Chapter 2
Project Description

2.1 Introduction

This Recirculated Draft Supplemental Environmental Impact Report (Recirculated 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. In response to comments received on the Draft SEIR circulated in 2017, the LAHD determined to add significant new information to the environmental review, requiring that the Draft SEIR be recirculated. In particular, the Recirculated Draft SEIR includes a new baseline for analysis, a revised project description, additional study years, revised mitigation and lease measures, and a revised traffic analysis.

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

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 MLLW; 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

838,000 standard shipping containers per year. That throughput would require approximately 1,500,000 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.

Several of the measures, including MM AQ-9 (AMP), MM AQ-10 (VSR), MM AQ-16 (Railyard CHE), MM AQ-17 (Berth 97-109 CHE), and MM AQ-20 (LNG Drayage Trucks), were not fully complied with between 2008, when the measures were imposed, and 2014, which was the baseline for the 2017 Draft SEIR. This period is referred to in this Recirculated Draft SEIR as the "partial implementation period." Details of partial implementation of MMs AQ-9, AQ-10, AQ-16, AQ-17, and AQ-20 during the partial implementation period are presented in sections 3.1 and 3.2 of this Recirculated Draft SEIR -.

LAHD has determined that, as mentioned in Chapter 1, MM NOI-2, modifications to which were identified as part of the Revised Project in the NOP, is being implemented as approved. Therefore, LAHD has determined that modifications to MM NOI-2 do not need to be included in the Revised Project or 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 Recirculated Draft SEIR.

2008 EIR/EIS Measure	Description	Status through 2017
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	Compliance (% of China Shipping operated vessel calls): 2008: 86% 2009: 78% 2010: 72% 2011: 66% 2012: 12% 2013: 30% 2014: 93% 2015: 92% 2016: 99%

2008 EIR/EIS Measure	Description	Status through 2017
	AMP-capable berth is unavailable due to utilization by another AMP-capable ship.	2017: 96%
MM AQ-10 Vessel Speed Reduction Program	Starting in 2009, 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 (% of all call to Berths 97-109): 2008: 97% within 20 nm and 24% within 40 nm 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 41% within 40 nm 2012: 93% within 20 nm and 47% within 40 nm. 2013: 99% within 20 nm and 89% within 40 nm 2014: 99% within 20 nm and 96% within 40 nm 2015: 99% within 20nm and 98% within 40nm 2016: 100% within 20nm and 96% within 40nm 2017: 96% within 20 nm and 91% 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 (Tier 4 Final).	From 2008 through 2014, all yard tractors met requirement to run on LPG. As of December 31, 2017 all yard tractors are alternative-fueled LPG but they do not meet Tier 4 Final standard requirements.
MM AQ-16 Yard Equipment at Berth 121-131 Rail Yard	By the end of 2012, all equipment less than 750 hp shall meet the USEPA Tier 4 on-road or Tier 4 non-road engine standards. 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.	During 2012, not all equipment less than 750 hp that operates at the railyard met Tier 4. During 2014, not all equipment that operates at the railyard met Tier 4 as shown in MM AQ-17 below. As of the end of 2017, 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 September 30, 2004: All diesel-powered toppicks and sidepicks operated at the Berth 97-109 terminal shall run on emulsified diesel fuel plus a DOC (ASJ Requirement). 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	During 2008, toppicks and side-picks had DOCs and run on emulsified fuel, meeting the requirement for 2008. As of the end of 2014, none of the RTGs were electric (one is hybrid diesel-electric and the others are diesel), none of the toppicks were alternative-fueled; and only four met the 0.015 gm/hp-hr PM standard, and none of the other equipment covered by MM AQ-17 met Tier 4. As of the end of 2017, none of the RTGs are electric (six are hybrid diesel-electric and the rest are diesel), none of the toppicks are alternative-fueled; and not all of the equipment covered by

2008 EIR/EIS Measure	Description	Status through 2017
	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.	MM AQ-17 meets Tier 4 standards. 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.	In 2012, 10% of truck calls at WBCT (including the CS terminal) were made by LNG trucks. In 2014, 6% of truck calls at WBCT (including the CS terminal) 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 EIS/EIR and if the criteria pollutant emissions	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.

