into in furtherance of and as a benefit to the State Tidelands Grant and the trust created thereby. Therefore, this Agreement is at all times subject to the limitations, conditions, restrictions and reservations contained in and prescribed by the Act of the Legislature of the State of California entitled "An Act Granting to the City of Los Angeles the Tidelands and Submerged Lands of the State Within the Boundaries of Said City," approved June 3, 1929 (Stats. 1929, Ch. 651), as amended, and provisions of Article VI of the Charter of the City of Los Angeles relating to such lands. Contractor agrees that any interpretation of this Agreement and the terms contained herein must be consistent with such limitations, conditions, restrictions and reservations.

XIX. INTEGRATION

This Agreement contains the entire understanding and agreement between the parties hereto with respect to the matters referred to herein. No other representations, covenants, undertakings, or prior or contemporaneous agreements, oral or written, regarding such matters which are not specifically contained, referenced, and/or incorporated into this Agreement by reference shall be deemed in any way to exist or bind any of the parties. Contractor acknowledges that it has not been induced to enter into the Agreement and has not executed the Agreement in reliance upon any promises, representations, warranties or statements not contained, referenced, and/or incorporated into the Agreement. **THE PARTIES ACKNOWLEDGE THAT THIS AGREEMENT IS INTENDED TO BE, AND IS, AN INTEGRATED AGREEMENT.**

XX. SEVERABILITY

Should any part, term, condition or provision of this Agreement be declared or determined by any court of competent jurisdiction to be invalid, illegal or incapable of being enforced by any rule of law, public policy, or city charter, the validity of the remaining parts, terms, conditions or provisions of this Agreement shall not be affected thereby, and such invalid, illegal or unenforceable part, term, condition or provision shall be treated as follows: (a) if such part, term, condition or provision is immaterial to this Agreement, then such part, term, condition or provision shall be deemed not to be a part of this Agreement; or (b) if such part, term, condition or provision is material to this Agreement, then the parties shall revise the part, term, condition or provision so as to comply with the applicable law or public policy and to effect the original intent of the parties as closely as possible.

EXHIBIT C - AFFIRMATIVE ACTION PROGRAM PROVISIONS

Sec. 10.8.4 Affirmative Action Program Provisions.

Every non-construction contract with or on behalf of the City of Los Angeles for which the consideration is \$100,000 or more and every construction contract with or on behalf of the City of Los Angeles for which the consideration is \$5,000 or more shall contain the following provisions which shall be designated as the AFFIRMATIVE ACTION PROGRAM provisions of such contract:

- A. During the performance of City contract, the contractor certifies and represents that the contractor and each subcontractor hereunder will adhere to an affirmative action program to ensure that in its employment practices, persons are employed and employees are treated equally and without regard to or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
 1. This provision applies to work or services performed or materials manufactured or assembled in the United States.
 2. Nothing in this section shall require or prohibit the establishment of new classifications of employees in any given craft, work or service category.
 3. The contractor shall post a copy of Paragraph A hereof in conspicuous places at its place of business available to employees and applicants for employment.
- B. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to their race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
- C. As part of the City's supplier registration process, and/or at the request of the awarding authority or the Office of Contract Compliance, the contractor shall certify on an electronic or hard copy form to be supplied, that the contractor has not discriminated in the performance of City contracts against any employee or applicant for employment on the basis or because of race, religion, ancestry, national origin, sex, sexual orientation, age, disability, marital status, domestic partner status, or medical condition.
- D. The contractor shall permit access to and may be required to provide certified copies of all of its records pertaining to employment and to its employment practices by the awarding authority or the Office of Contract Compliance, for the purpose of investigation to ascertain compliance with the Affirmative Action Program provisions of City contracts, and on their or either of their request to provide evidence that it has or will comply therewith.
- E. The failure of any contractor to comply with the Affirmative Action Program provisions of City contracts may be deemed to be a material breach of contract. Such failure shall only be established upon a finding to that effect by the awarding authority, on the basis of its own investigation or that of the Board of Public Works, Office of Contract Compliance. No such finding shall be made except upon a full and fair hearing after notice and an opportunity to be heard has been given to the contractor.
- F. Upon a finding duly made that the contractor has breached the Affirmative Action Program provisions of a City contract, the contract may be forthwith cancelled, terminated or suspended, in whole or in part, by the awarding authority, and all monies due or to become due hereunder may be forwarded to and retained by the City of Los Angeles. In addition thereto, such breach may be the basis for a determination by the awarding authority or the Board of Public Works that the said contractor is an irresponsible bidder or proposer pursuant to the provisions of Section 371 of the Los Angeles City Charter. In the event of such determination, such contractor shall be disqualified from being awarded a contract with the City of Los Angeles for a period of two years, or until he or she shall establish and carry out a program in conformance with the provisions hereof.

