Chapter 2
Project Description

2.1 Introduction

This Draft Supplemental Environmental Impact Report (Draft SEIR) evaluates potential impacts of the continued operation of the Berths 97-109 China Shipping (CS) Container Terminal under new and/or modified mitigation measures (the Revised Project), as described in more detail in Section 2.5 below. The CS Container Terminal is located within the Port of Los Angeles (Port), adjacent to the community of San Pedro in the City of Los Angeles. The Los Angeles Harbor Department (LAHD) administers the Port under the California Tidelands Trust Act of 1911 and the Los Angeles City Charter.

The LAHD is preparing this Draft SEIR to analyze and disclose the potential environmental impacts with respect to the modifications proposed by the Revised Project. In addition, this Draft SEIR, in evaluating the impacts of operation of the CS Container Terminal under the Revised Project, assumes and analyzes impacts of an incremental increase in the Terminal throughput level in future years, based upon re-assessment of Terminal capacity, compared to the assumptions in the 2008 EIS/EIR. This document supplements the Berths 97-109 (China Shipping) Container Terminal Project Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) certified by the City of Los Angeles Board of Harbor Commissioners on December 18, 2008 (LAHD and USACE, 2008).

2.2 Background and Project Overview

2.2.1 Background

The Berth 97-109 terminal currently consists of a container shipping facility. Prior to its development as a container terminal the site was occupied by Chevron USA and Todd Shipyards. After the departure of those tenants, the area underwent demolition and remediation, and was used for construction staging and temporary storage for autos, containers, and truck chassis. In 1997, the Port prepared and certified the West Basin Transportation Improvements Project (WBTIP) EIR that assessed the construction and operation of terminal and infrastructure improvements in the West Basin of the Port (LAHD, 1997).

In March 2001, the Port executed a lease with China Shipping Lines for terminal construction and operation, as envisioned in the WBTIP and the Deep Draft Navigational Improvements Project. In June 2001, a group of petitioners filed lawsuits in state and federal courts alleging that LAHD did not comply with, among other things, the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA)

in approving a permit to construct the Berth 97-109 Container Terminal and a lease with the China Shipping Lines Company to occupy the terminal. In October 2002, the State of California Second District Court of Appeals ordered a partial halt to ongoing construction of Phase I of the Berth 97-109 (China Shipping) Container Terminal Project. The court ordered the preparation of a project-specific EIR to evaluate all three phases of the Project. In March 2003, the Superior Court of the State of California, Los Angeles District, approved a Stipulated Judgment memorializing the Settlement Agreement between the petitioners and LAHD to settle the state case. Subsequently, the Port and the China Shipping petitioners negotiated an Amended Stipulated Judgment (ASJ), which was finalized in June 2004.

Pursuant to the court order and the ASJ, the LAHD and the USACE prepared a recirculated EIS/EIR to consider construction and operation of the CS Container Terminal. The Los Angeles Board of Harbor Commissioners certified the Berths 97-109 [China Shipping] Container Terminal Project FEIS/FEIR (hereafter, the "2008 EIS/EIR") for the construction and operation of the CS Container Terminal Project in 2008 (LAHD and USACE, 2008). The project analyzed in the 2008 document (the "Approved Project"), described in more detail in Section 2.2.2, consisted of three phases of construction followed by operation of a two-berth, 142-acre container terminal under a 40-year lease (until the year 2045). Phase I of construction was completed in 2003, before the document was prepared (that phase was originally considered in LAHD 1997), but the 2008 EIS/EIR analyzed Phase I construction and its subsequent operation in addition to the remaining construction and operation associated with Phases II and III.

2.2.2 The 2008 Approved Project

As described in Section 1.2.4.1 and in the Notice of Preparation (NOP) circulated in September 2015, the 2008 EIS/EIR adopted 52 mitigation measures, including lease measures, to reduce significant construction and operational impacts in the areas of aesthetics, air quality, biology, cultural resources, geology, ground water, noise, public services, and transportation. Some of the measures were developed in the course of preparation of the 2008 EIS/EIR while others were incorporated into the document from the ASJ.

The major elements of the original development analyzed in the 2008 EIS/EIR included: constructing a new wharf at Berth 102 and lengthening the wharf at Berth 100, with minor dredging to match the West Basin channel depth of -53 feet; the addition of 10 wharf cranes for vessel loading and unloading; installation of shore power (AMP) facilities at both berths; the expansion and development of 142 acres of terminal backlands; the construction of container terminal buildings, gate facilities and accessory structures; the construction of two new bridges over the Southwest Slip to connect the Berth 97-109 Container Terminal to the Berth 121-131 Marine Terminal; relocation of the Catalina Express Terminal; and the construction of road improvements in the vicinity. The new wharves would accommodate the largest vessels then envisioned (10,000 TEU capacity). Construction was largely completed by 2013 (two terminal buildings have yet to be constructed), and operations are ongoing.

The 2008 EIS/EIR assumed that at full capacity, in 2030, the CS Container Terminal would handle approximately 1,551,000 TEUs per year, which is roughly equivalent to 838,380 standard shipping containers per year. That throughput would require 1,508,000 truck trips, 234 vessel calls, and 817 train trips per year. Those numbers were based on cargo forecasting performed in 2005. The document assumed that at full capacity

approximately 83% of the containers would be moved in and out of the terminal by truck (including to and from regional intermodal railyards) and the rest would be moved by trains from the WBICTF.

2.2.3 Revised Project Overview

Most of the mitigation measures in the 2008 EIS/EIR have either been completed or will be completed within the time period for implementation; in addition, all of the requirements of the ASJ have been met. Accordingly, those measures and the ASJ requirements are outside of the scope of the Revised Project and are not considered in this Draft SEIR.

Of the 52 measures adopted in the 2008 EIS/EIR, 10 mitigation measures and one lease measure have not yet been fully implemented (Table 2-1). A re-evaluation of those measures, based on the feasibility of some of the measures, the subsequent availability of alternative technologies, and the actual need, has indicated that some may be unnecessary, others have been superseded by advances in technology, and still others need to be either modified to ensure their feasibility.

LAHD has determined that, as mentioned in Chapter 1, MM NOI-2, which was included in the NOP, is being implemented and therefore does not need to be re-evaluated in this SEIR.

Table 2-1. Summary of 2008 EIS/EIR mitigation and lease measures for the CS Container Terminal being re-evaluated in this SEIR.

Measure	Description	Status as of 2014
MM AQ-9 Alternative Maritime Power	China Shipping ships calling at Berths 97-109 must use AMP in the following percentages while hoteling in the Port. Jan-Jun 2005: 60%; July 2005: 70%; Jan 2010: 90%; Jan 2011: 100%. Additionally, by 2010, all ships retrofitted for AMP shall be required to use AMP while hoteling at a 100 percent compliance rate, with the exception of circumstances when an AMP-capable berth is unavailable due to utilization by another AMP-capable ship.	Compliance (% of vessel calls): 2005: 79% 2006: 74% 2007: 71% 2008: 78% 2009: 78% 2010: 76% 2011: 66% 2012: 12% 2013: 42% 2014: 98% .
MM AQ-10 Vessel Speed Reduction Program	Starting in 2001, all ships calling at Berths 97-109 shall comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area.	Compliance: 2009: 99% within 20 nm and 20% within 40 nm 2010: 97% within 20 nm and 42% within 40 nm 2011: 99% within 20 nm and 42% within 40 nm 2012: 93% within 20 nm and 47% within 40 nm. 2013: 98% within 20 nm and 89% within 40 nm. 2014: 99% within 20 nm and 96% within 40 nm;
MM AQ-15 Yard Tractors at Berth 97-109 Terminal	All yard tractors operated at the Berth 97-109 terminal shall run on alternative fuel (LPG) beginning September 30, 2004, until December 31, 2014 Beginning January 1 2015, all yard tractors operated at the Berths 97-109 terminal shall be the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM.	As of December 31, 2014 all yard tractors met requirement to run on LPG.