2008 EIR/EIS Measure	Description	Status through 2017
	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 Recirculated Draft SEIR. For the Revised Project under review in this Recirculated Draft SEIR, some of the mitigation measures in Table 2-1 would be eliminated or modified, as summarized below and in Section 2.5.2. Some of these modifications differ from the measures described in the 2017 Draft SEIR in order to incorporate more recent technological developments, changes in technical analysis methodology, points raised in public comments received on the 2017 Draft SEIR (see Section 1.6.2), and the passage of time since the Draft SEIR was prepared.

- MM AQ-9 is modified to require that starting on the effective date of a new lease amendment between the tenant and the LAHD and annually thereafter, all ships calling at Berths 97-109 must use AMP or equivalent while hoteling in the Port, with a 95 percent compliance rate except under certain specified conditions.

- MM AQ-10 is modified to require that starting on the effective date of a new lease amendment between the tenant and the LAHD and annually thereafter, at least 95 percent of the vessels calling the CS Container Terminal shall comply with either the expanded VSRP or an alternative compliance plan approved by the LAHD.
- MM AQ-15 is modified to require that by specified years after the effective date of a new lease amendment between the tenant and the LAHD, all yard tractors shall be replaced with alternative-fuel units that meet or are lower than a NOx emission rate of 0.02g/bhp-hr and Tier 4 final off-road standards for other pollutants.
- MM AQ-16 is combined with MM AQ-17 because there is no actual distinction between railyard equipment and terminal equipment within WBCT as a whole.
- MM AQ-17 is modified to require that by specified years after the effective date of a new lease amendment between the tenant and the LAHD: 1) 18-ton diesel forklifts of specified model years shall be replaced by units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x, and 5-ton units shall be replaced with zero-emissions units, 2) top picks of specified model years shall be replaced by units that meet or exceed Tier 4 final off-road engine standards for PM and NO_x, 3) all diesel-powered RTG cranes of specified model years 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, 4) sweepers shall be alternative-fueled or cleanest available units, and 5) shuttle buses shall be zero-emissions units. Procurements plans along with feasibility assessments are required to be submitted by specified years to assist with near-zero and zero-emissions planning efforts consistent with the 2017 CAAP (SPBP, 2017).
- MM AQ-20 is not included in the Revised Project; no feasible substitute or modified mitigation measure has been identified, but with the implementation of the new port-wide Clean Trucks Program that is part of the 2017 CAAP, 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) was re-designated a lease measure (LM AQ-23) in the 2008 EIS/EIR's MMRP, and is not included in the Revised Project because it is no longer needed.
- MMs TRANS-2, TRANS-4, and TRANS-6 are not included in the Revised Project because changed conditions have called into question the need for and/or effectiveness of these mitigation measures.
- The remaining element of MM TRANS-3 (provision of additional westbound right-turn lane at the John S. Gibson/I-110 northbound ramps with westbound overlap phasing), which has not yet been implemented, is not included in the Revised Project because changed conditions have called into question the need for and/or effectiveness of this mitigation measure.

The Recirculated Draft SEIR analyzes environmental impacts of these modifications as the Revised Project, under the assumption that the modifications would take effect starting in 2019 (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. The Recirculated Draft SEIR analyzes the impacts of the Revised Project under the assumption that throughput at the CS Container Terminal will be incrementally higher than was assumed in the 2008 EIS/EIR, consistent with LAHD's re-assessment of terminal capacity

