

Phillips 66 Company Los Angeles Marine Terminal At Berth Terminal Plan (Revised)

This terminal plan has been prepared pursuant Section 93130.14(a)(3) of the Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At Berth in a California Port.

1. GENERAL INFORMATION	
Terminal Contact Name: Kurt Alvarado	
Phone Number: (310) 952-6206	Email: kurt.s.alvarado@p66.com
<i>Berths Included in this Plan:</i>	
<u>Name:</u>	<u>Approximate Geographic Boundary Coordinates:</u> *
1. Port of Los Angeles Berths 148 / 149	1. 33.755776, -118.273676
2. Port of Los Angeles Berths 150 / 151	2. 33.754170, -118.271208
<i>*The number of berths on a terminal and the spatial positioning of berths are dependent on vessel size; thus, the geographic boundary coordinates are approximates only.</i>	
2. STRATEGY DETAILS	
<i>Strateg(ies) used to comply with the requirements for ocean-going vessels visiting each berth:</i>	
<ol style="list-style-type: none"> 1. Low-use terminal exemption 2. Third party barge-based CARB and IMO (International Maritime Organization) approved and accepted for safe interfacing with tanker vessel's capture and control system 	
2.1 [Strategy 1 – Low Use Terminal]	
<i>Identification and description of all necessary equipment:</i>	
<u>Equipment:</u>	<u>Location:</u>
1. None	1. n/a
Number of vessels expected to use this strategy (annual): Up to 19	
Number of vessel visits expected to use this strategy (annual): Up to 19	
<i>Berths where equipment will be used:</i>	
<ol style="list-style-type: none"> 1. Port of Los Angeles Berths 148 / 149 2. Port of Los Angeles Berths 150 / 151 	
<i>Schedule for installing equipment:</i>	
<u>Project:</u>	<u>Estimated Completion Date:</u>
1. n/a	1. n/a
2.2 [Strategy 2, if needed – Barge Based CAECS]	
<i>Identification and description of all necessary equipment:</i>	
<u>Equipment:</u>	<u>Location:</u>
1. Emission capture and control system that is CARB, USCG and IMO approved and	1. Spudded or moored (for station keeping) barge at vessel stern

accepted for safe interfacing with tanker vessels
Number of vessels expected to use this strategy (annual): Up to 40
Number of vessel visits expected to use this strategy (annual): Up to 40
<p><i>Berths where equipment will be used:</i></p> <ol style="list-style-type: none"> 1. Port of Los Angeles Berths 148 / 149 2. Port of Los Angeles Berths 150 / 151
<p><i>A terminal operator claiming that a physical and/or operational constraint will delay its ability to implement its preferred CARB approved control strategy to achieve emission reductions from vessels at berth according to the requirements of section 93130 et seq., must also include with its terminal plan a technical feasibility study evaluating if there are any other emission control options that could be implemented more quickly at the terminal:</i></p> <p>Provided as an attachment to this updated plan is the feasibility study prepared by Moffatt and Nichol for the Los Angeles Marine Terminal. This detailed study includes specific information regarding the Los Angeles Marine Terminal and the implementation of the control measures to comply with the regulation and the schedule for completion.</p> <p>Not all potential compliance methods are reasonably foreseeable for tankers at the Los Angeles Marine Terminal. For example, CARB has determined that shore power is not a reasonably foreseeable compliance option for tankers because of significant infrastructure changes needed to the vessel itself. CARB also has noted that there are currently no on-board emission control strategies verified by CARB for ocean-going vessel applications, and that retrofitting existing vessels to run on the only known alternative fuel used for vessels – liquid natural gas – is physically difficult and unlikely to occur. Thus, CARB asserts that it is reasonably foreseeable that tankers would use the capture and control option as the primary means of compliance – meaning that tankers and tanker terminals unable to use a feasible capture and control system must rely on limited exceptions to the emissions rate requirements like VIE/TIE, qualifying for use of the remediation fund, or applying to CARB to approve an innovative concept.</p> <p>The single viable compliance strategy for the Los Angeles Marine Terminal is the barge-based capture and control option. The third-party Moffatt and Nichol study estimated a barge-based capture and control system for the Los Angeles Marine Terminal to cost approximately \$20.0 million to purchase, with an annual operations cost of approximately \$1.0 million for an intrinsically safe system. Phillips 66 can also enter a long-term service agreement with a barge vendor that is estimated to cost approximately \$1 million upfront to establish the agreement, with an annual operations cost of approximately \$2.4 million for an intrinsically safe system. There are currently no barge-based capture and control systems in the Port of Los Angeles region and the estimated date for a system to be operational is July 2026, which is approximately 18 months after the CARB compliance deadline.</p> <p>To ensure an adequate supply of control equipment in the Port of Los Angeles, Phillips 66 requests there be at least two third-party barge-based capture and control system providers that are CARB, United States Coast Guard and IMO approved and accepted for safe interfacing with tanker vessels in the Port of Los Angeles Area prior to the compliance date for the facility. This is to ensure that</p>

competitive bids can be obtained before executing a contract with the successful bidder(s). Due to topside space limitations, land-based systems are not feasible due to hazardous zones and electrification is not feasible due to tanker incompatibility and safety concerns.

These constraints and others, including other terminal-based compliance technologies, directly impacting the operability and safety of the ship/shore interface are documented in the Moffatt and Nichol Feasibility Study and the DNV "CARB OGV at Berth Regulation Emissions Control Technology Assessment for Tankers" reports that are provided as an attachment.

Schedule for installing equipment:

Project:

1. Third party vendor

Estimated Completion Date:

1. July 2026

3. TERMINAL OPERATOR/PORT BERTHING RESTRICTIONS

Are there any terminal or port specific berthing restrictions? If yes, please describe.

Phillips 66 complies with all federal, state, and local requirements. Terminal restrictions are documented in the latest Terminal Operating Limits as approved and regulated by the California State Lands Commission (CSLC) in compliance with California Building Code (CBC) Chapter 31F: Marine Oil Terminals also known as the Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS). Additional berthing restrictions are identified in the facility Marine Operations Manual.

Port of Los Angeles Berths 148 / 149 are not expected to be in service by the effective date of control requirements of this regulation.

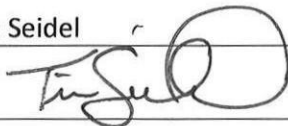
4. SIGNATURE OF TERMINAL OPERATOR

By signing below, the Terminal Operator's responsible officer confirms under penalty of perjury that he/she has reviewed this At Berth Terminal Plan and is submitting this At Berth Terminal Plan as [Terminal Operator's] compliance strategy for the At Berth Regulation. [Terminal Operator] understands this plan is subject to verification by CARB staff.

Name: Tim Seidel

Title: Refinery Manager, Los Angeles Refinery

Signature:



Date:

5/27/22