Tesoro Logistics Operations LLC
1300 Pier B Street
Long Beach, CA 90813
(562) 499-2202

Via Email to shorepower@arb.ca.gov
And Certified Mail

November 30, 2021

Chief, Transportation and Toxics Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Subject: CCR Title 17 § 93130-93130.22
Terminal Plans and Innovative Concept Application

Dear Executive Officer:

In accordance with California Code of Regulations Title 17, sections 93130-93130.22 Control Measure for Ocean-Going Vessels, Tesoro Logistics Operations LLC ("Tesoro") hereby submits the Terminal Plans for Terminal 1, Terminal 2, and Long Beach Terminal. Additionally, Tesoro submits the enclosed Innovative Concept Application pursuant to Section 93130.17(b) for the aforementioned terminals.

Please contact Lynnea Giordani at LLGiordani@MarathonPetroleum.com or (562) 708-0106 should you have any questions.

Sincerely,

Timothy W. Hayes Region Manager
Tesoro Logistics Operations LLC

Ecc (with enclosures): jonathan.foster@arb.ca.gov

Enclosures: Tesoro Logistics Operations LLC Terminal Plans
Tesoro Logistics Operations LLC Innovative Concept Application

TESORO LOGISTICS OPERATIONS LLC
INNOVATIVE CONCEPT APPLICATION

For Terminal 1, Terminal 2, and Long Beach Terminal

At-Berth Vessel Emission Reduction Regulation

Innovative Concept Application for Tesoro Logistics Operations LLC (TLO)

Terminal 1, Terminal 2 and Long Beach Terminal

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1 Contents

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1 Introduction

This application intends to identify Innovative Concept Compliance Options for TLO to reduce emissions from sources in and around the regulated port or marine terminal in accordance with section 93130.17 of title 17 of the California Code of Regulations, adopted August 27, 2020, and effective January 1, 2021. The primary scope of this application is to allow for the potential use of alternative emission reduction methods that may enhance safety, utilization efficiency, and cost effectiveness of emissions reduction equipment.

Innovative Concepts identified in this application are based on best available information. For many of the proposed strategies, the technology is still under development, therefore, the actual number of emission reductions achieved may vary. Innovative Concepts are important for compliance with the Regulation and TLO has identified instances that may require the use of other parties' innovative concept reductions for TLO to comply with the Regulation. TLO has also identified instances where TLO may offer to third parties the reductions TLO has demonstrated by use of an Innovative Concept.

As such, TLO is submitting this application to satisfy the Innovative Concept Application due date of December 1, 2021. As a result of this, TLO may request CARB amend or issue a new Executive Order for additional or modified Innovative Concepts in the future. TLO is not obligating itself to control the emissions sources described under this proposal at this time nor is TLO indicating the ability to safely control emissions sources on tanker vessels has been determined feasible. Concerns with the timeline of technology development and the ability to comply with the regulation are outlined in TLO's Terminal Plans.

2 Owner Background

TLO is a wholly owned subsidiary of MPLX, a diversified, large-cap master limited partnership formed by Marathon Petroleum Corporation (MPC) that owns and operates midstream energy infrastructure and logistics assets and provides fuels distribution services.

TLO operates three marine oil terminals in the Port of Long Beach which serve tanker vessels subject to the California Air Resources Board (CARB) Control Measure for Ocean-Going Vessels At Berth. Vessel traffic at the three terminals is related to TLO's petroleum products supply business as well as offloading crude petroleum that supports 3 major refineries in the LA Basin.

Identification and control of emissions not otherwise required to be controlled is provided in the regulation as a means of compliance. This application is for TLO to be able to use emission reductions that are not otherwise required as one of several strategies employed for compliance.

2.1 Primary Owner Contact

Tesoro Logistics Operations

1300 Pier B St,

Long Beach, CA 90813

Attention, Lynnea Giordani

2.2 Operational Description

TLO operates three marine oil terminals in the Port of Long Beach, California. These terminals with their associated pipelines and tankage receive crude petroleum or import/export finished fuels via 3rd party tankers or barges for processing at the Tesoro Refining and Marketing Company LLC (TRMC) Los Angeles Refinery or distribution through TLO pipelines and land terminals. These marine terminals and associated tankers will be regulated under CARB's current At-Berth vessel emission reduction regulation upon the compliance date.