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

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

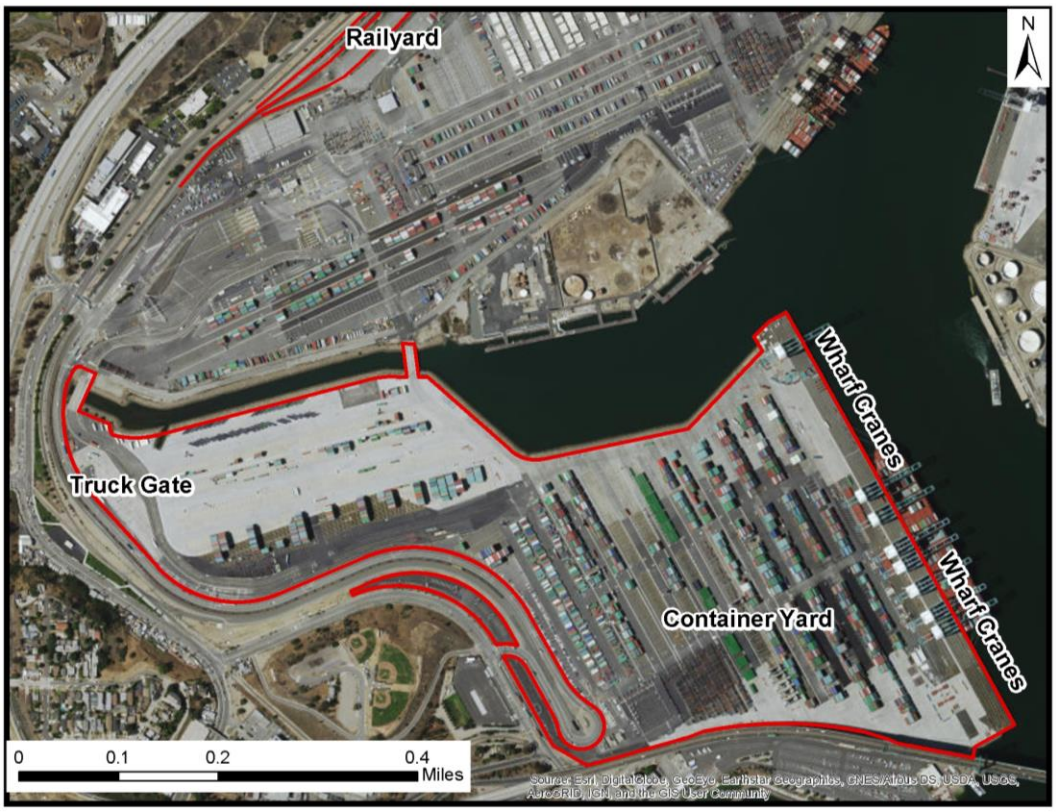
The project site, at Berths 99-109 (Figure 2-1), is generally bounded on the north by the Yang Ming container terminal; on the east by the West Basin, Main Channel, and Pier A;

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 (because much of the terminal was not yet developed in 2008, the image in Figure 2-1 is presented to show how the terminal was configured after construction was complete in 2014). 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 2008 Site Conditions

The 131-acre CS Container Terminal has two vessel 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 in Section 2.6, the baseline for consideration of the air quality and related impacts of the Revised Project is 2008. In 2008 the terminal handled 387,004 twenty-foot-equivalent units (TEU: twenty-foot equivalent units, a measure of containerized cargo capacity) of containerized cargo, or approximately 215,000 containers. The majority of imported containers left the terminal by truck, whether to transload destinations in the region for ultimate placement on eastbound trains, to near-dock and off-dock railyards, 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 319,000 truck one-way trips, 350 train trips to and from the WBICTF, and 26 vessel calls.

Figure 2-1: Berths 97-109 (China Shipping) Container Terminal (Full-build-out configuration)



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 2008 included 157 LPG-powered yard tractors (hostlers), 20 rubber-tired gantry cranes (RTGs), 17 forklifts (9 LPG-fueled, the rest diesel), 2 sweepers, 3 off-road trucks (contracted refueling trucks), and 26 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 2008 combined throughput of the YM and CS terminals (1,065,071 TEUs), to use an average of approximately 36% of the CHE (CS's throughput was 387,004 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.