Measure	Description	Status as of 2014
MM AQ-16 Yard Equipment at Berth 121-131 Rail Yard	By December 31, 2014, all diesel-powered equipment operated at the Berth 121-131 terminal rail yard that handles containers moving through the Berth 97-109 terminal shall meet USEPA Tier 4 non-road engine standards.	As of the end of 2014, not all equipment that operates at the railyard met Tier 4 as shown in MM AQ-17 below.
MM AQ-17 Yard Equipment at Berth 97-109 Terminal	Starting January 1, 2009, all RTGs shall be electric, all toppicks shall have the cleanest available NO_X alternative fueled engines meeting 0.015 gm/hp-hr for PM, and all equipment purchases other than yard tractors, RTGs, and toppicks shall be either (1) the cleanest available NO_X alternative-fueled engine meeting 0.015 gm/hp-hr for PM or (2) the cleanest available NO_X diesel-fueled engine meeting 0.015 gm/hp-hr for PM. If there are no engines available that meet 0.015 gm/hp-hr for PM, the new engines shall be the cleanest available (either fuel type) and will have the cleanest VDEC. By the end of 2012: all terminal equipment less than 750 hp other than yard tractors, RTGs, and toppicks shall meet USEPA Tier 4 on-road or off-road engine standards. By the end of 2014: all terminal equipment other than yard tractors, RTGs, and toppicks shall meet USEPA Tier 4 non-road engine standards. In addition to the above requirements, the tenant at Berth 97-109 shall participate in a 1-year electric yard tractor [truck] pilot project. As part of the pilot project, two electric tractors will be deployed at the terminal within 1 year of lease approval. If the pilot project is successful in terms of operation, costs and availability, the tenant shall replace half of the Berth 97-109 yard tractors with electric tractors within 5 years of the feasibility determination.	None of the RTGs is electric (one is hybrid diesel-electric and the others are diesel), none of the toppicks are alternative-fueled and only four meet the 0.015 gm/hp-hr PM standard, and none of the other equipment not covered by MM AQ-15 meets Tier 4. The 1-year electric yard tractor [truck] pilot project was not implemented.
MM AQ-20 LNG Trucks	Heavy-duty trucks entering the Berth 97-109 Terminal shall be LNG fueled in the following percentages: 50% in 2012 and 2013, 70% 2014 through 2017, 100% in 2018 and thereafter.	6% of truck calls at WBCT (including the CS terminal) in 2014 were made by LNG trucks, which is lower than the port-wide average of 10%.
LM AQ-23 Throughput Tracking	If the Project exceeds project throughput assumptions/projections anticipated through the years 2010, 2015, 2030, or 2045, staff shall evaluate the effects of this on the emissions sources (ship calls, locomotive activity, backland development, and truck calls) relative to the EIS/EIR. If it is determined that these emission sources exceed EIS/EIR assumptions, staff would evaluate actual air emissions for comparison with the	LAHD Wharfingers throughput data was reported as 690,597 TEUs in 2010 and 1,074,788 TEUs in 2015. Actual TEU throughput slightly exceeded the 2008 EIR projection of 605,200 TEUs for 2010 but did not exceed the projection of 1,164,400 TEUs for 2015.

Measure	Description	Status as of 2014
	EIS/EIR and if the criteria pollutant emissions exceed those in the EIS/EIR the new or additional mitigations would be applied through MM AQ-22 Periodic Review of New Technology Regulations.	
MM TRANS-2 Alameda and Anaheim Streets	Provide an additional eastbound through-lane on Anaheim Street. This measure shall be implemented by 2015.	Not implemented.
MM TRANS-3 John S. Gibson Boulevard and I-110 NB Ramps	Provide an additional southbound and westbound right-turn lane on John S. Gibson Boulevard and I-110 NB ramps. Reconfigure the eastbound approach to one eastbound through-left-turn lane, and one eastbound through-right-turn lane. Provide an additional westbound right-turn lane with westbound right-turn overlap phasing. This measure shall be implemented by 2015.	Most of the requirement is being met through the completion of the John S. Gibson Blvd/I-110 Access Ramps and SR-47/I-110 Connector Improvements Project except to provide an additional westbound right-turn lane with westbound right-turn overlap phasing by 2015.
MM TRANS-4 Fries Avenue and Harry Bridges Boulevard	Provide an additional westbound through-lane on Harry Bridges Boulevard. Provide an additional northbound, eastbound, and westbound right-turn lane on Fries Avenue and Harry Bridges Boulevard. This measure shall be implemented by 2015.	Not implemented.
MM TRANS-6 Navy Way and Seaside Avenue	Provide an additional eastbound through-lane on Seaside Avenue. Reconfigure Modify Navy Way/Seaside Ave	Not implemented.

LAHD has proposed certain changes to the operational mitigation measures in Table 2-1, and the impacts of those potential changes to the CS Container Terminal's operations are analyzed and disclosed in this Draft SEIR. For the Revised Project under review in this Draft SEIR, some of the mitigation measures in Table 2-1 would be eliminated or modified, as summarized below.

- MM AQ-9 modified to require that by January 1, 2018, all ships calling at Berths 97-109 must use AMP while hoteling in the Port, with a 95 percent compliance rate.
- MM AQ-10 modified to require that by January 1, 2018, at least 95 percent compliance with Vessel Speed Reduction Program (VSRP) out to 40 nm for all vessels calling the CS Container Terminal, or alternative compliance plan approved by LAHD.
- MM AQ-15 modified to require that all LPG yard tractors of model years 2011 or older shall be alternative-fuel yard tractors that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- MM AQ-16 combined with MM AQ-17 because there is no actual distinction between railyard equipment and terminal equipment as a whole.
- MM AQ-17 modified to require that: 1) all diesel-powered RTG cranes of model years 2004 or older shall be diesel-electric hybrid with diesel engines that meet or exceed Tier 4 final off-road engine standards for PM and NO_x, with some units

being all-electric, 2) diesel forklifts shall meet or exceed Tier 4 final off-road engine standards for PM and NO_x, with some being all-electric, 3) top picks shall meet or exceed Tier 4 final off-road engine standards for PM and NO_x, 4) sweepers shall be alternative-fueled or cleanest available units by 2025, and 5) shuttle buses shall be zero-emissions units by 2025.

- MM AQ-20 not included in the Revised Project; no feasible substitute or modified mitigation measure has been identified, but with the implementation of a new port-wide Clean Trucks Program currently under development as part of the 2017 CAAP and subject to Board approval, future emission reductions from drayage would be achieved (although no credit can be taken at this time). Some reductions in drayage truck emissions would be achieved by implementation of CAAP measures and Lease Measure LM AQ-2 (priority access for zero/near-zero-emission trucks), which is described more fully in Section 3.1.
- MM AQ-23 (throughput tracking) re-designated a lease measure (LM AQ-23) in the 2008 EIS/EIR's MMRP and not included in the Revised Project.
- MMs TRANS-2, TRANS-4, and TRANS-6 not included in the Revised Project.
- The remaining element of MM TRANS-3 (provision of additional right-turn lane at the John S. Gibson/I-110 northbound ramps), which has not yet been implemented, not included in the Revised Project.

The Draft SEIR analyzes environmental impacts of these modifications as the Revised Project, under the assumption that the modifications would take effect starting in 2018 (because that is the earliest reasonable date that the Board of Harbor Commissioners could take action to implement the Revised Project) and continue until 2045, when the lease ends.

If the Draft SEIR concludes that the Revised Project would result in significant impacts on the environment, the analysis examines whether the modifications can be further revised, or if there are any additional feasible mitigation measures that could be adopted, to address such impacts. If these proposed modifications, other changes to the mitigation measures, or new mitigation measures are recommended as a result of the Draft SEIR, the Board of Harbor Commissioners will consider amending Permit No. 999 for operations at Berths 97-109 accordingly.

The Draft SEIR also contains informational analyses related to air quality (Appendix D) that address past activities, describing the difference between the impacts that were predicted, and mitigated, by the 2008 EIS/EIR and the impacts that actually occurred between 2005 and 2014, given the level of terminal activity (throughput, vessels, trucks, and trains) and degree of implementation of mitigation measures that actually occurred.

One analysis assesses the impacts of actual operations between 2005 and 2014, with the mitigation measures that were actually implemented, and compares those impacts to the impacts predicted in the 2008 EIS/EIR. The second analysis also assesses the impacts of actual operations between 2005 and 2014, but assumes that all mitigation measures in the 2008 EIS/EIR were implemented. It then compares those impacts to the impacts disclosed in the 2008 EIS/EIR. The difference between the two analyses represents the impact of incomplete implementation of the original mitigation measures in the past, i.e., the "excess emissions" referred to in several of the public's comments on the NOP.

These analyses incorporate three issues: 1) the difference between 2008 EIS/EIR throughput assumptions and actual throughput between 2005 and 2014; 2) the difference between assumed and actual mitigation implementation; and 3) the difference in

analytical techniques between those used in the 2008 EIS/EIR and those currently in use. As discussed in more detail in Section 3.1 Air Quality, the previous air quality and health risk models are no longer available, and many of the emissions and health risk factors used in modeling have been changed, so that the analytical techniques of 2008 are outdated and would lead to misleading comparisons.

2.3 Project Objectives

In the 2008 EIS/EIR, the LAHD's overall objectives for the CS Container Terminal were threefold: (1) provide a portion of the facilities needed to accommodate the projected growth in the volume of containerized cargo through the Port; (2) comply with the Mayor's goal for the Port to increase growth while mitigating the impacts of that growth on the local communities and the Los Angeles region by implementing pollution control measures, including the elements of the Clean Air Action Plan (CAAP) applicable to the proposed Project; and (3) comply with the Port Strategic Plan to maximize the efficiency and capacity of terminals while raising environmental standards through application of all feasible mitigation measures.

The overall purpose of the Revised Project is to further the second and third objectives by eliminating some previously adopted measures that have proved to be infeasible or unnecessary, instituting new, feasible, mitigation measures, and modifying other existing measures to enhance their effectiveness.

2.4 Project Location and Setting

2.4.1 Project Location

The Port is located at the southernmost end of the City of Los Angeles (Figure 1-1), in the communities of San Pedro and Wilmington in the County of Los Angeles, California, approximately 20 miles from downtown Los Angeles. The Port is within the Port of Los Angeles Community Plan area. It encompasses 7,500 acres and 43 miles of waterfront, and provides a major gateway for international goods and services. With 23 major cargo terminals, including container, dry and liquid bulk, breakbulk, automobile, and passenger facilities, the Port handled about 177 million metric revenue tons of cargo in fiscal year 2015 (July 2014–June 2015) (LAHD, 2017a). In addition to cargo operations, the Port is home to commercial fishing vessels, shipyards, and boat repair facilities, as well as recreational, community, and educational facilities.

