Phillips 66 Company
Richmond Marine Terminal
CARB At Berth Terminal Plan

Last Update: July 10, 2026

This terminal plan has been prepared pursuant to 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.

The Richmond Marine Terminal has two operational Berths, Rich 11 and Rich 12. Rich 12 does not receive any tankers; thus, the regulation does not apply for Rich 12. Therefore, a terminal plan is required for Rich 11 only. In addition, since Rich 11 is also operated by Kinder Morgan, Phillips 66 and Kinder Morgan are currently coordinating to implement the same compliance option.

Not all potential compliance methods are reasonably foreseeable for tankers at the Richmond 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. This means that tankers and tanker terminals unable to use a feasible capture and control system must rely on limited exceptions to the emissions rate requirements such as VIE/TIE, qualifying for use of the remediation fund, or applying to CARB to approve an innovative concept.

Consistent with this regulatory framework, Phillips 66 and Kinder Morgan are currently conducting engineering evaluations and final negotiations with a selected barge vendor to implement a barge-based capture and control system at Berth Rich 11. The primary compliance challenge is ensuring that the barge-based system has sufficient capacity to treat emissions from larger tankers calling at Berth Rich 11 (up to 76,000 DWT), while fully complying with the safety and operational guidelines recommended by OCIMF.

Attachment:

1. P66 Berth Rich 11 at the Richmond Terminal – CARB Feasibility Study

Attachment 1 includes the updated July 2026 CARB Feasibility Study for Phillips 66 Berth Rich 11 and the supporting Basis of Design memorandum for the selected barge-based capture and control compliance option. The study evaluates compliance options under the CARB At-Berth Regulation, incorporates updated vessel traffic data, vendor input, cost information, and implementation schedule assumptions, and supports compliance by January 2027. The Basis of Design establishes the functional requirements, site-specific design criteria, environmental conditions, reach requirements, and safety considerations necessary for the safe operation of a barge-based capture and control system at the terminal. The combined document was developed to support vendor coordination, contract negotiations between Phillips 66, Kinder Morgan, and the selected barge vendor, and the implementation of a safe and CARB-compliant barge-based system at Berth Rich 11.

Control Strategies

- Strategy 1: Third party barge-based capture and control system

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93130.14(a)(3)(A): Identification of and description of all necessary equipment, including whether it will be located on the vessel, wharf, shore, or elsewhere:

Third party barge-based capture and control system that is CARB and IMO (International Maritime Organization) approved and accepted for safe interfacing with tanker vessels. Barge-based capture and control system shall follow the OCIMF safety recommendations.

93130.14(a)(3)(B): Number of vessels expected to visit the terminal using the strategy:

Approximately 2 CARB regulated vessels per year for Phillips 66 operations. And approximately 35 CARB regulated vessels per year for Kinder Morgan operations.

93130.14(a)(3)(C): List of each berth with geographic boundary coordinates:

Name:	*Approximate Geographic Boundary Coordinates:* *
Richmond Dock 11	*37.915113, -122.365226*

**The number of berths on a terminal and the spatial positioning of berths are dependent on vessel size; thus, the geographic boundary coordinates are approximate only.*

93130.14(a)(3)(D): Identify berth(s) where equipment will be used:

Richmond Dock 11

93130.14(a)(3)(E): Terminal/port specific berthing restrictions:

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 Richmond Marine Operations Manual.

93130.14(a)(3)(F): Schedule for installing equipment:

Within twelve (12) months of at least two (2) or more CARB and IMO approved barge vendors operating in the Bay Area with available capacity to serve the Phillips 66 Richmond Terminal OR by the CARB compliance deadline (whichever is later).

93130.14(a)(3)(G): Division of responsibilities between the terminal operator and the port, including contractual limitations applicable to the terminal, relevant to enacting the infrastructure required by each terminal's plan:

> *There is no Port Authority responsibility identified in association with the Phillips 66 Richmond Terminal. There are no United States Coast Guard (USCG) limitations identified at time of submission. The Richmond Marine Terminal is not a tenant of the Port of Richmond; thus, the port has no infrastructure responsibilities, Phillips 66 is responsible for all improvements at Rich 11.*

93130.14(a)(3)(H): 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:

> *Based on industry outreach, space in the terminal, options available in the market and a technically-qualified ability to safely interface with tanker-type oceangoing vessels at marine oil terminals, Phillips 66 believes that the Barge-Based Capture and Control Strategy is the emission control option that could be implemented the quickest at the terminal. Other options like shore power or shore-based capture and control have other requirements like installation of platforms, higher number of required permits, design of larger cranes that would require more time for these strategies to be implemented. The attached feasibility study contains a project implementation schedule for the barge option taking into consideration that P66 can only make a decision once this option is CARB and IMO approved and accepted for safe interfacing with tanker vessels that call specifically to Berth Rich 11. In addition, to ensure that competitive bids can be obtained before executing a contract with the successful bidder, there needs to be at least two third-party barge-based capture and control systems available in the market. Phillips 66 knows that CARB has expressed that the need for more than one competitive bid is not an exemption from compliance with the At Berth Regulation, but Phillips 66 would like to state that this can be a challenge if only one barge vendor is CARB and IMO approved.*
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> *In addition, Phillips 66 notes that negotiations with the selected capture and control vendor are underway, and that Phillips 66 is actively verifying that the proposed system complies with the safety and operational requirements established in the attached Basis of Design for Berth Rich 11.*

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SIGNATURE OF TERMINAL'S RESPONSIBLE OFFICIAL	
By signing below, the Terminal Operator's Responsible Official confirms under penalty of perjury that he/she has reviewed this At Berth Terminal Plan and is submitting this At Berth Terminal Plan as the Richmond Marine Terminal compliance strategy for the At Berth Regulation. Terminal personnel understand this plan is subject to verification by CARB staff.	
Name: Renee Flores	Title: Senior Manager, Area Ops – North West
Signature:	Date: 8-4-26

Attachment 1

CARB Feasibility Study