Operation between 2005 and 2014 included implementation of ASJ requirements and most of the mitigation measures imposed in the 2008 EIS/EIR, but, as described in Table 2-1, some mitigation measures were incompletely implemented or not implemented at all beginning in 2008. Those mitigation measures included MM AQ-9 (AMP), MM AQ-10 (VSRP), MM AQ-16 (Railyard CHE), MM AQ-17 (Berth 97-109 CHE), and MM AQ-20 (LNG Drayage Trucks.

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.

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, 2013a), 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 30% 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.

This Recirculated Draft SEIR now includes an analysis of the "partial implementation period" (2012, 2014, 2018 analysis years) as part of the Revised Project as described below in Section 2.5.

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. Finally, as described in Section 2.2.3, the Revised Project includes the "partial implementation period" when some of the measures were not fully complied with between 2008, when the measures were imposed, and 2019, when the proposed mitigations under Revised Project are assumed to begin for purposes of this analysis. Therefore, the years analyzed under this "partial implementation period" are 2012, 2014, 2018

2.5.1 Operation of the CS Container Terminal, 2008 - 2045

This Recirculated 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 analysis years between the 2008 EIS/EIR and the Recirculated Draft SEIR. The Recirculated Draft SEIR analyzes additional interim years: 2012, 2014, 2018, 2023 and 2036, which were not analyzed in the 2008 EIS/EIR. Year 2012 was chosen to illustrate conditions at a time when most of the requirements of the ASJ and the 2008 EIS/EIR's mitigation measures would be in effect. Year 2018 was added to the analysis as being the last year before the mitigation measures in the Revised Project could begin implementation. Year 2023 was chosen to provide information on conditions that would pertain when regulatory requirements would be fully implemented. Year 2036 was chosen as an interim year between 2030 and 2045.

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

Element	2008 EIR/EIS Assumptions			Recirculated Draft SEIR Assumptions						
Year:	2015	2030	2045	2008 (Actual)	2012 (Actual)	2014 (Actual)	2018	2023	2030	2036-2045
Throughput (TEUs)	1,164,000	1,551,000	1,551,000	387,004	699,607	1,088,639	1,131,149	1,521,228	1,698,504	1,698,504
Vessel Calls/yr	182	234	234	26	26	82	140	156	156	156
Truck Trips/yr	1,192,000	1,508,000	1,508,000	318,768	491,299	1,109,873	1,050,692	1,348,380	1,501,817	1,514,062
Train Trips/yr	648	816	816	350	379	570	375	703	723	738
%TEUs by Truck	81%	83%	83%	73%	74%	81%	85%	85%	86%	86%
%TEUs by On-Dock	20%	17%	17%	27%	26%	19%	15%	15%	14%	14%

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

2.5.2 Revised Project Elements

2.5.2.1 Proposed Modifications to 2008 EIR Mitigation Measures and Lease 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 CS vessel calls used AMP. In 2010 and thereafter, compliance did not meet the higher requirements of 90% and then 100%, although 93% compliance was achieved in 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.

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.

In March 2017, CARB directed its staff to amend the At-Berth Regulation in order to achieve up to 100% compliance by all vessels by 2030 in San Pedro Bay and other ports near environmental justice communities. In acknowledgement of CARB's proposed action, the 2017 CAAP's strategy with respect to at-berth emissions is to participate in the State's efforts to achieve 100% compliance with CARB's regulation. Given the constraints on AMP summarized above, expanding the use of alternative at-berth emission reduction technologies will be necessary to meet the goals of both CARB's regulations and the 2017 CAAP; to that end, the 2017 CAAP's strategy includes

supporting demonstration projects for new technologies and accelerating the application of those technologies through leases and grant programs.

Alternative technologies currently have constraints that have prevented their widespread application. There are two CARB-approved technologies, both barge-based, for container vessels (AMECS and MET-1), and another is expected to apply for certification in the foreseeable future. At present these systems are not applicable to all container vessel configurations, although operators are working to overcome that constraint. Furthermore, barge-based systems face constraints involving adequate dock space at the Ports and navigational safety issues in narrow channels. For these reasons, the Port is supporting the development of a land-based system, although its applicability to container terminals, where a busy wharf along the entire length of a berthed vessel presents operational and safety challenges, is yet uncertain. Nevertheless, the Port recognizes the need to promote increased use of alternative technologies for at-berth emissions, and intends to work closely with CARB, technology providers, and its tenants on implementing the amendments to the at-berth regulation with a goal of up to 100% compliance by 2030.