2.4.2 Project Setting

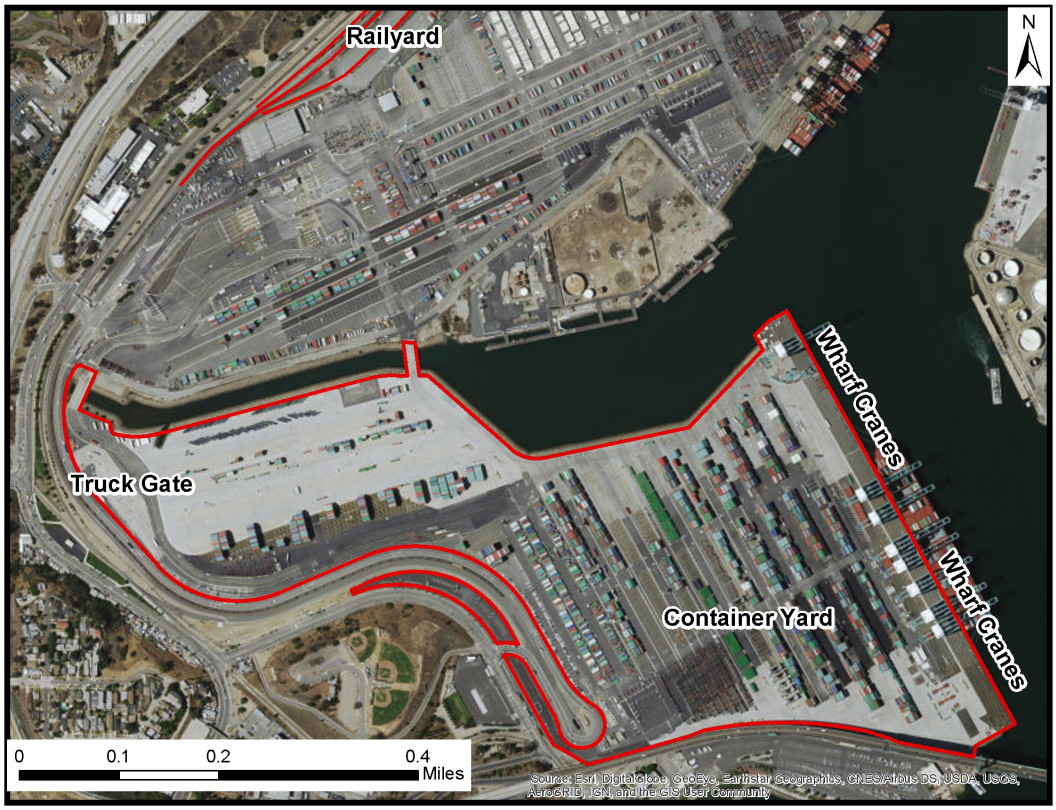
The project site, at Berths 99-109 (Figure 2-1), is generally bounded on the north by the Yang Ming container terminal; on the east by the West Basin, Main Channel, and Pier A; on the south by the World Cruise Center and State Route 47; and on the west by Pacific Avenue, Front Street, and the community of San Pedro. Land uses in the general vicinity of the project site support a variety of cargo handling operations, including container, liquid bulk, and dry bulk; commercial fishing and seafood processing; a power plant (Harbor Generating Station); Port administration and maintenance facilities; maritime support uses; and recreational and residential uses.

2.4.3 Existing Site Conditions

The 131-acre CS Container Terminal has vessel two berths and a container yard, and is operated by the West Basin Container Terminal LLC (WBCT) under a lease agreement (Permit No. 999) between China Shipping (North America) Holding Co., Ltd.) and LAHD. WBCT also operates the adjacent Yang Ming (YM) Container Terminal at Berths 121-136, and is partially owned by China Shipping and Yang Ming. WBCT owns the cargo-handling equipment that is used on both the CS and YM terminals, and the equipment is frequently shared between the two terminals. The two terminals share the on-dock West Basin Intermodal Container Transfer Facility (WBICTF), which is located on the Yang Ming terminal.

As described in more detail below (Section 2.6), the baseline for consideration of the air quality and related impacts of the Revised Project is 2014, which is the last full year of operation before the NOP was issued. In 2014 the terminal handled 1,088,639 twenty-foot-equivalent units (TEU: twenty-foot equivalent units, a measure of containerized cargo capacity) of containerized cargo, or approximately 595,000 containers. The majority of the containers left the terminal by truck, whether to transload destinations in the region for ultimate placement on eastbound trains or to warehouses and distribution centers for consumption within the region. The remainder were placed directly onto trains at the WBICTF for transport out of the southern California region. Export containers (those leaving the terminal on ships) made the reverse moves in roughly the same proportions. In total, these activities involved approximately 555,000 truck trips, 418 train trips to and from the WBICTF, and 163 vessel calls.

Figure 2-1: Berths 97-109 (China Shipping) Container Terminal



The CS Container Terminal handled the containers with a variety of cargo-handling equipment (CHE). Details of the CHE fleet are discussed below as various elements of the Revised Project are described, but in general, the WBCT's inventory of CHE in 2014 included 180 LPG-powered yard tractors (hostlers), 18 rubber-tired gantry cranes (RTGs), 22 forklifts, 1 sweeper, 5 off-road trucks, and 39 toppick mobile cranes (a type of CHE that lifts containers onto and off of truck chassis, railcars, and container stacks). The CS Container Terminal is assumed, on the basis of the 2014 combined throughput of the YM and CS terminals (1,606,707 TEUs), to use an average of approximately 68% of the CHE (CS's throughput was 1,088,639 TEUs).

2.4.4 Operations 2005 - 2014

The CS Container Terminal began operation in 2005 and has operated more or less continuously since then. As Table 2-2 shows, throughput has approximately doubled in the 10 years of operation.

Table 2-2: CS Container Terminal throughput since 2005.

Year	2008 EIS/EIR Projected Throughput (TEUs)*	Actual Throughput (TEUs)
2005	403,200	456,739
2006	510,000	520,248
2007		559,026
2008		387,004
2009		607,630
2010	605,200	690,597
2011		613,252
2012		699,609
2013		813,845
2014	<1,164,000**	1,088,639

* From Table E1.2-1 of USACE &LAHD (2008) https://www.portoflosangeles.org/EIR/ChinaShipping/DEIR/AppendixE1.2_Operations_Air_Quality_Calculations.pdf
** The projection for 2015 was 1,164,000 TEUs, so a projection of 2014 throughput would have been somewhat less.

Operation between 2005 and 2014 included implementation of most of the mitigation measures imposed in the 2008 EIS/EIR, but, as described in Table 2-1, some were incompletely implemented or not implemented at all. In the case of MM AQ-9, for example, in 2011 China Shipping informed LAHD that it could not meet the target date for 100% AMP. LAHD determined that the actual total PM emissions from ocean-going vessels (OGV) in 2012 and 2013 would be below those analyzed in the EIR, primarily because of the lower actual terminal throughput due to the recession, the use of larger vessels, and implementation of CARB's low-sulfur marine fuel regulation (LAHD, 2011). Based on these findings, LAHD agreed to extend the 2011 deadline for 100% AMP to December 31, 2013, to provide China Shipping with additional time to fit its vessels with AMP capability. A subsequent analysis in 2013 (LAHD, 2013), which included third-party vessels (primarily the shipping lines UASC and Yang Ming), confirmed that projected emissions of PM, NO_x, and SO_x (annual and peak daily emissions) covering ocean-going vessels were still below the emissions for milestone years analyzed in the 2008 EIS/EIR. Because of the extension, in 2012 only 12% of vessel calls used AMP and in 2013 34% used AMP. The use of AMP increased thereafter: in 2014 80% of vessels calls used AMP. This figure is consistent with CARB's regulation for at-berth vessel emissions control (17 CCR Section 93118.3) requiring that, beginning 1 January 2014, at least 50% of ship calls either use shore power or achieve 50% emission reduction through equivalent emission control technologies (CARB, 2007a).

As another example, the requirements of MM AQ-17 were also not completely achieved for most categories of CHE. By the end of 2014 none of the RTGs was electric-powered (one was a diesel-electric hybrid), and most of the toppicks and forklifts were non-compliant.

The SEIR analyzes the "Actual" scenario – operation with actual throughputs, CHE activity, trucks, vessels, and trains, as well as mitigation measures as actually implemented. Thus, for example, the 2008 EIS/EIR assumed that between 2012 and

2014, 50% of the drayage trucks serving the CS Container Terminal would be LNG-fueled. In fact, the percentage of LNG-fueled trucks was approximately 9%; accordingly, the SEIR analyzes the difference in emissions and resultant health impacts between the assumption of 50% LNG-fueled trucks and the actual drayage fleet, operating under the requirements of the Clean Truck Program that served the terminal during that period.

A comprehensive review of the past performance of the China Shipping Terminal with respect to the air quality mitigation measures imposed by the 2008 EIS/EIR was performed. This review found that in the period 2005-2013, emissions of pollutants, pollutant concentrations, and predicted health risk did not exceed the predicted levels in the 2008 EIS/EIR. This review is presented in Appendix D.