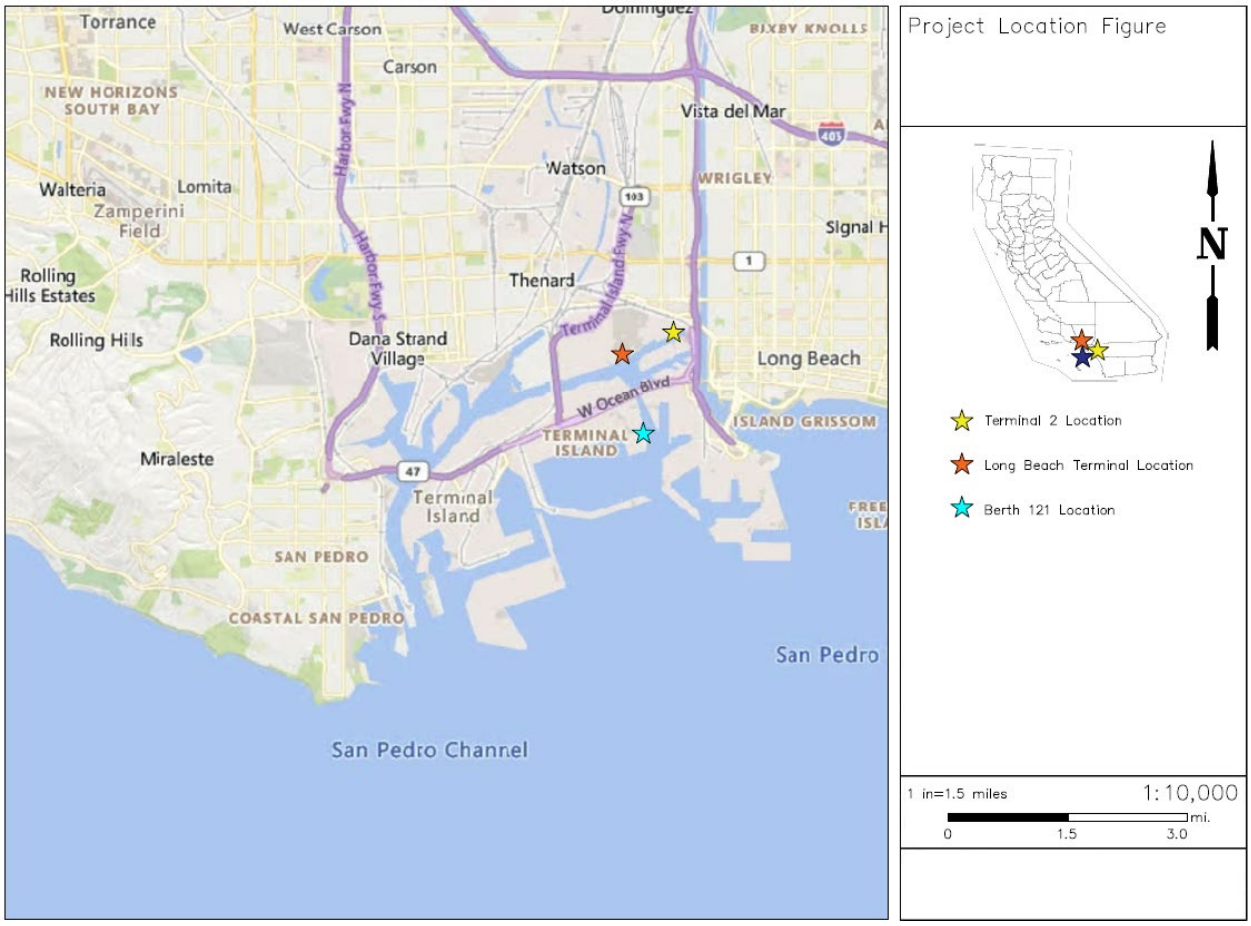
The innovative concepts presented in this application provide alternative methods for TLO to comply with the At-Berth emission reductions in the event when all the berths at Terminal 2 and Long Beach Terminal are fully occupied and the emissions control equipment is not available or able to support all the berths simultaneously. The creation of emission credits by reducing emissions not required by the At-Berth vessel emissions reduction regulation or any other regulation provides for actual emission reductions in the areas within three nautical miles of the berths.

Terminal 1(Berth 121), in Latitude 33-45-25 N Longitude 118-13-05 W is located in the northeast corner of Long Beach Harbor, at Pier T. Berth 121 is located on the west side of the Back Channel. The Terminal is approximately 2 miles west of Long Beach city center. Distance from the breakwater is about 3.0 nm. Terminal 1 receives crude petroleum for three major Southern California Refiners (TRMC, P66 and Valero).

Terminal 2 (Berths 76, 77 and 78) is located in Channel 2 of the Long Beach Harbor. The terminal has three berths. Berth 76 is limited to barge operations only. Berths 77 and 78 can accommodate both tankers and barges. The terminal is capable of offloading and loading crude petroleum, intermediate feedstocks and finished products.

Long Beach Terminal (Berths 86 and 84a) is located across from Pier S at the entrance to Channel 2 in the Long Beach Harbor. The terminal receives and loads crude petroleum, intermediate feedstocks, finished products and lube oils by tanker or barge.

With a total of five berths which service ocean-going vessels, there are times when up to 5 berths are utilized at the same time.