Revised Project Modification

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:

> Starting on the effective date of a new lease amendment between the Tenant and the LAHD and annually thereafter, 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 is assumed not to exceed 95%, in order to accommodate the exceptional circumstances in 1-4, above. The revised measure is consistent with the 2017 CAAP, as described above, and AMP requirements in 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 currently assumed by CARB (CARB 2007b, Table VI-1) and is conservative with respect to the longer-term goal of 100% in the revised CARB At-Berth Regulation and the 2017 CAAP, as described above. 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.

From 2008 through 2014 vessels calling the CS Container Terminal had very high compliance rates (93-99%) within the 20-mile zone but much lower rates in the 40-mile zone. Compliance in the 40-mile zone was particularly low in 2008 – 2012 (from 20% in 2009 to 47% in 2012) but rose to 89% in 2013 and 96% in 2014. While the high rates of compliance in 2014 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
TraPac	99	97
Yang Ming (WBCT)	98	95
China Shipping (WBCT)	99	96
Yusen (YTI)	98	72
Average	97	84

Although the compliance rate of vessels calling the CS Terminal approached 100% in 2014, not all vessels will be able to comply with VSRP requirements due to unavoidable practical need to increase speed for various reasons. Non-compliance with the VSRP is typically the result of pressure on vessel schedules caused by weather, port delays, and mechanical problems. In addition, meeting scheduled time slots for shorter voyages (e.g., to or from Oakland) may require higher vessel speeds: if, despite operating at higher than economic speeds outside the VSRP area, a vessel is still behind schedule as it approaches Los Angeles Harbor, it may have to continue at a higher 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.

Since 2009, the Ports have provided various incentives, including financial, to shipping lines to promote compliance with the VSRP and, as described above, the program has been successful, particularly in the 20-mile zone. Nevertheless, the Ports recognize the significant benefits of slower vessel speeds, and the 2017 CAAP revises the VSRP to maximize participation at the 40-mile boundary. One element of the revised program that is being considered is to convert the incentive payment from being based on the fleet-wide average compliance rate to a per-vessel-call basis. Such an approach could encourage participation on an individual call basis for shipping lines that would not otherwise participate in the 40 nm program today because they are unable to meet the annual minimum to qualify.

Revised Project Modification

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

> Starting on the effective date of a new lease amendment between the Tenant and the LAHD and annually thereafter, 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 40 nm 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. Furthermore, the actual effect on air quality and public health of requiring 95% rather than 100% would be negligible given the relatively small contribution of at-sea vessel emissions on health risk and the already-high level of compliance with the 12-knot requirement (Table 2-4). 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. This is consistent with the 2017 CAAP and POLA Tariff No. 4 Section 20 (LAHD, 2013b), which includes a provision for alternative compliance plans to be approved by the LAHD.

MM AQ-15 –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 the end of 2014, all yard tractors operating at the CS Container Terminal were alternative fuel-powered, and thus complied with the provision of MM AQ-15 requiring alternative-fuel power.

In light of changes in engine technology since the 2008 EIS/EIR was prepared, the 2017 DEIR proposed that MM AQ-15 be revised to require yard tractors to meet Tier 4 standards for all criteria pollutants. Subsequent developments, however, have indicated that new engines can meet an ultra-low NO_X standard; accordingly, the measure has been further revised in this Recirculated Draft EIR to incorporate that standard.

