

## MEMORANDUM OF UNDERSTANDING

**THIS MEMORANDUM OF UNDERSTANDING** (this "MOU"), is dated for reference purpose as of \_\_\_\_\_ between the SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ("SCAQMD"), the CITY OF LONG BEACH, CALIFORNIA, a municipal corporation, acting by and through its Board of Harbor Commissioners ("POLB"), and the CITY OF LOS ANGELES, a municipal corporation, acting by and through its Board of Harbor Commissioners ("POLA"; together with POLB, each a "Port" and collectively, the "Ports"). The aforementioned parties to this MOU shall be referred to individually herein as a "Party" and collectively herein as "Parties."

### **RECITALS**

- A. The California Air Resources Board (CARB) selected the SCAQMD for a grant award in the amount of \$10,000,000 to design, develop, and safely demonstrate a Capture and Control (C&C) System for Oil Tankers (PROJECT). The grant award includes \$9,500,000 for PROJECT costs and \$500,000 for administrative costs.
- B. For the PROJECT, STAX Engineering, Inc. (CONTRACTOR) will design, develop, test, and demonstrate the C&C System, with a goal of achieving emissions reductions of at least 90% from oxides of nitrogen (NOx), fine particulate matter (PM2.5) and reactive organic gases (ROG) from oil tankers at berth.
- C. The Ports are committed to encouraging the development of emission-reduction technologies. To achieve the Ports' San Pedro Bay Ports Clean Air Action Plan (CAAP) goals, technologies are needed that reduce criteria pollutants and greenhouse gases (GHG). The Ports are focused on clean technologies and associated infrastructure, specifically for maritime-related sources that operate in and around ports. NOx, PM 2.5 and GHG emission reduction technologies for older ocean-going vessels (OGV) are essential for helping achieve CAAP goals. Therefore, through this MOU, the Ports will commit to support the PROJECT and contribute financially to the PROJECT as set forth herein.
- D. The SCAQMD is committing \$333,333 of funding to the PROJECT. POLA and POLB are committing \$666,667 for a total contribution by the Parties and CARB to the PROJECT of \$10.5 million in funding. The estimated total cost for the PROJECT is \$12.85 million, which includes a \$2.35 million in cash and in-kind contributions from CONTRACTOR.
- E. The SCAQMD will administer the PROJECT with CONTRACTOR, and the Parties are entering into this MOU in order to set forth the obligations of the Parties.

In consideration of the foregoing, and the mutual undertakings contained herein, the Parties hereby agree as follows:

## 1. PROJECT DESCRIPTION

The Project will demonstrate a barge-based capture and control system to reduce oil tanker vessel emissions when at berth. The C&C barge captures vessel exhaust at the vessel stack to remove NOx, PM 2.5, ROG, and diesel particulate matter (DPM) emissions. The capture system is comprised of a hydraulic arm for placing an exhaust pipe connector on up to two operating exhaust pipes. The C&C captures the tanker vessels' auxiliary and boiler exhaust and draws the gas through ducting, which directs the exhaust gas to two purification units (STAXbox "A") on the barge, which is expected to eliminate at least 90% of the emissions. The self-propelled barge will be equipped with spuds for anchoring the barge into position. The barge will be positioned behind the tanker, away from the wharf and the mooring lines. The STAXbox "A" consists of a Selective Catalytic Reduction System (SCR), Diesel Particulate Filter (DPF), and a Reactive Organic Gas (ROG) elimination system. Two STAX purification units will be installed on the barge to accommodate both auxiliary and boiler exhaust concurrently.

The CONTRACTOR will conduct a safety study, and the results will be provided to the Ports and incorporated into the final design of the capture and control system. The PROJECT will address the unique safety requirements of oil tanker vessels and obtain a CARB Executive Order (EO) as an alternative control technology under the Control Measure for OGVs At Berth. The process for securing a CARB Executive Order begins with a CARB Approved Test Plan. Once the Test Plan has been approved by CARB, then testing may begin. This Test Plan will also be provided to the Ports.