Project Location Figure
Torrance
West Carson
Carson
NEW HORIZONS SOUTH BAY
Vista del Mar
Watson
WRIGLEY
Walteria
Lomita
Zamperini Field
Harbor Fwy N
Harbor Fwy S
Terminal Island Fwy N
Rolling Hills Estates
Rolling Hills
Thenard
Dana Strand Village
Long Beach
W Ocean Blvd
ISLAND GRISSOM
TERMINAL ISLAND
Miraleste
Terminal Island
SAN PEDRO
COASTAL SAN PEDRO
San Pedro
San Pedro Channel
N
Terminal 2 Location
Long Beach Terminal Location
Berth 121 Location
1 in=1.5 miles
1:10,000
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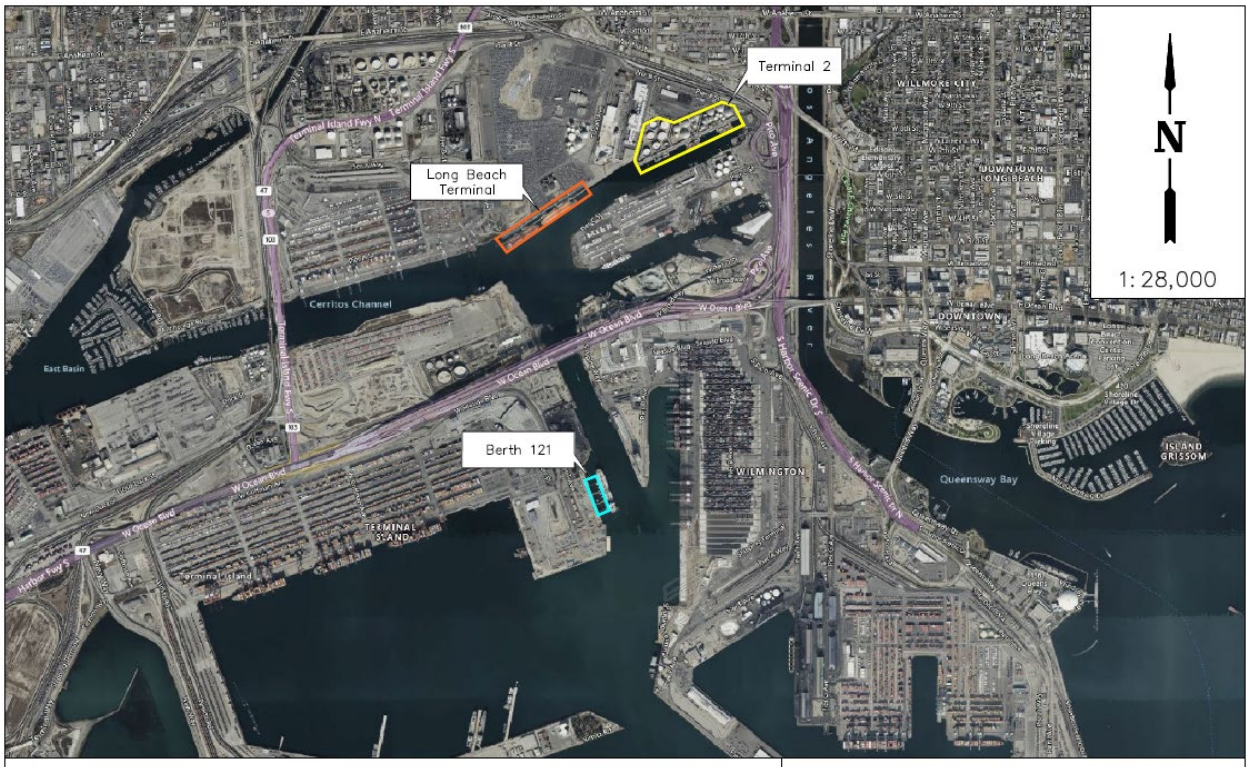

Project Location Figure

3 Potential Emission Reductions Not Otherwise Required

Emission reductions from the following source categories have been identified for potential credit generation using the guidelines in Section 93130.17 of the At-Berth regulation. The emission reductions described below are an attempt to identify possible source categories that could be available when Section 93118.3 of Title 17 and Section 2299.3 of Title 13 of the California Code of Regulations are superseded by Sections 93130 through 93130.22.

3.1 Pre-Compliance Emissions (Tankers – Terminal 1, Terminal 2 and Long Beach Terminal)

Emissions controlled from the auxiliary engines and/or boilers of tankers in the Southern California area prior to the compliance date. The tankers would be serviced by a CARB approved emissions control strategy while At-Berth. The vessels serviced would be those calling into Terminal 1, Terminal 2 and Long Beach Terminal which represent the berths used by TLO that service both tankers and barges. Two different versions of capture and control systems would be used, a standard capacity version that can collect emissions at a maximum auxiliary engine equivalency of 2,800 kW or a high-capacity version that can collect emissions at a maximum auxiliary engine equivalency of 7,000 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission reduction credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation in the Southern California Ports and would be used for any vessel type including container, Roll-on Roll-off (RoRo), Tanker, or Cruise.

Early emission reductions are expressly identified as eligible for emission reduction credit generation in Section 93130.17(a)(11).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.2 Emissions Utilizing Shore Side Infrastructure to Reduce Tanker Vessel Discharge Emissions

Emission reductions associated with the use of shore side infrastructure capable of using grid power. Some terminals may have the capability of using shore side electric pumps to move liquid cargoes from the berth to the tankage located miles away from the dock. The use of these pumps may allow for the vessel to discharge cargo at reduced loads thus lowering vessel emissions generated from fuel burned in either main engines, boilers or auxiliary engines. The vessel only needs to provide enough flow and pressure to move the liquid to the shore pumps.

For Shore Side pumping

1. Flow is established by the vessel to the tank farm

2. Shoreside pumps are started allowing vessel operators to reduce engine output from the vessel pumping systems, thus reducing emissions
3. Towards end of discharge when the volume from the vessel drops, the shoreside pumps are shut down and the vessel completes the last portion of cargo unload.

The emissions reduction credit would be calculated based on the required fuel usage for a vessel only discharge and the amount of fuel burned during the time the shore side pumps are operating. The emissions reduction credit may also consider efforts made to the shore side system to increase energy efficiency and reduce total electrical consumption.