- G. In the event of a finding by the Fair Employment and Housing Commission of the State of California, or the Board of Public Works of the City of Los Angeles, or any court of competent jurisdiction, that the contractor has been guilty of a willful violation of the California Fair Employment and Housing Act, or the Affirmative Action Program provisions of a City contract, there may be deducted from the amount payable to the contractor by the City of Los Angeles under the contract, a penalty of TEN DOLLARS (\$10.00) for each person for each calendar day on which such person was discriminated against in violation of the provisions of a City contract.
- H. Notwithstanding any other provisions of a City contract, the City of Los Angeles shall have any and all other remedies at law or in equity for any breach hereof.
- I. The Public Works Board of Commissioners shall promulgate rules and regulations through the Office of Contract Compliance and provide to the awarding authorities electronic and hard copy forms for the implementation of the Affirmative Action Program provisions of City contracts, and rules and regulations and forms shall, so far as practicable, be similar to those adopted in applicable Federal Executive Orders. No other rules, regulations or forms may be used by an awarding authority of the City to accomplish this contract compliance program.
- J. Nothing contained in City contracts shall be construed in any manner so as to require or permit any act which is prohibited by law.
- K. The Contractor shall submit an Affirmative Action Plan which shall meet the requirements of this chapter at the time it submits its bid or proposal or at the time it registers to do business with the City. The plan shall be subject to approval by the Office of Contract Compliance prior to award of the contract. The awarding authority may also require contractors and suppliers to take part in a pre-registration, pre-bid, pre-proposal, or pre-award conference in order to develop, improve or implement a qualifying Affirmative Action Plan. Affirmative Action Programs developed pursuant to this section shall be effective for a period of twelve months from the date of approval by the Office of Contract Compliance. In case of prior submission of a plan, the contractor may submit documentation that it has an Affirmative Action Plan approved by the Office of Contract Compliance within the previous twelve months. If the approval is 30 days or less from expiration, the contractor must submit a new Plan to the Office of Contract Compliance and that Plan must be approved before the contract is awarded.
1. Every contract of \$5,000 or more which may provide construction, demolition, renovation, conservation or major maintenance of any kind shall in addition comply with the requirements of Section 10.13 of the Los Angeles Administrative Code.
 2. A contractor may establish and adopt as its own Affirmative Action Plan, by affixing his or her signature thereto, an Affirmative Action Plan prepared and furnished by the Office of Contract Compliance, or it may prepare and submit its own Plan for approval.
- L. The Office of Contract Compliance shall annually supply the awarding authorities of the City with a list of contractors and suppliers who have developed Affirmative Action Programs. For each contractor and supplier the Office of Contract Compliance shall state the date the approval expires. The Office of Contract Compliance shall not withdraw its approval for any Affirmative Action Plan or change the Affirmative Action Plan after the date of contract award for the entire contract term without the mutual agreement of the awarding authority and the contractor.
- M. The Affirmative Action Plan required to be submitted hereunder and the pre-registration, pre-bid, pre-proposal or pre-award conference which may be required by the Board of Public Works, Office of Contract Compliance or the awarding authority shall, without limitation as to the subject or nature of employment activity, be concerned with such employment practices as:
1. Apprenticeship where approved programs are functioning, and other on-the-job training for non-apprenticeable occupations;