2.5 Revised Project

The Revised Project involves the continued operation of the CS Container Terminal under new and/or modified mitigation measures, described in Section 2.5.2, compared to those set forth in the 2008 EIS/EIR for the Approved Project. The revisions to mitigation measures in some cases modify details of the implementation of a measure, in other cases substitute a new measure, and in still others eliminate the measure altogether as being infeasible or no longer necessary. All other aspects of the Approved Project, including construction and the physical operation of the CS Container Terminal and all other mitigation measures, remain the same as those evaluated in the 2008 EIS/EIR, although the circumstances surrounding operation of the CS Container Terminal have changed to reflect an updated assessment of the terminal's maximum throughput (i.e., its capacity). The modifications proposed under the Revised Project are analyzed in this Draft SEIR with the physical elements of the Approved Project described in the 2008 EIS/EIR as they now exist, and the operation of those elements, including the completed mitigation measures and the ongoing mitigation measures, under updated cargo and activity projections and using current analytical techniques.

2.5.1 Operation of the CS Container Terminal, 2014 - 2045

This Draft SEIR compares future operations as analyzed in the 2008 EIS/EIR and as now projected to occur. This analysis is based on the recognition that changes in throughput, technology, and other factors have occurred, and that the original mitigation measures are, in many cases, obsolete or infeasible.

As Table 2-3 shows, there are differences in the analytical years between the original document and the Draft SEIR. The 2008 EIS/EIR analyzed 2015 as one of its interim years, but for the Draft SEIR the baseline year is 2014; the one-year difference is judged not to affect the comparison of the two scenarios. In addition, the Draft SEIR analyzes an additional interim year, 2023, which was not analyzed in the 2008 EIS/EIR. This year has been chosen to provide information on conditions that would pertain when regulatory requirements would be fully implemented.

Table 2-3: Comparison of Operation of the CS Container Terminal as Analyzed in the 2008 EIS/EIR and the SEIR.

Element	2008 Assumptions			SEIR Assumptions			
Year:	2015	2030	2045	2014 (Actual)	2023	2030	2036-2045
Throughput (TEUs)	1,164,000	1,551,000	1,551,000	1,089,000	1,521,228	1,698,504	1,698,504
Vessel Calls/yr	182	234	234	82	156	156	156
Truck Trips/yr	1,192,000	1,508,000	1,508,000	1,109,873	1,348,380	1,501,817	1,514,062
Train Trips/yr	648	816	816	570	703	723	738
%TEUs by Truck	81%	83%	83%	81%	85%	86%	86%
%TEUs by On-Dock	20%	17%	17%	19%	16%	14%	14%

Notes:
1) Analysis years differ because 2015 was an interim year for the 2008 EIS/EIR but 2014 is the baseline year for the SEIR.
2) %TEUs by Truck includes trips to near-dock/off-dock railyards.

2.5.2 Revised Project Elements

2.5.2.1 Mitigation Measures

MM AQ-9 – Alternative Maritime Power (AMP)

MM AQ-9 (LAHD and USACE, 2008) required that China Shipping ships calling at Berths 97-109 must use AMP in the following percentages while hoteling in the Port: January 1 –June 30 2005: 60% of total ship calls; 1 July 2005: 70% of total ship calls (ASJ requirement); 1 January 2010: 90% of ship calls; 1 January 2011 and thereafter: 100% of ship calls. Additionally, by 2010, all ships retrofitted for AMP shall be required to use AMP while hoteling at a 100 percent compliance rate, with the exception of circumstances when an AMP-capable berth is unavailable due to utilization by another AMP-capable ship.

China Shipping vessels achieved the earlier requirements (Table 2-1): in 2005, 97% of vessel calls used AMP, and through 2009 rates of AMP exceeded 70% in every year except 2006 (46%). Thereafter, compliance did not meet the higher requirements, never achieving more than 80% through 2014.

Several factors affect the ability of a container terminal to achieve the goal of having 100% of vessel calls use shore power. These factors, recognized by CARB, are the reason why CARB's shore power requirement is 50% of calls until 2017 and is capped at 80 percent of vessel calls by 2020. First, very few terminals service only the vessels of a single shipping line; most, including the CS Container terminal, have a core business of vessels belonging to one shipping company or those of a consortium ("alliance") of a few shipping companies, but also accept third-party business. The core line of the CS Container Terminal, for example, is China Shipping, but the terminal accepts a number of third-party vessels, including Yang Ming and alliance members UASC and CMA-CGM. This business is important to international commerce and to the financial viability of individual terminals. This third-party business may involve vessels that have not been equipped to use shore power. Accordingly, some proportion of vessel calls cannot use AMP because the vessels are not equipped to do so. In 2014, 17 vessel calls (out of the

total of 83) did not use AMP; most of those belonged to the shipping lines UASC and CMA-CGM. Those vessels either used the bonnet alternative emission reduction technology, in which emissions were captured by a stack bonnet and treated by a barge-mounted treatment unit, or stayed too short a time in port to use either technology.

Second, situations arise that prevent an AMP-capable vessel from utilizing AMP. These include emergency situations, as defined in 17 CCR Section 93118.3(c)14, involving either the vessel or the electric utility, and equipment failure involving the vessel, the AMP facility at the berth, or the electric utility.

Finally, a small percentage of the vessels that call at a given container terminal are operated by shipping lines that do not meet the CARB required minimum of 25 annual calls (CARB, 2007b, c); those vessels tend not to be outfitted to connect to shore power. For these vessels, alternative emissions control technology is the only possible option.

Revised Project

Although the goal of the Approved Project was 100 percent compliance for China Shipping vessels, the LAHD (as well as CARB) recognizes that the factors summarized above may prevent China Shipping from always achieving that goal. The Revised Project requires that:

> By January 1, 2018, all ships calling at Berths 97-109 must use AMP while hoteling in the Port, with a 95 percent compliance rate. Exceptions may be made if one of the following circumstances or conditions exists:
>
> 1) Emergencies
> 2) An AMP-capable berth is unavailable
> 3) An AMP-capable ship is not able to plug in
> 4) The vessel is not AMP-capable.
>
> In the event one of these circumstances or conditions exist, an equivalent alternative at-berth emission control capture system shall be deployed, if feasible, based on availability, scheduling, operational feasibility, and contracting requirements between the provider of the equivalent alternative technology and the terminal operator. The equivalent alternative technology must, at a minimum, meet the emissions reductions that would be achieved from AMP. For analysis purposes, compliance with this mitigation measure shall be assumed not to exceed 95%, in order to accommodate the exceptional circumstances in 1-4, above.

The revised measure is consistent with the 2010 CAAP and AMP requirements for recently certified EIRs. For calculating emissions, this analysis assumes (conservatively, given how rarely those exceptional circumstances have occurred) that 95% of vessels calling the CS Terminal will meet the requirements of the measure. That compliance rate is substantially larger than the 80% overall maximum assumed by CARB and is consistent with CARB's assumption that the shore-power regulation will affect approximately 96 percent of container vessels (CARB 2007b, Table VI-1). The emissions calculations also incorporate the CARB regulation's three-hour provision. That provision acknowledges that connecting and disconnecting from the AMP system takes time, and allows three hours for each process, during which the vessel can run its auxiliary engines without violating the regulation.

MM AQ-10 – Vessel Speed Reduction Program

MM AQ-10 (LAHD and USACE, 2008) required that as of 2009, 100% of oceangoing vessels calling the CS Container Terminal comply with the Vessel Speed Reduction Program (VSRP) within a 40-nautical-mile (nm) radius of Point Fermin. The VSRP was initially (2005) established as a 20-nm-radius, but MM AQ-10 extended the radius to 40 nautical miles.

In 2014, vessels calling the CS Container Terminal achieved a compliance rate of 99% within the 20-nm radius, and between 20 and 40 miles the compliance rate was 98%. While these high rates of compliance were consistent with the other container terminals in the Port (Table 2-4), they fell somewhat short of the 100% required by the mitigation measure.

The need to slow down vessels within the VSRP 40 nm radius is built in to the voyage plans of most shipping lines. Vessels calling the Port's major container terminals typically achieve high rates of compliance, some maintaining 100% compliance in the inner portion of the VSRP radius (20 nm) and several, including China Shipping, achieving or approaching 100% throughout the entire VSRP.

Table 2-4: Container terminal compliance (percent) with the Vessel Speed Reduction Program, 2014.

Terminal	Within 20 nm	Within 40 nm
Eagle Marine	100	84
APM Terminals	86	71
California United Terminal	99	95
Everport	99	97
POLA Container Terminal	98	98
TraPac	99	97
Yang Ming (WBCT)	98	95
China Shipping (WBCT)	99	96
Yusen (YTI)	98	72
Average	95	84

Although the compliance rate of vessels calling the CS Terminal approached 100% in 2014, not all vessels will be able to meet the 100% requirement due to arrivals or departures that would have to increase speed for various reasons. Non-compliance with the VSR is typically the result of pressure on vessel schedules caused by weather, port delays, and mechanical problems. For example, meeting scheduled time slots for shorter voyages (e.g., to or from Oakland) may require higher vessel speeds. Schedule slippage can be made up by increasing vessel speed, and if a vessel is still behind schedule as it approaches Los Angeles Harbor, the vessel's master may elect either to operate at higher than economic speed outside the VSRP area for a period of time, or to increase vessel speed in some part of the VSRP control radius. For example, operating at 17 knots instead of 12 knots would allow a vessel to make up an hour of time in the 40-mile zone. In addition, vessel schedules are coordinated to avoid incurring container terminal labor standby costs, so that increased speed may be necessary to arrive at a berth in time to utilize labor efficiently. Accordingly, while 100% compliance may be achieved in any given year, that rate cannot be sustained over a period of years.