This source category is eligible for potential emission reduction credit generation under requirements described in Section 93130.17(a).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.3 Pre-Compliance Emissions (Tankers – Ports of Long Beach and Los Angeles)

Emissions captured and controlled from the auxiliary engines and/or boilers of tankers in Southern California ports other than Terminal 1, Terminal 2 and Long Beach Terminal prior to the compliance date. The tankers would be serviced by a CARB approved emissions control strategy while At-Berth. Two different versions of capture and control systems would be used, a standard capacity version that can collect emissions at a maximum auxiliary engine equivalency of 2,800 kW or a high-capacity version that can collect emissions at a maximum auxiliary engine equivalency of 7,000 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission reduction credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation for any vessel type including container, RoRo, tanker, or Cruise that are At-Berth within three nautical miles of the vessel location from which the emission reduction credits were generated as stipulated in Section 93130.17(a)(4).

Early emission reductions are expressly identified as eligible for emission reduction credit generation in Section 93130.17(a)(11).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.4 Pre-Compliance Emissions (RoRo – Southern California Ports)

Emissions captured and controlled from the auxiliary engines of RoRo vessels in Southern California ports prior to the compliance date. The RoRo vessels would be serviced by a CARB approved barge-based capture and control system while At-Berth. The potential RoRo vessels serviced would be those calling into any berth located in a Northern California port. The capture and control system used would be capable of collecting emissions at a maximum auxiliary engine equivalency of 2,800 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission reduction credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation for any vessel type including container, RoRo, tanker, or Cruise that are At-Berth within three nautical miles of the barge location from which the emission reduction credits were generated as stipulated in Section 93130.17(a)(4).

Early emission reductions are expressly identified as eligible for emission reduction credit generation in Section 93130.17(a)(11).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.5 Bulk Liquid Barges

Emissions captured and controlled from the auxiliary engines on liquid bulk barges that are used to offload cargo and provide power for other miscellaneous equipment on the barge. The barges would be serviced by a CARB approved capture and control system in Southern California while At-Berth. The barges serviced would be those calling into any berth located in Southern California. The capture and control system used would be capable of collecting emissions at a maximum auxiliary engine equivalency of 2,800 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission reduction credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation for any vessel type including container, RoRo, tanker, or Cruise that are At-Berth within three nautical miles of the barge location from which the emission reduction credits were generated as stipulated in Section 93130.17(a)(4).

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline

to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.6 Bulk and General Cargo Vessels

Emissions captured and controlled from the auxiliary engines on bulk and general cargo vessels which are exempted from the At-Berth regulation as stipulated in Section 93130.8(b). Vessels would not be included for which other rules or requirements stipulate control of the emissions as outlined in Section 93130.17(a)(3). These vessels would be serviced by a CARB approved barge-based or dock-based capture and control system while At-Berth. The vessels serviced would be those calling into any berth located in Southern California. The capture and control system used would be capable of collecting emissions at a maximum auxiliary engine equivalency of 2,800 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission reduction credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation for any vessel type including container, RoRo, tanker, or Cruise that are At-Berth within three nautical miles of the barge location from which the emission reduction credits were generated as stipulated in Section 93130.17(a)(4).

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.7 Container Ships At-Anchor (capture and control)

Emissions from the auxiliary engines on container vessels which are at anchor in the Southern California port area are not required to be captured and controlled pursuant to the At-Berth regulation or any other regulation. Vessels at anchor are not covered by the rule as only vessels at berth are identified in Section 93130.1. Vessels would not be included for which other rules or requirements stipulate control of the emissions as outlined in Section 93130.17(a)(3). These vessels would be serviced by a CARB approved barge-based system while at anchor. The capture and control system used would be capable of collecting emissions at a maximum auxiliary engine equivalency of 2,800 kW.

The operations of the capture and control system would follow the guidelines stipulated in the Executive Order for that specific system and would be reported to the Emission Reduction Credit Management Company on the form referenced in Section 5.2. Emissions captured would be used as emission reduction credits for compliance with the At-Berth regulation for any vessel type including container, RoRo, tanker, or Cruise that are At-Berth within three nautical miles of the barge location from which the emission reduction credits were generated as stipulated in Section 93130.17(a)(4).

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.8 Minimizing Emissions Control Connect and Disconnect Times

Emissions associated with the emissions control system connecting and disconnecting at times reduced from those stipulated Section 93130.7(e)(3)(A) and (B). The "Reduced Time to Connect" will be determined by subtracting the time between Ready to Work and Successful Connection from the two-hour stipulated limit. The definition of Successful Connection is defined by the items listed below.

1. Capture hood(s) are physically in place on the stack(s) and the system is indicating capture efficiency equal to or in excess of the requirements of the Executive Order that covers the capture and control system being used.
2. Outlet emission levels for PM, NOx, and ROG are at or below the requirements of the Executive Order that covers the capture and control system being used.
3. The on-board Manager of the capture and control system being used declares the system is Ready for Operations according the operations manual of the system.

For capture and control, the total mass emissions associated with the Reduced Connection Time will be determined by subtracting the total measured inlet mass emissions from the total measured outlet mass emissions over the period of the Reduced Connection Time.

The "Reduced Time to Disconnect" will be determined by subtracting the time between Pilot on Board and Successful Disconnect from the one-hour stipulated limit. The definition of Successful Disconnect is defined by the items listed below.

1. Capture hood(s) have been physically removed from the stack(s) and the capture booms are stowed for transport.
2. The treatment system has been purged and shutdown.
3. The on-board Manager of the capture and control system being used declares the system is Ready for Transport according the operations manual of the system.

For capture and control the total mass emissions associated with the Reduced Disconnect Time will be determined by subtracting the total measured inlet mass emissions from the total measured outlet mass emissions over the period of the Reduced Disconnect Time.