## 2. PROJECT FUNDS

- a. Port Funding. The purpose of funding the PROJECT is to assist CONTRACTOR in the development and demonstration of the C&C System for Oil Tankers.

## 3. PROGRAM ADMINISTRATION

- a. CONTRACTOR Agreement. SCAQMD entered into an agreement for the PROJECT with CONTRACTOR On May 4, 2021, an executed copy of which shall be provided to each Port. Exhibit A attached to this MOU sets forth the PROJECT's Proposed Milestones and Estimated Schedule, which SCAQMD shall use in its agreement with CONTRACTOR. Any modifications to the tasks set forth in Exhibit A after the effective date of this MOU shall require a written amendment signed by all Parties. Modifications to the schedule in Exhibit A shall require written notice by SCAQMD to the Ports with written approval accepting the proposed modifications provided by each Ports' Executive Director. The Parties acknowledge that in the event modifications to Exhibit A are not made as set forth herein, either Ports' ability to make payments to SCAQMD may be prohibited.
- b. SCAQMD as Administrator. SCAQMD shall be the administrator of the PROJECT, on the terms and conditions set forth in its Agreement with CONTRACTOR and under the terms and conditions of this MOU.

- c. Reporting. On a quarterly basis and until the PROJECT is complete, SCAQMD shall provide to the Ports written reports and one final written report with data, or access to data, containing (i) an accounting of funds received under this MOU, (ii) an accounting of any funds disbursed to CONTRACTOR by SCAQMD, and (iii) a breakdown of PROJECT costs and disbursements pursuant to each task specified in Exhibit A. Upon reasonable request of the Ports, SCAQMD shall provide copies of, or access to review, PROJECT related records.
- d. Record Retention. SCAQMD agrees to maintain data, information, records and documents related to the PROJECT for a minimum of three (3) years after the completion of the PROJECT.
- e. No Administrative Fees/Costs. Except for the Ports' contribution towards funding the PROJECT, the Ports shall have no responsibility for payment or reimbursement of any costs related to administration of the PROJECT.

#### **4. PAYMENT OF CONTRIBUTIONS**

- a. POLA and POLB shall each make payments of their respective contributions to SCAQMD by check, wire transfer or other means agreed upon by the Parties within 45 days of receipt of an invoice from SCAQMD and affirmative confirmation by SCAQMD that each PROJECT task set forth herein as condition of payment by either Port has been completed by CONTRACTOR.
- b. POLA shall pay an amount not to exceed Three Hundred Thirty-Three Thousand Three Hundred Thirty-Four Dollars (\$333,334) for the PROJECT. POLA shall pay SCAQMD \$166,667 after CONTRACTOR's completion of Task 6 – Independent Data and Analysis Report shown in Exhibit A. POLA shall pay SCAQMD \$166,667 after CONTRACTOR's completion of Task 8 – Carbon Capture Demonstration shown in Exhibit A. Payment for both tasks shall be made no sooner than July 1, 2022 regardless of an earlier completion date.
- c. POLB shall pay an amount not to exceed Three Hundred Thirty-Three Thousand Three Hundred Thirty-Three Dollars (\$333,333) for the PROJECT. POLB shall pay SCAQMD \$166,666 after CONTRACTOR's completion of Task 5.1A – Procurement and Construction of STAXbox "A.1" shown in Exhibit A. POLB shall pay SCAQMD \$166,667 after CONTRACTOR's completion of Task 6 – Independent Data and Analysis Report shown in Exhibit A. Payments for both tasks shall be made no sooner than October 1, 2021 regardless of an earlier completion date.
- d. Upon completion of Task 6 – Independent Data and Analysis Report and Task 8 – Carbon Capture Demonstration, CONTRACTOR and SCAQMD shall provide written reports detailing the results of these tasks to the Ports.

#### **5. TERM AND TERMINATION**

- a. Term. This MOU shall become effective on the date of last signature by one of the Parties. This MOU shall terminate when all required actions hereunder have been

performed, but no later than three (3) years from its effective date (Term). The Term of this MOU may be extended by mutual written agreement of the Parties.