2. Classroom preparation for the job when not apprenticeable;
 3. Pre-apprenticeship education and preparation;
 4. Upgrading training and opportunities;
 5. Encouraging the use of contractors, subcontractors and suppliers of all racial and ethnic groups, provided, however, that any contract subject to this ordinance shall require the contractor, subcontractor or supplier to provide not less than the prevailing wage, working conditions and practices generally observed in private industries in the contractor's, subcontractor's or supplier's geographical area for such work;
 6. The entry of qualified women, minority and all other journeymen into the industry; and
 7. The provision of needed supplies or job conditions to permit persons with disabilities to be employed, and minimize the impact of any disability.
- N. Any adjustments which may be made in the contractor's or supplier's workforce to achieve the requirements of the City's Affirmative Action Contract Compliance Program in purchasing and construction shall be accomplished by either an increase in the size of the workforce or replacement of those employees who leave the workforce by reason of resignation, retirement or death and not by termination, layoff, demotion or change in grade.
- O. Affirmative Action Agreements resulting from the proposed Affirmative Action Plan or the pre-registration, pre-bid, pre-proposal or pre-award conferences shall not be confidential and may be publicized by the contractor at his or her discretion. Approved Affirmative Action Agreements become the property of the City and may be used at the discretion of the City in its Contract Compliance Affirmative Action Program.
- P. This ordinance shall not confer upon the City of Los Angeles or any Agency, Board or Commission thereof any power not otherwise provided by law to determine the legality of any existing collective bargaining agreement and shall have application only to discriminatory employment practices by contractors or suppliers engaged in the performance of City contracts.
- Q. All contractors subject to the provisions of this section shall include a like provision in all subcontracts awarded for work to be performed under the contract with the City and shall impose the same obligations, including but not limited to filing and reporting obligations, on the subcontractors as are applicable to the contractor. Failure of the contractor to comply with this requirement or to obtain the compliance of its subcontractors with all such obligations shall subject the contractor to the imposition of any and all sanctions allowed by law, including but not limited to termination of the contractor's contract with the City.

EXHIBIT D
(1) SMALL/VERY SMALL BUSINESS ENTERPRISE PROGRAM
(2) LOCAL BUSINESS PREFERENCE PROGRAM

(1) SMALL/VERY SMALL BUSINESS ENTERPRISE PROGRAM:

The Harbor Department is committed to creating an environment that provides all individuals and businesses open access to the business opportunities available at the Harbor Department in a manner that reflects the diversity of the City of Los Angeles. The Harbor Department's Small Business Enterprise (SBE) Program was created to provide additional opportunities for small businesses to participate in professional service and construction contracts. An overall Department goal of 25% SBE participation, including 5% Very Small Business Enterprise (VSBE) participation, has been established for the Program. The specific goal or requirement for each contract opportunity may be higher or lower based on the scope of work.

It is the policy of the Harbor Department to solicit participation in the performance of all service contracts by all individuals and businesses, including, but not limited to, SBEs, VSBEs, women-owned business enterprises (WBEs), minority-owned business enterprises (MBEs), and disabled veteran business enterprises (DVBES). The SBE Program allows the Harbor Department to target small business participation, including MBEs, WBEs, and DVBES, more effectively. It is the intent of the Harbor Department to make it easier for small businesses to participate in contracts by providing education and assistance on how to do business with the City, and ensuring that payments to small businesses are processed in a timely manner. In order to ensure the highest participation of SBE/VSBE/MBE/WBE/DVBES, all proposers shall utilize the City's contracts management and opportunities database, the Los Angeles Business Assistance Virtual Network (LABAVN), at <http://www.labavn.org>, to outreach to potential subconsultants.

The Harbor Department defines a SBE as an independently owned and operated business that is not dominant in its field and meets criteria set forth by the Small Business Administration in Title 13, Code of Federal Regulations, Part 121. Go to www.sba.gov for more information. The Harbor Department defines a VSBE based on the State of California's Micro-business definition which is 1) a small business that has average annual gross receipts of \$3,500,000 or less within the previous three years, or (2) a small business manufacturer with 25 or fewer employees.