Revised Project Modification

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

- No later than one year after the effective date of a new lease amendment between the Tenant and the LAHD, all LPG yard tractors of model years 2007 or older shall be alternative-fuel units that meet or are lower than a NOx emission rate of 0.02 g/bhp-hr and Tier 4 final off-road emission rates for other criteria pollutants.
- No later than five years after the effective date of a new lease amendment between the Tenant and the LAHD, all LPG yard tractors of model years 2011 or older shall be alternative fuel units that meet or are lower than a NOx emission rate of 0.02 g/bhp-hr and Tier 4 final off-road engine emission rates for other criteria pollutants.

The revised mitigation measure takes into account the uncertainty in the timing of the measure given the time needed to certify the SEIR and execute a new lease amendment. The measure will ensure that the CS Terminal will transition to the current cleanest available yard tractor technology within five years of the new lease amendment. For the longer term, however, the 2017 CAAP envisions that by 2030 the Port will rely on zero- and near-zero-emissions technologies for all cargo-handling equipment, consistent with CARB's March, 2017, initiative to amend the cargo-handling regulation to achieve up to 100% zero-emissions by 2030. In order to meet that goal, current yard tractors will need to be replaced by zero-emissions (i.e., electric-powered) tractors over the next ten years. At the time of publication of this Recirculated Draft SEIR, as discussed in the 2017 CAAP, zero-emissions tractors have not been demonstrated to be operationally feasible in a container terminal setting, but through the 2017 CAAP the Port has committed to an aggressive program of testing electric yard tractors at terminals.

The 2017 CAAP also obligates the Port and the terminal operators, including WBCT (the operator of the CS Terminal), to a firm process of evaluating terminal equipment and developing a ten-year procurement schedule for new cargo-handling equipment; the terminals are required to submit their schedules by January 1, 2019 and to update the schedules annually. By working with the terminals through their procurement schedules, grant funding, and lease terms, and taking into account the results of periodic feasibility assessments, the Port will ensure that terminal operators purchase the cleanest available equipment, emphasizing zero- and near-zero-emissions equipment. For the Revised Project, LM AQ-1 (see Section 2.5.2.2) requires the CS Terminal to participate in the CAAP's equipment procurement process.

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 and trucks. Accordingly, the intent of this measure is fulfilled by controlling yard tractors and 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 – 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. MM AQ-17 further required 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.

By 2004, all of the forklifts and top handlers met the ASJ requirements for emulsified diesel and DOCs. Since the further provisions of MM AQ-17 were not in effect until 2009, the CHE working at the CS Terminal in 2008 complied with the measure's requirements. The requirements for all-electric RTGs and cleanest-available top-picks in 2009 were not met. The implementation dates for the conversion of all other CHE to Tier 4 non-road standards were also not met.

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; in most of the container yard the RTGs operate on short rows of containers which precludes the efficient deployment of electric RTGs because the electrical infrastructure does not permit electric RTGs to operate on multiple rows.

As described in Section 1.2.4.2, China Shipping informed the Port that replacing the top-picks and side-picks with Tier 4 non-road standard compliant units would be prohibitively expensive and require the retirement of units with useful life remaining. The same economic constraints would apply to other cargo-handling equipment such as forklifts.

To achieve the objectives of the 2017 CAAP and of the original 2008 EIS/EIR, existing equipment must be replaced by equipment that meets more stringent emissions standards, including zero- and near-zero emission units as feasible. In the case of RTGs, WBCT confirmed that four electric RTGs could be deployed in what is known as the "surcharge area" at the terminal because this area has the necessary infrastructure. 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. In the remainder of the terminal, the all-diesel RTGs could be replaced by diesel-electric hybrids. In fact, six of WBCT's

RTGs in 2016 were diesel-electric hybrid models. These hybrids, called EcoCranes, provide significant emission reductions compared to diesel RTGs (74% PM and 84% NO_x reduction).

With regard to the other CHE, engines meeting EPA Tier 4 off-road standards are available for heavy-duty forklifts and toppicks. Accordingly, the 2017 Draft SEIR revised MM AQ-17 to require replacement of existing toppicks and heavy-duty forklifts with units meeting Tier 4 standards, the replacement of lighter-duty forklifts with electric units, and the replacement of sweepers with cleanest-available units, and the replacement of shuttle buses with zero-emissions units by 2025. The replacement schedule for CHE incorporated the useful economic service life of the existing equipment and the high capital costs (e.g., $650,000 per unit for toppicks; LAHD 2014) but accelerated the replacement. The Recirculated Draft SEIR further revises the measure to replace the calendar day compliance dates with dates related to the execution of a new lease amendment.