- b. Termination. Any Party may terminate this MOU by giving not less than thirty (30) days' prior written notice to the other Parties if any of the following occur: (i) there is a change in any law or regulation or any other event (including non-appropriation of funds for this MOU by POLA for any fiscal year budget) that would prohibit or restrict a Party's performance of its obligations under this MOU; (ii) in the event of a default of this MOU by any Party after an attempt to resolve or cure has been made by the Parties pursuant to the terms of this MOU; or (iii) the termination of the agreement between SCAQMD and CONTRACTOR prior to completion of the PROJECT. Except for breach or default by a Party, the Parties agree that early termination or expiration of this MOU shall not affect the rights and obligations of the Parties occurring when the MOU was in effect.
- c. Default. In the event of a claim of default, the non-defaulting Party or Parties shall give the defaulting Party or Parties written notice of the nature of the default and shall give the defaulting Party or Parties a 14-day period, or some longer period as the Parties may agree to in writing, in which to cure the default specified in the notice. In the event that the Parties have any disagreement with respect to their obligations under this MOU, each Party shall designate a duly- authorized representative to work in good faith with the other designated representatives in an attempt to resolve such disagreement.

## **6. MISCELLANEOUS PROVISIONS**

- a. Amendments. No amendment, modification, consent or waiver to any provision of this MOU shall be effective unless the same shall be in writing signed by a duly authorized representative of each Party.
- b. Indemnification. Except for the sole negligence or willful misconduct of either the City of Los Angeles or the City of Long Beach (singularly "City" or collectively "Cities"), or any of their respective Boards, Officers, Agents, Employees, Assigns and Successors in Interest, SCAQMD undertakes and agrees to defend, indemnify and hold harmless both Cities and any of their respective Boards, Officers, Agents, Employees, Assigns, and Successors in Interest from and against all suits and causes of action, claims, losses, demands and expenses, including, but not limited to, reasonable attorney's fees (both in house and outside counsel) and cost of litigation (including all actual litigation costs incurred by both Cities, including but not limited to, costs of experts and consultants), damages or liability of any nature whatsoever, for death or injury to any person, including SCAQMD's employees and agents, or damage or destruction of any property of any party hereto or of third parties, arising in any manner by reason of the negligent acts, errors, omissions or willful misconduct incident to the performance of this MOU by SCAQMD or its subcontractors of any tier, which shall include CONTRACTOR. Rights and remedies available to the Cities under this provision are cumulative of those provided for elsewhere in this MOU and those allowed under the laws of the United States, the State of California, and either City.

- c. Counterparts. This MOU may be executed in any number of counterparts, each of which shall be deemed an original and all of which shall constitute together one and the same instrument.
- d. Entire Agreement. This MOU 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 MOU by reference shall be deemed in any way to exist or bind any of the Parties. Each Party acknowledges that it has not been induced to enter into the MOU and has not executed the MOU in reliance upon any promises, representations, warranties or statements not contained, referenced, and/or incorporated into the MOU. THE PARTIES ACKNOWLEDGE THAT THIS MOU IS INTENDED TO BE, AND IS, AN INTEGRATED MOU.
- e. Expenses and Costs. Unless specifically provided for elsewhere in this MOU, each Party will bear all costs and expenses incurred by it in connection with this MOU and transactions contemplated herein, including travel, entertainment, marketing promotions, legal fees, consulting fees, accounting fees and taxes which are or may be imposed upon that Party based upon its activities hereunder.
- f. No Third-Party Beneficiaries. Except as otherwise provided herein, nothing under this MOU is intended or shall be construed to create any rights in, or confer any benefits upon, any person or entity other than the Parties hereto.
- g. Notices. All notices, requests, and other communications pursuant to this MOU shall be in writing, either by letter (delivered by hand) or commercial messenger service or sent by certified mail, return receipt requested, or by telecopy (fax), as follows:

SCAQMD:                    SCAQMD, Technology Advancement Office  
                                  21865 Copley Drive  
                                  Diamond Bar, CA 91765  
                                  Attention: Deputy Executive Officer  
                                  Tel: (909) 396-2105  
                                  Fax: (909) 396-3525

With copies to the following individuals at the same address set forth above:

Dr. Matt Miyasato, SCAQMD  
Joseph Impullitti, SCAQMD  
Mei Wang, SCAQMD

POLA:                      Port of Los Angeles  
                                  425 South Palos Verdes Street  
                                  San Pedro, CA 90731

Attention: Director of Environmental Management  
Tel: (310) 732-3763  
Fax: (310) 547-4643

With a copy to:

Los Angeles City Attorney  
425 South Palos Verdes Street  
San Pedro, CA 90731  
Attention: Assistant General Counsel, Harbor Division  
Tel: (310) 732-3750  
Fax: (310) 831-9778

POLB: Long Beach Harbor Department  
415 W. Ocean Blvd, 11<sup>th</sup> Floor  
Long Beach, CA 90802  
Attention: Director of Environmental Planning  
Tel: (562) 283-7100

With a copy to:  
Principal Deputy City Attorney, Harbor  
411 W. Ocean Blvd, 9<sup>th</sup> Floor  
Long Beach, CA 90802  
Tel: (562) 570-2200  
Fax: (562) 570-2232

All notices, demands and other communications hereunder, shall be deemed given and received: (i) if sent by registered or certified mail, on the third Business Day after deposit in the United States Mail, properly addressed, postage prepaid, return receipt requested; (ii) if sent by any other means of physical delivery (e.g., hand delivery or courier service), one Business Day after delivery to the appropriate address; and (iii) if sent by facsimile, one Business Day after being transmitted to the appropriate facsimile number and the sender's facsimile machine produces a transmission or verification report confirming that such transmission has been sent.

- h. Severability. The provisions of this MOU are severable, and if any clause or provision of this MOU shall be held invalid or unenforceable in whole or in part in any jurisdiction, then such invalidity or unenforceability shall affect only such clause provisions and shall not affect any other covenant, agreement, or condition.
- i. Force Majeure. Neither Party shall be liable for any failure to perform its obligations in connection with any action described in this MOU if such failure results from any act of God, riot, war, civil unrest, flood, earthquake, or other cause beyond such Party's reasonable control (including any mechanical, electronic, or communications failure, but excluding failure caused by a Party's financial condition or negligence), for only so long as any such event shall be continuing.

**IN WITNESS WHEREOF**, the parties hereto have caused this Memorandum of Understanding to be executed by their authorized representatives and delivered as of the date first above written.

**SOUTH COAST AIR QUALITY  
MANAGEMENT DISTRICT**

By \_\_\_\_\_  
Name: Wayne Nastri  
Title: Executive Officer

Date: \_\_\_\_\_, 2021

**CITY OF LONG BEACH,  
CALIFORNIA**, a municipal corporation  
acting by and through its Board of Harbor  
Commissioners

By \_\_\_\_\_  
Name: Mario Cordero  
Title: Executive Director,  
Harbor Department

Date: \_\_\_\_\_, 2021

Attest \_\_\_\_\_  
Name: Shana Espinoza  
Title: Executive Officer to the Board

**CITY OF LOS ANGELES,  
CALIFORNIA**, a municipal corporation  
acting by and through its Board of Harbor  
Commissioners

By \_\_\_\_\_  
Name: Gene Seroka  
Title: Executive Director,  
Harbor Department

Date: \_\_\_\_\_, 2021

Attest \_\_\_\_\_  
Name: Amber Klesges, Board Secretary

APPROVED AS TO FORM:

Date: \_\_\_\_\_, 2021

BAYRON T. GILCHRIST  
General Counsel

By \_\_\_\_\_  
Ruby Laity  
Sr. Deputy District Counsel

APPROVED AS TO FORM:

Date: \_\_\_\_\_, 2021

CHARLES PARKIN  
Long Beach City Attorney

By \_\_\_\_\_  
Dawn McIntosh,  
Deputy City Attorney

APPROVED AS TO FORM AND LEGALITY:

Date: \_\_\_\_\_, 2021



MICHAEL N. FEUER, City Attorney  
JANNA B. SIDLEY, General Counsel

By \_\_\_\_\_  
Heather M. McCloskey, Deputy

Port of Los Angeles Funding Approval Form

MEMORANDUM OF UNDERSTANDING BETWEEN  
THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
THE CITY OF LONG BEACH AND  
THE CITY OF LOS ANGELES

June 16, 2021

Account#	59965	W.O. #	78085
Ctr/Div#	0330	Job Fac.#	637-00
Proj/Prog#	000		
Budget FY:		Amount:	
FY 22/23		\$333,334	
TOTAL		\$333,334	
<u>For Acct/Budget Div. Use Only</u>			
Verified by:		Flora Khaw 2021.06.16 14:22:23 -0700'	
Verified Funds Available:		Digitally signed by Frank Liu Date: 2021.06.21 07:54:09 +0700'	
Date Approved:	6/21/2021		

**Exhibit A**  
**Contractor Project Tasks and Estimated Schedule**

Task	Task Description and Deliverable	Due Date
1	Submit Quarterly Reports	Due on 7/15/2021,10/15/2021,1/15/2022, 4/15/2022 7/15/2022,10/15/2022,1/15/2023, 4/15/2023
	Submit Draft Final Report	4/1/2023
	Submit Final Report	5/15/2023
2	Submit Draft Safety Assessment Study and addendum includes the findings for the safety evaluation of the design	7/3/2021
	Submit addendum to the Safety Assessment Study that includes the findings for the safety evaluation of the constructed and integrated capture and control system	5/1/2022
3	Preliminary Design Review (PDR)	6/21/2021
	Final Design Review	7/3/2021
4	Submit Preliminary Test Plan to CARB	7/14/2021

	Submittal of Final Test Plan	10/10/2021
	Obtain Final Test Plan Approval	12/16/2021
<b>5</b>	System Construction, Procurement and Integration	
<b>5.1.A, 5.2.A</b>	Procurement, construction and integration of first STAXbox "A.1"	10/26/2021
<b>5.1.B, 5.2.B</b>	Procurement, construction and integration of second STAXBox "A.2"	3/24/2022
<b>5.1.C, 5.2.C</b>	Procurement of capture system and integration of capture and control system	3/24/2022
<b>5.1.D,5.2.D</b>	Procurement and integration of power system	3/17/2022
<b>5.1.E, 5.2.E</b>	Procurement and integration of battery power system	4/4/2022

<p><b>5.1.F, 5.2.F</b></p>	<p>Procurement and integration of fuel cell power system</p>	<p>4/15/2022</p>
<p><b>5.1.G, 5.2.G</b></p>	<p>Procurement and integration of barge</p>	<p>3/24/2022</p>
<p><b>5.2.H</b></p>	<p>Complete system integration and installation of the subsystems into the barge. Upon final integration, the Safety Assessment Team will evaluate the system to ensure that the measures, guidance, recommendations identified in the Safety Assessment Study have been incorporated in the constructed and integrated capture and control system.</p>	<p>5/5/2022</p>
<p><b>6</b></p>	<p>Submit the Commissioning and RATA Test Report to CARB.</p>	<p>10/15/2022</p>
	<p>Submit Independent Data and Analysis Report</p>	<p>2/20/2023</p>
<p><b>7</b></p>	<p>Submit a draft test report for CARB review</p>	<p>6/25/2022</p>
	<p>Submit the final test report for CARB review</p>	<p>2/19/2023</p>
	<p>Obtain CARB executive Order for the capture and control system specifically for tankers.</p>	<p>6/24/2023</p>
<p><b>8</b></p>	<p>Submit a Carbon Capture Demonstration Report</p>	<p>12/30/2022</p>