For Shore Power Systems

For shore power systems, the "Reduced Time to Connect" will be determined by subtracting the time between Ready to Work and Successful Connection from the two-hour stipulated limit. A successful Connection is defined by the electrical connection being complete, and vessel is operating on shore power

The "Reduced Time to Disconnect" will be determined by subtracting the time between Pilot on Board and Successful Disconnect from the one-hour stipulated limit. A successful disconnect is defined by the electrical disconnection is complete between vessel and shore, and vessel is no longer operating on shore power

For both "Reduced Time to Connect", and "Reduced Time to Disconnect" for shore power systems, the emissions controlled will be calculated based on anticipated fuel consumption during the "Reduced Time to Connect" and "Reduced Time to Disconnect".

These calculations will be performed as part of the standard vessel call report generated for regulated pollutants as discussed in Section 5.1 of this application.

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.9 Vessel Speed Reduction

Emissions reductions associated with vessel speed reductions are an available source of non-regulated emissions. Presently, TLO participates in the Port of Long Beach Green Flag program to reduce vessel speeds to 12 knots. Reductions in speed below 12 knots within three nautical miles of the terminals may be possible. Emission reductions associated with vessel speed reductions can be calculated utilizing one of the following methods

A. U.S. Environmental Protection Agency. 2020. Ports Emissions Inventory Guidance: Methodologies for Estimating Port Related and Goods Movement Mobile Source Emissions. Port Emissions Inventory Guidance: Methodologies for Estimating Port-Related and Goods Movement Mobile Source Emissions (EPA-420-B-20-046, September 2020) Appendix Table E-1. Accessed 3-5-2021.

B. Reduction in fuel usage from 12 knots to actual vessel speed reduction.

These calculations will be performed as part of the standard vessel call report generated for regulated pollutants as discussed in Section 5.1.

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

3.10 Capture and Control Performance Exceeds the Requirements of the Rule

Emissions associated with the capture and control system exceeding the performance requirements stipulated in Sections 93130.17(5)(d)(1) and (2). The actual measured mass emissions would be calculated based on the total measured emissions at the outlet of the capture and control system over the duration of the vessel call. Emissions will be measured continuously for PM, NOx, and ROG along with volumetric flow rate and temperature, and then the mass emissions will be calculated in total kg for the vessel call. The vessel call would begin two hours after ready to work [Section 93130.2(b)(63)] and would complete at one hour before pilot on board [Section 93130.2(b)(58)] as defined in Section 93130.7(e)(3)(A) and (B).

The excess emission reductions will be the difference between the maximum allowable emission and the actual measured mass emissions. The maximum allowable mass emissions for the vessel call will be calculated for the auxiliary engine(s) and boiler(s) individually based on fuel consumption records from the vessel according to the method outlined in Section 93130.17(d)(1)(B). The actual measured mass emissions will be subtracted from the maximum allowable emissions for both auxiliary engines and boilers to determine the additional emission reduction for PM, NOx, and ROG and will be reported in total pounds for each pollutant.

These calculations will be performed as part of the standard vessel call report generated for regulated pollutants as discussed in Section 5.1 of this application.

Emission reduction credits generated from this activity can be used toward compliance only in the calendar year in which they are achieved, or the following calendar year as described in Section 93130.17(a)(10).

Business as usual conditions will include the emissions a vessel would have produced without use of the innovative concept. Using vessel and visit specific information TLO will calculate a vessel specific baseline to determine the real, quantifiable, verifiable and enforceable emission reductions due to the innovative concept.

4 Emission Measurements and Estimates

The emission reductions achieved for all source categories listed in Section 3 of this application, except for the sources described in Section 3.2, 3.7b, and 3.9, will be monitored on a continuous basis. These continuous measurements will be on the inlet and outlet of the capture and control system being used and will include individual measurements for PM, NOx, and ROG. The operations of these measurement systems will be operated according to the requirements of the Executive Order issued for the capture and control system being used.

4.1 Measurement of Emission Reductions Not Otherwise Required from Capture and Control Equipment

Any emissions associated with a capture and control system will be directly measured and the results of those measurements will be included in the Captured and Controlled Emissions report discussed in Section 5.2 of this application.

4.2 Vessels Utilizing Emission Reduction Credits – Emission Estimates

All emission estimates utilized for the purpose of applying collected emissions not otherwise required will be performed utilizing the Vessels Utilizing Emission Reduction Credits Report discussed in Section 5.3 of this application.

5 Vessel Call Reports

The reports described below will be used to manage the collection of emission reductions not otherwise required and the distribution of those emissions to regulated vessels. One of these reports would be generated for each vessel call, or in some cases portion of a vessel call, that require compliance as defined in Section 93130.3(a).

5.1 Captured and Controlled Regulated Emissions – Vessel Call Report

A report will be developed for each vessel call, or portion of a vessel call, which will require the use of a CARB approved capture and control system for compliance. This report will incorporate data from the vessel, the terminal, and capture and control system. The data to be collected, source of the data, calculations, and outputs of those calculations are shown in Appendix A of this application.

5.2 Captured and Controlled Emissions Not Otherwise Required – Vessel Call Report

A report will be developed for each vessel call, or portion of a vessel call, which will utilize a CARB approved capture and control system collect emissions from sources not required to be controlled. This report will incorporate data from the vessel, the terminal, and capture and control system.

5.3 Vessels Utilizing Emission Reduction Credits – Vessel Call Report

A report will be developed for each vessel call, or portion of a vessel call, which will require the application of emission reduction credits for compliance. This report will incorporate data from the

vessel, the terminal, and will utilize emission factors that are defined in Section 93130.17(d)(1)(B) of the rule.