The SBE Program is a results-oriented program, requiring consultants who receive contracts from the Harbor Department to perform outreach and utilize certified small businesses. **Based on the work to be performed, it has been determined that the percentage of small business participation will be __%, including __% VSBE participation.** The North American Industry Classification System (NAICS) Code for the scope of services is _____. This NAICS Code is the industry code that corresponds to at least 51% of the scope of services and will be used to determine the size standard for SBE participation of the Prime Consultant. The maximum SBE size standard for this NAICS Code is \$ _____ million.

Consultant shall be responsible for determining the SBE status of its subconsultants for purposes of meeting the small business requirement. Subconsultants must qualify as an SBE based on the type of services that they will be performing under the Agreement. All business participation will be determined by the percentage of the total amount of compensation under the agreement paid to SBEs. The Consultant shall not substitute an SBE firm without obtaining prior approval of the City. A request for substitution must be based upon demonstrated good cause. If substitution is permitted, Consultant shall endeavor to make an in-kind substitution for the substituted SBE.

Consultant shall complete, sign, and submit as part of the executed agreement the attached Affidavit and Consultant Description Form. The Affidavit and Consultant Description Form, when signed, will signify the Consultant's intent to comply with the SBE requirement. All SBE/VSBE firms must be certified by the time proposals are due to receive credit. In addition all consultants and subconsultants must be registered on the LABAVN by the time proposals are due.

(2) LOCAL BUSINESS PREFERENCE PROGRAM:

The Harbor Department is committed to maximizing opportunities for local and regional businesses, as well as encouraging local and regional businesses to locate and operate within the Southern California region. It is the policy of the Harbor Department to support an increase in local and regional jobs. The Harbor Department's Local Business Preference Program (LBPP) aims to benefit the Southern California region by increasing jobs and expenditures within the local and regional private sector.

Consultants who qualify as a Local Business Enterprise (LBE) will receive an 8% preference on any proposal for services valued in excess of \$150,000. The preference will be applied by adding 8% of the total possible evaluation points to the

Consultant's score. Consultants who do not qualify as a LBE may receive a maximum 5% preference for identifying and utilizing LBE subconsultants. Consultants may receive 1% preference, up to a maximum of 5%, for every 10% of or portion thereof, of work that is subcontracted to a LBE. LBE subconsultant preferences will be determined by the percentage of the total amount of compensation proposed under the Agreement.

The Harbor Department defines a LBE as:

- (a) A business headquartered within Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties. Headquartered shall mean that the business physically conducts and manages all of its operations from a location in the above-named counties; or
- (b) A business that has at least 50 full-time employees, or 25 full-time employees for specialty marine contracting firms, working in Los Angeles, Orange, Riverside, San Bernardino, or Ventura Counties.

In order for Harbor Department staff to determine the appropriate LBE preference, Consultant shall complete, sign, notarize (where applicable) and submit the attached Affidavit and Consultant Description Form. The Affidavit and Consultant Description Form will signify the LBE status of the Consultant and subconsultants.

In the event of Consultant's noncompliance during the performance of the Agreement, Consultant shall be considered in material breach of contract. In addition to any other remedy available to City under this Agreement or by operation of law, the City may withhold invoice payments to Consultant until noncompliance is corrected, and assess the costs of City's audit of books and records of Consultant and its subconsultants. In the event the Consultant falsifies or misrepresents information contained in any form or other willful noncompliance as determined by City, City may disqualify the Consultant from participation in City contracts for a period of up to five (5) years.

EXHIBIT E - EQUAL BENEFITS ORDINANCE

Sec. 10.8.2.1. Equal Benefits Ordinance.

Discrimination in the provision of employee benefits between employees with domestic partners and employees with spouses results in unequal pay for equal work. Los Angeles law prohibits entities doing business with the City from discriminating in employment practices based on marital status and/or sexual orientation. The City's departments and contracting agents are required to place in all City contracts a provision that the company choosing to do business with the City agrees to comply with the City's nondiscrimination laws.

It is the City's intent, through the contracting practices outlined in this Ordinance, to assure that those companies wanting to do business with the City will equalize the total compensation between similarly situated employees with spouses and with domestic partners. The provisions of this Ordinance are designed to ensure that the City's contractors will maintain a competitive advantage in recruiting and retaining capable employees, thereby improving the quality of the goods and services the City and its people receive, and ensuring protection of the City's property.