Revised Project Modification

The LAHD proposes that MM AQ-10 be revised to require that:

> Beginning January 1, 2018, at least 95 percent of vessels calling at Berths 97-109 shall either 1) comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area or 2) comply with an alternative compliance plan approved by the LAHD for a specific vessel and type. Any alternative compliance plan shall be submitted to LAHD at least 90 days in advance for approval, and shall be supported by data that demonstrates the ability of the alternative compliance plan for the specific vessel and type to achieve emissions reductions comparable to or greater than those achievable by compliance with the VSRP. The alternative compliance plan shall be implemented once written notice of approval is granted by the LAHD.

The 95% requirement at 40nm is consistent with recent POLA EIRs and with how shipping lines at terminals have been performing at POLA. It incorporates the realities of oceangoing cargo vessel operation and the need to maintain economic competitiveness. Option 2 allows China Shipping to submit an alternative compliance plan that demonstrates to LAHD's satisfaction that the intent of the VSRP would be achieved.

MM AQ-15 – Clean-Diesel Yard Tractors

MM AQ-15 (LAHD & USACE, 2008) required all yard tractors to run on alternative fuel (LPG) between September 30, 2004, and December 31, 2014, and that beginning January 1, 2015, all yard tractors must be the cleanest available NO_x alternative-fueled engine meeting 0.015 gm/hp-hr for PM.

As of 2014, all yard tractors operating at the CS Container Terminal were alternative fuel-powered, and thus complied with the ASJ portion of MM AQ-15. However, all LPG tractors, regardless of model year, have a nominal PM emission factor of 0.08 gm/hp-hr (EPA Tier 3), and thus do not satisfy the requirement that they be cleanest available by 2015. Full compliance with this requirement would necessitate the replacement of all of the 122 yard tractors in use at the CS Terminal with new units. According to China Shipping (LAHD, 2017b), those tractors would cost approximately $100,000 per unit, for an estimated total of $12.2 million. Furthermore, LPG yard tractors meeting the current ultra-low NO_x standard (0.02 g/bhp-hr) are not commercially available; only a single demonstration unit has been tested at the Port of Savannah at this time. Accordingly, the original measure is technologically infeasible.

Revised Project Modification

For the Revised Project, MM AQ-15 requires that:

- By January 1, 2019 all LPG yard tractors of model years 2007 or older shall be alternative fuel yard tractors that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2023 all LPG yard tractors of model years 2011 or older shall be alternative fuel yard tractors that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.

WBCT, the operator of the CS Terminal, prefers to continue to use LPG but the mitigation is written as alternative fuel to be technology neutral. WBCT confirmed that up to 40 yard tractors can be replaced each year. This figure is based on the time it takes

to place the order and have the units built. LAHD has independently confirmed that information: one major manufacturer has indicated that they can produce 20 LPG units per month or up to 200 LPG yard tractor units per year, if needed. Since that manufacturer would have many other customers, and considering the size of the financial commitment, 40 units per year is deemed appropriate.

MM AQ-16 – Railyard Cargo-Handling Equipment

In accordance with the ASJ, MM AQ-16 required that the CHE at the WBICTF on-dock railyard be exclusively LPG-fueled from 2004 to 2014. The measure further required that by end of 2014, all such equipment meet Tier 4 off-road or on-road engine standards. The equipment used at the railyard is the same CHE used in the container yards of the CS and YM terminals, i.e., yard tractors that transfer containers between the container yard and the railyard, and toppicks that load and unload trains. Accordingly, the intent of this measure is fulfilled by controlling CHE through MM AQ-15 and MM AQ-17.

Revised Project Modification

MM AQ-16 has been combined with MM AQ-17 because there is no feasible way to identify railyard, as opposed to container yard, equipment, and because implementation of AQ-15 and AQ-17 will control emissions associated with CHE handling CS cargo.

MM AQ-17 – Container Yard Cargo-Handling Equipment

In accordance with the ASJ, MM AQ-17 required that by September 30, 2004 all toppicks be equipped with diesel oxidation catalysts (DOCs) and use emulsified diesel fuel, which has been met. The few remaining older-model units are equipped with DOCs (although emulsified fuel is no longer available) and the newer models (2008 and newer) exceed the DOC's PM reduction efficiency by virtue of meeting cleaner engine standards. All of the units use ultra-low-sulfur diesel fuel (ULSD), as required by state and federal law, which further reduces emissions. MM AQ-17 further requires that, beginning in 2009, all RTGs must be electric powered, all toppicks must have cleanest available NO_x alternative fuel engine meeting EPA Tier 4 standards for PM, and new equipment purchases must be either cleanest alternative fuel or cleanest diesel with cleanest verified control equipment; by the end of 2012, all equipment less than 750 hp (which includes all CHE at the CS terminal) must meet EPA Tier 4 off-road or on-road engine standards; and by the end of 2014, all equipment must meet Tier 4 non-road engine standards.

As Table 2-5 shows, in 2014 there were approximately 79 pieces of CHE operating at the CS and Yang Ming terminals (WBCT); in addition, there were two diesel-powered sweepers. All of the toppicks and RTGs, and more than half of the forklifts, were diesel-powered, fueled by USLD. Given the proportion of the total cargo handled by WBCT at the two terminals that moves through the CS Terminal (68%), it can be assumed that the numbers of CHE working at that terminal in 2014 were approximately 13 RTGs, 15 forklifts, and 27 toppicks.

Two of WBCT's RTGs are diesel-electric hybrid models. These hybrids, called EcoCranes, provide significant emission reductions compared to diesel RTGs (74% PM and 84% NO_x reduction), but because they are partially diesel-powered they still do not meet the requirements of MM AQ-17 as originally written.

All-electric RTGs are not only much more expensive to purchase than either diesel-powered or hybrid units, but their installation at a container terminal requires substantial

and costly modifications of the container yard to accommodate the necessary power trenches and transformers. In addition, space constraints in much of the container yard prevent the installation of electric RTGs throughout the terminal. However, WBCT confirmed that four electric RTGs in what is known as the "surcharge area" at the terminal are feasible because infrastructure in that location has already been installed. The surcharge area is a block area in the northern portion of the terminal that lies south of the waterway and bridges connecting to the adjacent YM Terminal.

Table 2-5: Cargo-handling equipment inventory of West Basin Container Terminal

Model Year	RTGs	Forklifts		Toppicks	Yard Tractors
		Diesel	LPG		
2014		1		1	
2013	1				
2011	1		1	3	23
2009		1			
2008			2	15	43
2007		3		6	59
2006				6	
2005	5	3	3		
2004	2	4			53
2003	8				
2002			2	8	
Pre-2000	1	1	1		2
Total	19	13	9	39	180

With regard to the other CHE, the four model year 2011 and 2014 toppicks already meet the Tier 4 interim standard, which is the standard referenced by the mitigation measure. Assuming that those four units could be dedicated to the CS terminal, WBCT would need to purchase another 23 Tier 4 units and dedicate them to the CS terminal to comply with the measure. This could be achieved by first replacing the 2002 model year units, which are nearing the end of their service life, then replacing the 2006 and 2007 model year units, which still have several more years of service life. The estimated cost of the replacement is $15 million (approximately $650,000 per unit; LAHD 2014).

With regard to the forklifts, the two 2011 and newer units (LPG and diesel) already meet Tier 4 standards, and thus comply with the measure. Accordingly, compliance with the measure will require replacing at least 13 other units with Tier 4-compliant units and dedicating the new units to the CS terminal.

Revised Project Modification

For the Revised Project, MM AQ-17 is revised as follows: all yard equipment at the terminal except yard tractors shall implement the following requirements:

Forklifts:

- By January 1, 2019 all 18-ton diesel forklifts of model years 2004 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.

- By January 1, 2020 all 18-ton diesel forklifts of model years 2005 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2020 all 5-ton forklifts of model years 2011 or older shall be electric.
- By January 1, 2021 all 18-ton diesel forklifts of model years 2007 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.

Toppicks:

- By January 1, 2019 all diesel top-picks of model years 2006 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2021 all diesel top-picks of model years 2007 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2023 all diesel top-picks of model years 2014 and older shall be replaced with units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.

Rubber-Tired Gantries:

- By January 1, 2021 all diesel RTG cranes of model years 2003 and older shall be diesel-electric hybrid with diesel engines that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2023 all diesel RTG cranes of model years 2004 and older shall be diesel-electric hybrid with diesel engines that meet or exceed Tier 4 final off-road engine standards for PM and NO_x.
- By January 1, 2025 four RTG cranes of model years 2005 and older would be replaced by all-electric units, and one diesel RTG crane of model year 2005 shall be diesel-electric hybrid with a diesel engine that meets or exceeds Tier 4 final off-road engine standards for PM and NO_x.