As an alternative to the default emission factors, TLO requests as part of this application to be able to apply the emission factors per the appropriate MARPOL Annex VI engine Tier as reported by the vessel owner / operator.

The data to be collected, source of the data, calculations, and outputs of those calculations are shown in Appendix B of this application.

6 Executive Order Timing

The purpose of this Innovative Concept is to develop emission reduction credits through controlling emissions from sources that are not otherwise required under The Control Measure for Ocean-Going Vessels at Berth set forth in Sections 93130 through 93130.22, title 17, California Code of Regulations.

It is assumed that amendments to current regulations and development of new regulations will change the types and quantities of source categories not required to be controlled. Any renewal application will incorporate amendments to existing or new regulations for the sources identified in this application.

6.1 Initial Duration

The initial duration requested is for the maximum of 5 years as stipulated in Section 93130.17(a)(7).

6.2 Renewals

It is anticipated that renewals will be requested as specified in Section 93130.17(a)(7). The renewal duration will be for the maximum allowed, 5 years, and the new application will update Section 2 of this application based on the development of new regulations or the identification of yet to be identified source categories.

7 Agreements, Government Approvals, and Environmental Review

This section addresses the items listed in Section 93130.17(b)(1)(E), (G), and (H).

7.1 Memorandum of Understanding

Memoranda of Understanding (MOUs) do not currently exist due to the early stage of development of the technology and programmatic components that are required for the implementation of the innovative concept plan. As technology is developed and proven the MOUs will be executed as needed with the appropriate counterparty. Counterparties may include affiliates of TLO.

7.2 Government Approvals

The requirement in this section is acknowledged and understood and no government approvals are required other than the one issued by CARB in response to this application.

7.3 Environmental Review

The requirement in this section is acknowledged and understood and no environmental reviews are required as part of this application.

8 Demonstrated Eligibility

As part of the application process the 17 criteria listed in Section 93130.17(a) have been evaluated and compliance verified. Each of the items in that section are listed below with comments as appropriate.

8.1 Section 93130.17(a)(1)

This Innovative Concept application is intended to provide a compliance pathway for primarily for tankers servicing Terminal 1, Terminal 2 and Long Beach Terminal. However, the emission reductions that are not otherwise required generated as part of this IC could also be used as a method of compliance for all vessel types that are listed in this section. This application was submitted on Tuesday November 30, 2021.

8.2 Section 93130.17(a)(2)

The emission reductions achieved through the Innovative Concept will be realized primarily using a CARB approved CAECS or using means and methods that reduce the emissions from a regulated source by utilizing that source less or operating that source at a reduced load. The proposed methods of controlling emissions not otherwise required comply with the GHG requirements of the regulation.

8.3 Section 93130.17(a)(3)

All proposed emission reductions proposed in this Innovative Concept are either early or in excess of any regulation as stipulated in this section.

8.4 Section 93130.17(a)(4)

All emission reductions proposed in this Innovative Concept comply with this requirement and are noted in the descriptions contained in Section 2 of this application.

8.5 Section 93130.17(a)(5)

All emission reductions proposed in this Innovative Concept comply with this requirement.

8.6 Section 93130.17(a)(6)

All emission reductions proposed in this Innovative Concept comply with this requirement as they are real, quantifiable, verifiable, and enforceable. Calculations and data reporting that support this requirement are described in Sections 3, 4, and 9 of this application.

8.7 Section 93130.17(a)(7)

All emission reductions proposed in this Innovative Concept comply with this requirement and a compliance period of 5 years has been requested in this application with the intent to renew the application as described in this section.

8.8 Section 93130.17(a)(8)

The requirement in this section is acknowledged and understood.

8.9 Section 93130.17(a)(9)

The requirement in this section is acknowledged and understood.

8.10 Section 93130.17(a)(10)

The requirement in this section is acknowledged and understood.

8.11 Section 93130.17(a)(11)

The requirement in this section is acknowledged and understood.

8.12 Section 93130.17(a)(12)

The requirement in this section is acknowledged and understood.

8.13 Section 93130.17(a)(13)

The requirement in this section is acknowledged and understood. Calculations, data reporting, and procedures that support this requirement are described in Sections 4, 5, 10, and 11 of this application.

8.14 Section 93130.17(a)(14)

The requirement in this section is acknowledged and understood.

8.15 Section 93130.17(a)(15)

The requirement in this section is acknowledged and understood.

8.16 Section 93130.17(a)(16)

The requirement in this section is acknowledged and understood.

9 Emission Reduction Credits Use

The purpose of this application is to develop a system by which emission reductions not otherwise required can be used to aid in compliance with the regulation. The intent of this system is to allow for better utilization of a CARB approved emissions control strategy, which will produce the intended emissions reduction of the regulation while minimizing the cost to achieve those reductions on dollars per ton of pollutant treated basis. There will be instances for which the available CARB approved emissions control strategies will not be adequate to service the number of vessels which are at berth simultaneously.

It is proposed that emissions credits may be able to be transferred or traded with other parties which have an emission reduction obligation under the regulation. The ability to transfer or trade credits will allow for more efficient use of CARB approved emissions control strategies by allowing equipment, terminal, and vessel operators and to optimize the deployment of emission control equipment.

It is proposed that all emission trading be accomplished in the units of actual pounds of either PM, NOX, or ROG.