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 one year after the effective date of a new lease amendment between the Tenant and the LAHD, all 18-ton diesel forklifts of model years 2004 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By two years after the effective date of a new lease amendment between the Tenant and the LAHD, all 18-ton diesel forklifts of model years 2005 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By two years after the effective date of a new lease amendment between the Tenant and the LAHD, all 5-ton forklifts of model years 2011 or older shall be replaced with zero-emission units.
- By three years after the effective date of a new lease amendment between the Tenant and the LAHD, all 18-ton diesel forklifts of model years 2007 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.

Toppicks:

- By one year after the effective date of a new lease amendment between the Tenant and the LAHD, all diesel top-picks of model years 2006 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By three years after the effective date of a new lease amendment between the Tenant and the LAHD, all diesel top-picks of model years 2007 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By five years after the effective date of a new lease amendment between the Tenant and the LAHD, all diesel top-picks of model years 2014 and older shall be replaced with units that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.

Rubber-Tired Gantries:

- By three years after the effective date of a new lease amendment between the Tenant and the LAHD, all diesel RTG cranes of model years 2003 and older shall be replaced with diesel-electric hybrid units with diesel engines that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By five years after the effective date of a new lease amendment between the Tenant and the LAHD, all diesel RTG cranes of model years 2004 and older shall be replaced with diesel-electric hybrid units with diesel engines that meet or are lower than Tier 4 final off-road engine emission rates for PM and NOx.
- By seven years after the effective date of a new lease amendment between the Tenant and the LAHD, four RTG cranes of model years 2005 and older shall be replaced with all-electric units, and one diesel RTG crane of model year 2005 shall be replaced with a diesel-electric hybrid unit with a diesel engine that meets or is lower than Tier 4 final off-road engine emission rates for PM and NOx.

Sweepers:

- Sweeper(s) shall be alternative fuel or the cleanest available by six years after the effective date of a new lease amendment between the Tenant and the LAHD.

Shuttle Buses:

- Gasoline shuttle buses shall be zero-emission units by seven years after the effective date of a new lease amendment between the Tenant and the LAHD.

The revised mitigation measure takes into account the uncertainty in the timing of the measure given the time needed to certify the SEIR and execute a new lease amendment. The phase-in schedules for the various equipment types take into account the economics of the useful life of the existing equipment and the realities of acquiring large numbers of new equipment.

The revised measure will ensure that the CS Terminal will transition to the then-current cleanest available technology for most major cargo-handling equipment within five years of the new lease amendment. For the longer term, however, the 2017 CAAP envisions that by 2030 the Port will rely on zero- and near-zero-emissions technologies for all cargo-handling equipment, consistent with CARB's March, 2017, initiative to amend the cargo-handling regulation to achieve up to 100% zero-emissions by 2030. In order to meet that goal, current equipment will need to be replaced by zero-emissions (i.e., electric-powered) equipment over the next ten years. At the time of publication of this Recirculated Draft SEIR, zero-emissions toppicks and heavy-duty forklifts have not been demonstrated to be operationally feasible in a container terminal setting, but through the 2017 CAAP the Port has committed to an aggressive program of testing such equipment at terminals. Electric mobile gantry cranes (rubber-tired and rail-mounted) are commercially available, but because they require substantial supporting infrastructure their deployment is more involved than for forklifts and toppicks. Nevertheless, some are already in use in the Port, and the 2017 CAAP commits the Ports to increasing the deployment of all-electric cranes.