Sweepers:

- Sweeper(s) shall be alternative fuel or the cleanest available by 2025.

Shuttle Buses:

- Gasoline shuttle buses shall be zero-emissions units by 2025.

MM AQ-20 – LNG Trucks

The 2008 EIS/EIR proposed MM AQ-20 to reduce the emissions of drayage trucks arriving at and departing from the CS Container Terminal. The measure required that LNG-fueled drayage trucks be used to convey containers to and from the terminal. The requirement has three phases: from 2012 through 2014, at least 50% of drayage trucks calling the terminal must be LNG-powered, from 2015 through 2017 at least 70%, and thereafter 100%. The 2008 EIS/EIR envisioned that LAHD would be responsible for the trucks and WBCT (the terminal operator) would be responsible for necessary gate modifications and operations to ensure compliance.

By the end of 2014, 8.2% of drayage trucks calling the CS Container Terminal were LNG powered; accordingly, the requirements of MM AQ-20 were not being met. This

proportion of LNG-powered trucks is consistent with the drayage fleet as a whole in the San Pedro Bay ports area. As described in LAHD (2017c), the requirement of MM AQ-20 is considered infeasible at this time because of industry structural constraints, truck technology constraints, and financial constraints.

Industry Structural Constraints: First, the structure of the drayage truck industry serving the ports is incompatible with such a requirement. This requirement would have the CS Terminal regulate its customers' (i.e., the ocean carriers that call at the terminal) contractors (i.e., the licensed motor carriers that dray the cargo) or its customers' customers (i.e., beneficial cargo owners [BCOs] and their agents). This approach would be impracticable because the terminal is not a party to the contracts that determine what vehicles will arrive at the terminal's gates. Container terminals are contracted to load and unload ships, trains, and trucks, not to conduct or arrange for drayage. As described more fully in LAHD (2017c), the great majority of drayage is contracted for by two different entities: BCOs (about 75% of the time) and shipping lines (25% of the time). BCOs and shipping lines hire drayage companies to move containers between the Port and their warehouses and the near and off-dock railyards. The trucking companies allocate resources, i.e., trucks, according to the demands of the cargo owners, not the terminals, meaning that CS and WBCT have no role in the logistics of drayage.

Accordingly, a container terminal seeking to implement a requirement to use only LNG-fueled trucks for moving cargo beyond its gates would have three basic approaches to choose from:

- Turn away all non-LNG-fueled trucks at the terminal gates;
- Convert its existing truck fleet (if it has one) or form its own trucking company with appropriate trucks;
- Contract with one or more trucking firms to dedicate LNG-fueled trucks to that terminal.

The first approach, turning away non-LNG-fueled trucks at its gates, would be impracticable because the beneficial cargo owners, their agents, and shipping lines would simply send their cargo through other terminals that do not have the LNG requirement. The CS Terminal is one of 13 container terminals in the San Pedro Bay ports: in 2014 the terminal handled only 1 million of the 15 million TEUs that flowed through the San Pedro Bay ports. A unilateral movement on its part would likely be rejected or avoided by the shipping lines and cargo owners which, fearing delays and higher costs, could be disposed to take their business to other shipping lines if advised that their containers could only be drayed by LNG-fueled trucks. The current system of ocean carrier alliances, which allows ocean carriers to send their ships to other terminals than the ones with which they are nominally bound, would facilitate such a shift.

The second approach is infeasible partly because no terminal currently has an in-house drayage truck fleet that could be converted, partly because shippers would have no incentive to use such a fleet, which would certainly be more costly than the conventional clean diesel fleet, and partly because, as described in LAHD (2017c), it is unrealistic to suppose that a single container terminal could operate a large enough fleet of LNG-fueled trucks to handle all of its containers not destined for on-dock rail. Furthermore, it is unrealistic to suppose that a container terminal operator inexperienced in trucking operations could successfully compete in the highly competitive, low-margin drayage business. Neither CS nor WBCT is a trucking company; they are a shipping company and a container terminal operating company, respectively. Their business is to transport goods across oceans on ships, load and unload containers from the ships, trains, and

trucks that arrive at the CS Container Terminal to pick up or deliver cargo containers, and store those containers pending their pickup.

The third approach would have trucking companies dedicate their LNG-fueled trucks to the CS Terminal. This approach would be challenged by the fact that, as mentioned above, the terminal is not involved in designating which trucking firm will pick up or deliver containers at its facilities. In addition, it is not clear that there are enough LNG-fueled trucks in service to handle CS' cargo, and, as described in LAHD (2017c) it is not likely that there will be more such trucks entering the drayage fleet without substantial government intervention in the form of subsidies and./or regulations.

Truck Technology Constraints: The CS Terminal has no control over the number of LNG trucks in the drayage fleet. As discussed in LAHD (2017c), LNG-fueled trucks are a minor component of the drayage fleet (700 in a fleet of 15,000), and that proportion is likely to shrink as warranties expire and the units are not replaced. The LNG trucks are not going to be replaced with new LNG trucks because LNG-fueled trucks cost at least $50,000 more per unit than clean diesel trucks, they are more expensive to maintain, and the expected fuel cost savings have not materialized.

Furthermore, LNG-fueled trucks have proven to be unsuitable for the most rigorous duty, namely the long haul over the steep grades leading out of the L.A. Basin (LAHD, 2017c). This factor would preclude the CS Terminal from handling long-haul drayage cargo.

Financial Constraints: Meeting a requirement to accept only LNG-fueled trucks would place CS and WBCT at a severe competitive disadvantage with respect to the other 12 container terminals in the ports of Los Angeles and Long Beach. Those terminals are served by drayage trucks that are enrolled in each port's Clean Truck Program (CTP). Less than 5% of the more than 15,000 trucks in the programs are LNG-fueled, and in 2014 those trucks hauled approximately 10% of the containers. The rest of the trucks are 2007-compliant diesel-powered trucks, i.e., clean trucks.

BCOs and ocean carriers face a wide variety of difficulties in moving goods. If they were to continue to use a terminal that required LNG-fueled trucks, they would have the added difficulty of finding enough trucks to handle their containers, the added expense of the higher costs of using those trucks, and the fact that their long-haul cargo could not be handled. They would avoid these difficulties by sending their goods through any one of the 12 other port terminals (which ocean carriers can do through their vessel-sharing alliances).

Revised Project Modification

There is no feasible mitigation measure that could be assured of reducing drayage truck emissions by a quantifiable amount. Accordingly, the Revised Project does not include MM AQ-20.

With the implementation of a new port-wide Clean Trucks Program currently under development as part of the 2017 CAAP and subject to Board approval, future emission reductions from drayage would be achieved; however, no credit can be taken at this time. Furthermore, the Revised Project includes a new lease measure, LM AQ-2, below, that is expected to further reduce emissions from drayage trucks.

LM AQ-23 Throughput Tracking

The 2008 EIS/EIR included MM AQ-23, which required China Shipping to provide records of terminal throughput, in order to be able to assess whether actual future operations of the CS Container Terminal exceeded throughput assumptions on which the

impact assessments, and therefore the mitigation measures, were based. If it was determined that these emissions sources exceed 2008 EIS/EIR assumptions, then staff would evaluate actual air emissions for comparison with the 2008 EIS/EIR. If that evaluation showed that criteria pollutant emissions exceeded those in the 2008 EIS/EIR, then new or additional mitigations would be applied through MM AQ-22 Periodic Review of New Technology and Regulations.

The measure was re-designated a lease measure (LM AQ-23) in the FEIR because it did not mitigate an identified impact. LM AQ-23 was to be applied through the LAHD's lease with China Shipping. Although the lease amendment was never implemented, the throughput tracking occurs through standard Port data collection.

As Table 2-2 shows, actual throughput has generally exceeded the projections in the 2008 EIS/EIR. However, the new analysis in the SEIR already takes into account the maximum capacity of the terminal and growth in TEU volume, and applies all feasible mitigation measures to address future air quality impacts. Accordingly, periodic reviews of throughput are unnecessary. Furthermore, new technologies would continue to be considered and applied under Lease Measure AQ-22 Periodic Review of New Technology and Regulations, since this requirement is not being changed. Finally, new Lease Measure AQ-1, below, would ensure a regular check-in process and evaluation of the cleanest available technology when equipment is purchased or replaced by the tenant.

Revised Project Modification
LM AQ-23 is not included in the Revised Project.

MM TRANS-2, TRANS-3, TRANS-4, and TRANS-6

The 2008 EIS/EIR included several mitigation measures related to roadway improvements needed to reduce the impacts of project truck traffic at certain Port-area intersections. Three of those measures were not implemented by the dates specified in the measures. In addition, as described more fully in Section 3.3.2.2, conditions have changed since the certification of the 2008 EIS/EIR, which calls into question the need for and/or effectiveness of some of these mitigation measures.

MM TRANS-2 requires LAHD to provide an additional eastbound through lane on Anaheim Street at the intersection with Alameda Street by 2015. That project was never implemented, and is not currently part of any planned or approved infrastructure project. A screening analysis conducted by LAHD (Appendix E) indicated that this location would no longer experience a traffic impact. Accordingly, MM TRANS-2 would not be implemented under the Revised Project.