9.1 Data Management Methods

Each of the vessel call reports described in Section 5 will be identified with a unique serial number. An Emission Reduction Credit Database will be developed to manage the data from each vessel call report and will also contain trading accounts for PM, NOx, and ROG. The data which populates the emission reduction credit accounts will be transferred from the vessel call reports which are governed by the Executive Orders for the capture and control systems or, in the case of the “Vessels Utilizing Emission Reduction Credits” report, the Executive Order issued in approval of this application will validate the content. The Emission Reduction Credit database will be developed and presented to the Executive Officer for approval prior to it being utilized. This approval would be documented in the Executive Order.

9.2 Data Entry

Data entry to the Emissions Emission Reduction Credit Database will be accomplished by reading the vessel call reports electronically and the accuracy of that electronic transfer will be validated as described in Section 11 of this application. The data entry process will only be initiated by individuals that have been trained in the process and will follow the guidelines established in a written procedure that describes the process. That procedure will be developed by the same entity that will develop the Emission Reduction Credit Database software.

9.3 Data Access

The Emission Reduction Credit Database will be password protected and its contents will be audited as described in Section 11 of this application. The individuals with access will be controlled by TLO or its designated representative, and the passwords will be changed and managed by methods considered to be Best Practices within the data management profession.

9.4 Data Storage and Backup

Data storage and backup will be accomplished by methods considered to be Best Practices within the data storage and backup industry.

9.5 Data Reporting to CARB

Data reporting to CARB will occur on an annual basis consistent with the requirements of the regulation, Section 93130.17(d), unless a different reporting frequency is specified in the Executive Order issued as approval of this application. The entirety of the Emission Reduction Credit Database and summaries of the data contained in the database will be provided electronically.

10 Emission Reduction Credit - Administration

The Emissions Emission Reduction Credit System will be administered by designated individual(s) within the TLO organization or individuals associated with another business entity that is contracted by TLO for the task of managing and operating the Emission Reduction Credit System.

10.1 Designated Individual Roles and Responsibilities

The designated individual will be responsible for the timely entry of data to the Emissions Emission Reduction Credit System, auditing the accuracy of data entry, reporting to CARB, and overall distribution of the emission reduction credits either internally to TLO or to external parties that want the emission reduction credits for compliance with the regulation. The administrator of the system should have

qualifications that are consistent with the Best Practices for database development, data entry, data storage and backup, and data reporting in the data management profession.

11 Program Auditing and Quality Control

As in other emission reduction programs across industries it is expected that the CARB-issued Executive Order would contain the requirements for program auditing and quality control for the various emission reduction scenarios. Since early capture and control of vessel emissions prior to the Rule compliance date is being considered, an independent review of the program prior to the regulatory implementation date would provide assurances that all the proper processes are in place for a longer-term emission reduction credit program. This review would at a minimum cover the actual emissions reduction services and reporting, data flow to the TLO or 3rd party administrator, data entry and data backup, calculation verification for the "unverified" emissions and reporting back to CARB.

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APPENDIX A

Compliance Call Form for Vessel Using Capture and Control

APPENDIX A

EVENT SUMMARY SAMPLE REPORT

Event Summary Sample Report

Event Name:

Vessel Information

Carrier:

Vessel Name:

Vessel IMO Number:

IMO NOx Tier

Vessel Type

Terminal Information

Terminal Name

Port

Berth Number:

Vessel Contact Info

Name

Phone #

Email

Terminal Contact Info

Name

Phone #

Email

CAECS Information

CAECS Contact Info

Name

Phone #

Email

Event:	Start	End		HH:MM:SS	
Time:	Start	End	Duration		
Emission Control Time	Start	End	Duration		

Process Flows	Units	P&ID #	Ave	Min	Max			
Inlet	scfm							
Outlet	scfm							
System Temperatures								
Ship Stack	F							
Process Inlet	F							
Filters A	F							
Filters B	F							
Filters C	F							
Box A Outlet	F							
Box B Outlet	F							
Box C Outlet	F							
Process Outlet	F							
System Pressures								
Ship Stack Pressure	"H_2O							
UCF-144-A D.P.	"H_2O							
UCF-144-B D.P.	"H_2O							
UCF-144-C D.P.	"H_2O							
System Air Pressure	psi							
DSI Feed								
DSI Injection Rate	lb/hr							
DSI Blower Pressure	psi							
DSI Blower Temperature	F							
Main Fan								
Fan Speed	Hz							
Fan Current	Amps							
Other								
Burner Set Point	%							
Ammonia								
NH3	ppmv							
H2O	%v							
Ammonia Flow Rate	slpm							
NOx								
Inlet NOx	ppmv							
Outlet NOx	ppmv							
Inlet O2	%v							
Outlet O2	%v							
PM								
PM, Inlet	mg/m^3							
PM, Outlet	mg/m^3							
ROG								
ROG, Inlet	ppmv							
ROG, Outlet	ppmv							
System Performance								
Capture Efficiency	%							
NOx Efficiency	%							
PM Efficiency	%							
ROG Efficiency	%							
Vessel Emissions during CAECS								
NOx	g/kW/hr							
PM 2.5	g/kW/hr							
ROG	g/kW/hr							