(c) Equal Benefits Requirements.

(1) No Awarding Authority of the City shall execute or amend any Contract with any Contractor that discriminates in the provision of Benefits between employees with spouses and employees with Domestic Partners, between spouses of employees and Domestic Partners of employees, and between dependents and family members of spouses and dependents and family members of Domestic Partners.

(2) A Contractor must permit access to, and upon request, must provide certified copies of all of its records pertaining to its Benefits policies and its employment policies and practices to the DAA, for the purpose of investigation or to ascertain compliance with the Equal Benefits Ordinance.

(3) A Contractor must post a copy of the following statement in conspicuous places at its place of business available to employees and applicants for employment: "During the performance of a Contract with the City of Los Angeles, the Contractor will provide equal benefits to its employees with spouses and its employees with domestic partners." The posted statement must also include a City contact telephone number which will be provided each Contractor when the Contract is executed.

(4) A Contractor must not set up or use its contracting entity for the purpose of evading the requirements imposed by the Equal Benefits Ordinance.

(d) Other Options for Compliance. Provided that the Contractor does not discriminate in the provision of Benefits, a Contractor may also comply with the Equal Benefits Ordinance in the following ways:

(1) A Contractor may provide an employee with the Cash Equivalent only if the DAA determines that either:

- a. The Contractor has made a reasonable, yet unsuccessful effort to provide Equal Benefits; or
- b. Under the circumstances, it would be unreasonable to require the Contractor to provide Benefits to the Domestic Partner (or spouse, if applicable).

(2) Allow each employee to designate a legally domiciled member of the employee's household as being eligible for spousal equivalent Benefits.

(3) Provide Benefits neither to employees' spouses nor to employees' Domestic Partners.

(e) Applicability.

(1) Unless otherwise exempt, a Contractor is subject to and shall comply with all applicable provisions of the Equal Benefits Ordinance.

(2) The requirements of the Equal Benefits Ordinance shall apply to a Contractor's operations as follows:

a. A Contractor's operations located within the City limits, regardless of whether there are employees at those locations performing work on the Contract.

b. A Contractor's operations on real property located outside of the City limits if the property is owned by the City or the City has a right to occupy the property, and if the Contractor's presence at or on that property is connected to a Contract with the City.

c. The Contractor's employees located elsewhere in the United States but outside of the City limits if those employees are performing work on the City Contract.

(3) The requirements of the Equal Benefits Ordinance do not apply to collective bargaining agreements ("CBA") in effect prior to January 1, 2000. The Contractor must agree to propose to its union that the requirements of the Equal Benefits Ordinance be incorporated into its CBA upon amendment, extension, or other modification of a CBA occurring after January 1, 2000.

(f) Mandatory Contract Provisions Pertaining to Equal Benefits. Unless otherwise exempted, every Contract shall contain language that obligates the Contractor to comply with the applicable provisions of the Equal Benefits Ordinance. The language shall include provisions for the following:

(1) During the performance of the Contract, the Contractor certifies and represents that the Contractor will comply with the Equal Benefits Ordinance.

(2) The failure of the Contractor to comply with the Equal Benefits Ordinance will be deemed to be a material breach of the Contract by the Awarding Authority.

(3) If the Contractor fails to comply with the Equal Benefits Ordinance the Awarding Authority may cancel, terminate or suspend the Contract, in whole or in part, and all monies due or to become due under the Contract may be retained by the City. The City may also pursue any and all other remedies at law or in equity for any breach.

(4) Failure to comply with the Equal Benefits Ordinance may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.

(5) If the DAA determines that a Contractor has set up or used its Contracting entity for the purpose of evading the intent of the Equal Benefits Ordinance, the Awarding Authority may terminate the Contract on behalf of the City. Violation of this provision may be used as evidence against the Contractor in actions taken pursuant to the provisions of Los Angeles Administrative Code Section 10.40, et seq., Contractor Responsibility Ordinance.