MM TRANS-3 requires that LAHD, by 2015, 1) provide additional southbound and westbound right-turn lanes on John S. Gibson Boulevard and I-110 NB ramps; 2) reconfigure the eastbound approach to one eastbound through-l eft-turn lane, and one eastbound through-right-turn lane; and 3) provide an additional westbound right-turn lane with westbound right-turn overlap phasing. The first two elements have been addressed by the John S. Gibson/I-110 Project, but the third one (westbound lane with westbound overlap phasing) was not part of the Gibson/I-110 Project and has not been completed. A screening analysis conducted by LAHD (Appendix E) indicated that this location would no longer experience a traffic impact. Accordingly, completion of MM TRANS-3 is not included in the Revised Project.

MM TRANS-4 was intended to modify the intersection at Fries Avenue and Harry Bridges Boulevard by providing an additional westbound through-lane on Harry Bridges

Boulevard and additional northbound, eastbound, and westbound right-turn lanes on Fries Avenue and Harry Bridges Boulevard. The measure was supposed to have been implemented by 2015, but has not been completed and is not part of any approved or planned infrastructure project. A screening analysis conducted by LAHD (Appendix E) indicated that this location would no longer experience a traffic impact. Accordingly, MM TRANS-4 would not be implemented under the Revised Project.

MM TRANS-6 required the LAHD to modify the Navy Way/Seaside Avenue intersection on Terminal Island by providing an additional eastbound through-lane on Seaside Avenue and reconfiguring the westbound approach to one left-turn lane and three through-lanes. The measure has not been completed and is not part of any approved or planned infrastructure project. However, a related transportation improvement project, the Navy Way and Seaside Interchange Project, would construct a new flyover connector from northbound Navy Way to westbound Seaside Avenue. The flyover improvement would provide direct ramp connections for existing left-turn movements, thereby eliminating conflicts between left-turn and through traffic. The improvement is scheduled to be implemented before 2026. Accordingly, MM TRANS-6 would not be implemented under the Revised Project.

Revised Project Modification
All four 2008 EIS/EIR mitigation measures are not included in the Revised Project.

2.5.2.2 Revised Project New Lease Measures

LM AQ-1: Cleanest Available Cargo Handling Equipment

> For any measures that require the replacement, new purchase, or retrofit of cargo handling equipment, the tenant is required to notify LAHD in advance and engage in collaboration with LAHD on the cleanest available cargo handling equipment that is operationally and economically feasible and commercially available for the tenant's operations. LAHD will also assist with identification of potential sources of funding to assist with the purchase of such equipment.

This new lease measure would ensure a regular check-in process and evaluation of the cleanest available technology in order to be consistent with, and address, future 2017 CAAP concepts for near-zero and zero-emissions equipment.

LM AQ-2: Priority Access for Drayage

> A priority access system shall be implemented at the terminal to provide preferential access to zero- and near-zero-emission trucks.

Priority access would enable drivers with the cleanest trucks to get access to the terminal more quickly, thus allowing them to make more daily moves – called "turns" – and earn more revenue. Faster moves and higher earning potential could incentivize drivers and trucking companies to accelerate the investment in zero- and near-zero-emission trucks and to send these cleaner trucks to the CS Terminal because it would increase their business and reduce their fuel and idling time costs. Preferential access could involve giving drivers of clean trucks the first choice of coveted appointment/reservation slots, dedicating a gate for cleaner trucks, or a combination of several such strategies.

The actual structure of the priority access system will be determined based on outcome of drayage study and CAAP 2017 concept. Possible measures could include a priority access system that, once developed, would result in quicker turn times for the cleanest available trucks. In the near term this could be achieved by an enhanced terminal

appointment system that would allow appointment-making rules resulting in increased efficiency and goods movement optimization measures. WBCT already operates an appointment system for all imported cargo and, for some time periods, for export cargo.

For the priority access system concept shown here and in the Nov 2016 CAAP discussion document, these trucks would experience preferred scheduling in the near-term, and reduced wait times to pick up or drop off containers. The reduction in idling time and the increased use of clean trucks would reduce the overall emissions from drayage at the CS Terminal. The emissions reductions from this measure cannot be quantified at this time.

LM AQ-3: Demonstration of Zero-Emissions Equipment

Tenant shall conduct a one-year zero emission demonstration project with at least ten units of zero-emission cargo handling equipment. Upon completion of the one-year demonstration, Tenant shall submit a report to LAHD that evaluates the feasibility of permanent use of the tested equipment. Tenant shall continue to test the zero-emission equipment and provide feasibility assessments and progress reports in 2020 and 2025 to evaluate the status of zero-emission equipment technologies and infrastructure as well as operational and financial considerations, with a goal of 100% zero-emission cargo handling equipment by 2030.

LM GHG-1: GHG Credit Fund.

LAHD shall establish a carbon offset fund, which may be accomplished through a Memorandum of Understanding with the California Air Resources Board or another appropriate entity, to mitigate project GHG impacts to the maximum extent feasible. The fund shall be used for GHG-reducing projects and programs on Port of Los Angeles property. It shall be the responsibility of the Tenant to contribute to the fund. Fund contribution shall be $250,000, payable upon execution of a lease amendment. $250,000 has been identified as the maximum feasible contribution level. If LAHD is unable to establish the fund within a reasonable period of time, Tenant shall instead purchase credits from an approved GHG offset registry in the amount of $250,000.

2.6 Baselines and Analytical Framework for Assessing Impacts of the Approved Project and the Revised Project

2.6.1 Baselines Used in This SEIR

An objective of this SEIR is to determine whether modifications to the Approved Project would result in new or substantially more severe significant environmental impacts than disclosed in the 2008 EIS/EIR. To make this determination, impacts resulting from implementation of the Revised Project are compared to a baseline condition. The difference between the Revised Project and the baseline is then compared to a threshold to determine if the difference between the two is significant.

In accordance with CEQA Guidelines Section 15125, the CEQA baseline often represents conditions at the time of the project's NOP circulation; however, Section 15125 also authorizes the lead agency to choose a baseline that most accurately reflects actual

conditions, in cases where choosing the existing physical conditions at a single point in time would be misleading or would misrepresent a proposed project's potential impacts.

2.6.1.1 2008 Approved Project Baseline

In the typical case, a supplemental EIR would adopt as its baseline the full build-out of the approved project analyzed under the prior EIR, regardless of whether that project has been fully constructed. Applying this concept here, it would be proper, for example, to use the Approved Project, as mitigated, as the baseline conditions for evaluating the impacts of the Revised Project and to disclose the incremental change in environmental impacts between the Approved Project and the Revised Project.

LAHD has determined that this approach is appropriate for analysis of cumulative Ground Transportation impacts to street intersections and at-grade rail crossings, areas in which the basic analytical techniques have not changed since the 2008 EIS/EIR. Therefore, this Draft SEIR will use, as its baseline for cumulative impacts to street intersections and at-grade rail crossings, data previously disclosed in the 2008 EIS/EIR for the approved project, "with mitigation," for 2015 and future baseline years 2030 and 2045. Nevertheless, this Draft SEIR's analysis of the street intersection and rail crossing cumulative impacts of proposed modifications to mitigation measures under the Revised Project will account for a number of changes to the methodologies and assumptions of the modeling tools, including the port subarea model now known as PortTAM.

Other factors which will be taken into account in analysis of the cumulative Ground Transportation impacts to street intersections and at-grade rail crossings of the Revised Project include:

- Substantial revisions to input data related to future population and economic growth conditions, largely in response to the changes caused by the 2008 financial crisis. As a result, the SCAG five-county socioeconomic projections, the Regional Transportation Plan traffic projections, and the San Pedro Bay ports cargo forecasts are substantially different from those used in the 2008 EIS/EIR.
- The Ports have developed new origin/destination data for marine terminal truck traffic and have updated transportation network data. In addition, the Ports have updated their long-term terminal improvement plans/proposals, which in turn changes the long-term terminal capacities, on-dock railyard capacities, and resulting truck/auto/rail volumes. These new terminal capacity and traffic figures have altered the input data and assumptions for the modeling efforts.

The basic regional and local ground transportation network has been physically altered by a number of projects, as described in Section 3.3.2.2. These changes have changed intersection levels of service as well as traffic patterns.

2.6.1.2 2014 Mitigated Baseline

Changes in analytical and modelling techniques, as discussed in Sections 2.2.3 and 3.1, and Appendix B1, since 2008 for other impact analyses have made it unworkable or confusing to analyze impacts in this SEIR using a baseline drawn from data in the 2008 EIS/EIR. For these impacts areas, it was necessary to determine a different approach for evaluating the impacts of the Revised Project and to disclose the incremental change in environmental impacts between the Approved Project and the Revised Project. LAHD has determined that the most informative and appropriate approach is to adopt an

alternative baseline for these analyses that represents existing conditions (2014) with full implementation of the 2008 Approved Project.