APPENDIX B

Innovative Concept - Vessel Call Utilizing Emission Reduction Credits

Innovative Concept - Vessel Call Utilizing Emission Reduction Credits

				Source		
		Units		Primary	Secondary	Comments
Port Data						
	Port			Terminal Scheduling	Agent	
	Terminal			Terminal Scheduling	Agent	
	Berth			Terminal Scheduling	Agent	
Terminal Contact Data						
	Phone Number - Duty Operator			Terminal Guide	Vessel	
	Terminal Person in Charge (TPIC)			TBD	Vessel	
	TPIC - Telephone			TBD	Vessel	
	TPIC - Email			TBD	Vessel	
Vessel Contact Data						
	Phone Number			Q-88	Terminal	
	Email			Q-88	Terminal	
Vessel Data						
	Registered Owner			Q-88	Vessel	
	Vessel Name			Q-88	Vessel	
	Vessel IMO Number			Q-88	Vessel	
	Vessel Type			Q-88	Vessel	
	IMO NOx Tier					
Vessel Commercial Operator Contact Information						
	Name			Q-88	Vessel	
	Address 1			Q-88	Vessel	
	Address 2			Q-88	Vessel	
	City			Q-88	Vessel	
	State/Province			Q-88	Vessel	
	Postal Code			Q-88	Vessel	
	Country			Q-88	Vessel	
	Telephone			Q-88	Vessel	
	Email			Q-88	Vessel	
Date and Time Data - Vessel						
	Finished with Engines (FWE)	Date & Time		Terminal	Vessel	
	Ready to Work (RTW)	Date & Time		Terminal	Vessel	
	Begin Cargo Transfer (BCT)	Date & Time		Terminal	Vessel	
	Cargo Transfer Complete (CTC)	Date & Time		Terminal	Vessel	
	Pilot On Board (POB)	Date & Time		Terminal	Vessel	
	Departure	Date & Time		Terminal	Vessel	
	Total Time, At-Berth	hrs		Calculation		
	Total Time, RTW to POB	hrs		Calculation		
	Total Time, FWE to BCT	hrs		Calculation		
	Total Time, BCT to CTC	hrs		Calculation		
	Connection Allowance after RTW	hrs		Calculation		
	Disconnection Allowance prior to POB	hrs		Calculation		
	Total CAECS Required Hours - Aux	hrs		Calculation		
	Total CAECS Required Hours - Boiler	hrs		Calculation		
Fuel Data						
	Type Used (Auxillary & Boilers)			Vessel	Terminal	
	Sulfur Content	%		Vessel	Terminal	
	Bunker ROB (finished with engines) FWE	m3		Vessel	Terminal	
	Bunker ROB (begin cargo transfer) BCT	m3		Vessel	Terminal	
	Bunker ROB (transfer complete) CTC	m3		Vessel	Terminal	
	Bunker ROB (departure)	m3		Vessel	Terminal	
	Fuel Density	kg/m3		MPLX		
	Fuel to Energy Ratio - Auxillary Engines	kg fuel/kW		CARB		
	Fuel to Energy Ratio - Boilers	kg fuel/kW		MPLX		
	Fuel Usage Rate (Aux) FWI to BCT	kg/hr		Calculation		
	Fuel Usage Rate (Aux + Boilers) BCT to CTC	kg/hr		Calculation		
	Fuel Usage Rate (Boilers) BCT to CTC	kg/hr		Calculation		
	Avergae Power (Aux) FWE to BCT	kWh		Calculation		
	Avergae Power (Boiler) BCT to CTC	kWh		Calculation		
	Total Power Aux Power - CAECS	kW		Calculation		
	Total Power Boiler Power - CAECS	kW		Calculation		
Machinery Configuration						
	Auxillary Engine, count			Q-88	Vessel	Section 10.5 of the Q-88
	Auxillary Engine, capacity	kW		Q-88	Vessel	Section 10.5 of the Q-88
	Boiler, count			Q-88	Vessel	Section 10.5 of the Q-88
	Boiler, capacity	MT/hr		Q-88	Vessel	Section 10.5 of the Q-88
	Cargo Pump, count			Q-88	Vessel	Section 8.3 of the Q-88
	Cargo Pump, type			Q-88	Vessel	Section 8.3 of the Q-88
	Cargo Pump, capacity	m3/hr		Q-88	Vessel	Section 8.3 of the Q-88
	IGS Supply					Section 8.3 of the Q-88

Innovative Concept - Vessel Call Utilizing Emission Reduction Credits

				Source		
		Units		Primary	Secondary	Comments
Operations Data						
	Anticipated Load At-Berth, Aux 1	kW		Vessel		
	Anticipated Load At-Berth, Aux 1	kW		Vessel		
	Anticipated Load At-Berth, Aux 1	kW		Vessel		
	Anticipated Load At-Berth, Boiler 1	ton steam/hr		Vessel		
	Anticipated Load At-Berth, Boiler 1	ton steam/hr		Vessel		
Emission Factors						
	PM, auxillary engines	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(1)
	NOx, auxillary engines	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(1)
	ROG, auxillary engines	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(1)
	PM, boilers	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(2)
	NOx, boilers	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(2)
	ROG, boilers	g/kWh		EO	Regulation	Net reduction required based on values in Section 17.5(d)(2)
	PM, auxillary engines	g	0	Calculation		
	NOx, auxillary engines	g	0	Calculation		
	ROG, auxillary engines	g	0	Calculation		
	PM, boilers	g	0	Calculation		
	NOx, boilers	g	0	Calculation		
	ROG, boilers	g	0	Calculation		
Emissions Requiring IC Credits						
	PM	lb	0	Calculation		
	NOx	lb	0	Calculation		
	ROG	lb	0	Calculation		