CEQA provides for an EIR to assess the significance of a project's impacts in comparison to a baseline that consists of the existing physical environmental conditions at and near the project site. Baseline conditions are normally, but not always, measured at the time of commencement of environmental review of the proposed project. CEQA Guidelines, Section 15125, subdivision (a), provides:

> *An EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.*

The NOP for this Draft SEIR was published in September 2015. LAHD accounts for throughput data over the course of a calendar year, even though throughput can vary from month to month. The most recent data for a full calendar year is 2014. LAHD follows this practice in describing baseline conditions and in describing projected throughput under a proposed project to allow an "apples-to-apples" comparison for future year conditions. For the 12-month period between January 1 and December 31, 2014, the CS Container Terminal handled approximately 1,088,000 TEUs (Table 2-4).

Using the 2014 existing conditions, baseline alone would not be representative of the conditions under the 2008 Approved Project because several mitigation measures were not implemented. Thus, 2014 existing conditions would not provide an adequate comparison of the Approved Project and Revised Project as required in a supplemental EIR. This Draft SEIR includes 2014 existing conditions for informational purposes only.

For purposes of this Draft SEIR, the 2014 existing conditions baseline has been modified to account for conditions if all 2008 Approved Project mitigation measures were fully implemented. The 2014 Existing Conditions With Approved Project Mitigation Baseline ("2014 Mitigated Baseline") will disclose the incremental change in environmental impacts between the Approved Project and the Revised Project for air quality and any other environmental resource area.

While the 2014 Mitigated Baseline does not permit exact comparison of the impacts of the Revised Project in comparison with the impact conclusions in the 2008 EIS/EIR, it is nonetheless "conservative," in its identification of the incremental impacts of the Revised Project. As shown in Table 2-2, above, whereas the 2008 EIS/EIR estimated CS Terminal throughput in year 2015 at about 1,164,000 TEUs, actual throughput levels reflected in the 2014 Mitigated Baseline were lower, at 1,088,639 TEUs. This means that comparison of impacts of the Revised Project to a 2014 Mitigated Baseline will assume a greater incremental increase in throughput than would be assumed if the SEIR were to use a baseline which reflected the throughput assumptions in the 2008 EIS/EIR.

As discussed in Section 2.6.2, the Draft SEIR also provides two sets of analysis for understanding the impacts of the Approved Project as disclosed in the 2008 EIS/EIR. First, the SEIR compares the impacts of terminal operations from 2005 to 2014 as they actually occurred, without full mitigation, and compares those impacts to the impacts disclosed in the 2008 EIS/EIR, with full mitigation. That analysis is provided for informational purposes only. Second, the SEIR provides a comparison of future

operations of the CS Container Terminal as analyzed in the 2008 EIS/EIR and as now projected to occur, based on changes in throughput, technology, and other factors that have occurred.

The 2014 Mitigated Baseline would apply to the analysis of air quality, health risk, greenhouse gas, and project-specific ground transportation and cumulative highway traffic delay impacts. These areas have seen changes in analytical and modelling techniques that make it necessary to use a different baseline approach. For example, pursuant to standards in the 2004 County of Los Angeles Congestion Management Program (CMP), only one freeway location was analyzed in the 2008 EIS/EIR. In October 2013, "An Agreement Between the City of Los Angeles and Caltrans District 7 On Freeway Impact Analysis Procedures" was entered into by the City of Los Angeles and Caltrans. The agreement described new freeway impact analysis screening criteria and analysis methodology, mitigation options and coordination. In accordance with that agreement, the SEIR includes many more highway traffic delay analysis locations than were previously prescribed under the CMP. These changes in the required analytical technique for highway traffic delay impacts make it infeasible to use a baseline drawn from data in the 2008 EIS/EIR. Additionally, because of the technical limitations discussed in Section 2.6.2, the computer models for air quality and related analyses available now do not allow re-creation of the 2008 Approved Project. Accordingly, the analyses in this SEIR for air quality, health risk, greenhouse gas, and project-specific ground transportation and cumulative highway traffic delay impacts utilize baselines that rely on 2014 existing conditions and current modelling techniques. This approach is consistent with CEQA's requirements.

2.6.2 Analytical Framework for Air Quality and Related Impacts (Health Risk and Greenhouse Gas)

This SEIR contains several sets of analyses that employ:

- two baseline scenarios (2014 actual activity and 2014 as it would be with implementation of all mitigations imposed by the 2008 EIS/EIR; see Section 2.6 for more detail); and
- two future conditions scenarios (2014 to 2045), one with the 2008 EIS/EIR mitigation measures (the Approved Project) and one with the measures described below (the Revised Project).

2.6.2.1 Background

All of these analyses are conducted using the most up-to-date models and data, which, in the cases of air quality/health risk assessment and greenhouse gases, prevent the analyses conducted for the 2008 EIS/EIR from being replicated. These changes to the models, tools, and data, which are summarized below and described in detail in Appendix B, are substantial enough that it is not possible to recreate the results of the 2008 EIR/EIS analysis.

The Air Quality/Health Risk Assessment (HRA) analyses rely on three primary steps: (1) the development of emissions from all source categories; (2) the use of those emissions as inputs to dispersion modeling to predict pollutant concentrations; and (3) the use of the predicted pollutant concentrations to estimate health risk impacts. Since the 2008 EIR/EIS, the regulatory agencies have made substantial revisions to the tools used in these three steps.

Emissions analysis uses a variety of models to estimate emissions from specific source categories. For onroad vehicles, CARB's EMFAC2014 model (CARB, 2015, 2017a) has replaced EMFAC2007, which was used in the 2008 EIS/EIR. The new model includes, among other changes, updated vehicle population data and new emission factors. CARB has also released the 2011 Inventory Model (CARB, 2017b) for cargo-handling equipment, which replaced the OFFROAD2007 model used in the 2008 EIS/EIR, and the VISION model for locomotive emissions (CARB, 2017c), which was not available for the 2008 EIS/EIR analyses. Collectively, these model updates represent a substantial change in the quantitative analysis of emissions at the project level.

Dispersion modeling analysis primarily uses EPA's AERMOD modeling system (EPA, 2017). The AERMOD modeling system used in the 2008 EIS/EIR has undergone several major technical changes that substantially alter how AERMOD analyzes input data, meaning that the current model could not replicate the results of the version used for the 2008 EIS/EIR.

The health risk assessment (HRA) in the 2008 EIS/EIR used OEHHA's 2003 guidance manual (OEHHA, 2003). Since that time, OEHHA has worked with CARB to revise the Technical Support Documents (TSDs) underlying the guidance in order to incorporate new scientific information and approaches (OEHHA, 2008, 2009, and 2012). The revised TSDs include new methodologies for deriving reference exposure levels and for deriving, listing, and adjusting cancer potency factors, and they apply updated exposure assumptions and risk assessment methodologies. OEHHA's new guidance, the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA, 2015), incorporates the revised TSDs and supersedes OEHHA (2003). Analysis indicates that the new methodologies likely produce substantially different risk estimates than the previous methodologies, including much higher lifetime residential risk from construction projects and inhalation exposure.

These changes make the air quality and greenhouse gases analyses used in the 2008 EIS/EIR inappropriate for describing baselines and future conditions; accordingly, analyses based on a 2014 baseline are the appropriate approach to evaluating impacts of the Revised Project. However, the impact results of the 2008 EIS/EIR are included for reporting purposes in order to determine whether the Revised Project would cause any new impacts or substantially more severe impacts.

2.6.2.2 Baseline Scenarios for Air Quality and Related Impacts

In the first analysis, the two baseline scenarios are compared to provide an estimate of the difference in the air emissions (the "excess emissions" referred to in NOP comments), and the resultant impacts on air quality and public health, that have occurred since the CS Container Terminal began operations up to the present (i.e., 2014).

2.6.2.3 Future Conditions Scenarios for Air Quality and Related Impacts

For the future conditions analyses, the Revised Project and the Approved Project are each carried forward using the vessel, truck, train, and CHE activity levels predicted on the basis of the most recent cargo forecast and terminal capacity analysis (see Chapter 1, Section 1.2.3). This approach provides a realistic assessment of the exhaust and greenhouse gas (GHG) emissions and traffic that will occur in the future under the Revised Project and the Approved Project. In the Revised Project, the suite of mitigation measures described below is assumed to take effect at the beginning of 2018. These future conditions are compared to the 2014 baseline as it would be with implementation

of all mitigations imposed by the 2008 EIS/EIR to describe the impacts of each scenario (Revised Project and Approved Project). Any significant impacts of the Revised Project are evaluated to determine if additional mitigation can be applied. Finally, the two impact assessments are compared to determine whether the Revised Project would cause new impacts or would have more or less severe impacts than those of the Approved Project.

An additional variable is the uncertainty regarding three proposed intermodal rail projects: the expansion of the WBICTF at the adjacent YM Container Terminal, the expansion of Union Pacific's Intermodal Container Transfer Facility (ICTF) a few miles northeast of the CS Container Terminal, and the construction of BNSF's proposed Southern California International Gateway (SCIG) intermodal facility immediately south of the UP ICTF. By changing truck and locomotive activity in the region, these projects would alter future traffic and air emissions. This Draft SEIR analyzes two of the many possible scenarios involving the railyard projects, but because they involve possible future related projects, they are included in the cumulative analysis (Chapter 4). In one scenario, none of the railyard projects is constructed, so that the proportions of cargo handled on-dock and at the near-dock and off-dock yards remain largely unchanged. In the other scenario, all three railyard projects are built, eliminating the drayage of all but a small fraction of CS's intermodal cargo to the downtown railyards.