The 2017 CAAP also obligates the Port and the terminal operators, including WBCT (the operator of the CS Terminal), to a firm process of evaluating terminal equipment and developing a ten-year procurement schedule for new cargo-handling equipment; the terminals are required to submit their schedules by January 1, 2019 and to update the schedules annually. By working with the terminals through their procurement schedules, grant funding, and lease terms, and taking into account the results of periodic feasibility assessments, the Port will ensure that terminal operators purchase the cleanest available

equipment, emphasizing zero- and near-zero-emissions equipment. For the Revised Project, LM AQ-1 (see Section 2.5.2.2) requires the CS Terminal to participate in the CAAP's equipment procurement process.

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 2008, there were no LNG-fueled drayage trucks calling the CS Container Terminal because none were in service yet (the Port's LNG truck program was launched in 2009); note, however, that MM AQ-20 did not require LNG trucks until 2012. Accordingly, the CS Terminal was in compliance with MM AQ-20. As described in a study of the port drayage industry conducted by LAHD (LAHD 2017c), the requirement of MM AQ-20 is considered infeasible at the time of publication of this Recirculated Draft SEIR 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 thus far 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 if it were required to use LNG drayage trucks exclusively.

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 therefore they haul a small proportion of the cargo (approximately 10% of the containers in 2014). 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 substitute or replacement measure for requiring a terminal-specific drayage truck fleet. Accordingly, the Revised Project does not include MM AQ-20.

With the implementation of a new port-wide Clean Trucks Program as required by the 2017 CAAP's goal to transition to zero-emissions technologies by 2035, 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 2008 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 Recirculated Draft 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 D) 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 D) 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 D) 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 related to transportation are not included in the Revised Project.

2.5.2.2 Revised Project New Lease Measures

LM AQ-1: Cleanest Available Cargo Handling Equipment

Subject to zero and near-zero emissions feasibility assessments that shall be carried out by LAHD, with input from Tenant as part of the CAAP process, Tenant shall replace cargo handling equipment with the cleanest available equipment anytime new or replacement equipment is purchased, with a first preference for zero-emission

equipment, a second preference for near-zero equipment, and then for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the terminal.

Starting one year after the effective date of a new lease amendment between the Tenant and the LAHD, tenant shall submit to the Port an equipment inventory and 10-year procurement plan for new cargo-handling equipment, and infrastructure, and will update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the forgoing paragraph.

LAHD will include a summary of zero and near-zero emission equipment operating at the terminal each year as part of mitigation measure tracking.

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, 2017 CAAP goals 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, as envisioned in the 2017 CAAP, although other measures could be considered. An enhanced terminal appointment system 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. 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 the time of publication of this Recirculated Draft SEIR.

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, 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.

MM GHG-1: LED Lighting

All lighting within the interior of buildings on the premises and outdoor high mast terminal lighting will be replaced with LED lighting or a technology with similar

energy-saving capabilities within two years after the effective date of a new lease amendment between the Tenant and the LAHD or by no later than 2023.

LM GHG-2: 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. 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. Tenant shall have the option to either: (i) make a one-time fund contribution of $250,000, payable upon execution of a new lease amendment, or (ii) make a payment in 2030, at the time the peak impact would occur, in an amount calculated based on the market value of carbon credits at that time, and actual GHG emissions that exceed whatever GHG threshold exists at that time as approved by the LAHD. If LAHD is unable to establish the fund within a reasonable period of time, the Tenant shall instead purchase credits from an approved GHG offset registry.

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

2.6.1 Baselines Used in the Recirculated Draft 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.

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. CEQA Guidelines, Section 15125, subdivision (a), states:

> *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.*

However, Section 15125 also authorizes the lead agency to choose a baseline that most accurately reflects actual conditions in which impacts would occur, in cases where choosing the existing physical conditions at a single point in time would result in an analysis that is misleading or would misrepresent a proposed project's potential impacts.

In the typical case, a supplemental EIR would adopt as its baseline the full build-out of the approved project as analyzed under the prior EIR and disclose the incremental change in environmental impacts between revised project and the prior approved project, regardless of whether that project has been fully constructed. However, as described below, LAHD has determined that factual circumstances unique to the Revised Project require divergence from this typical approach.

2.6.1.1 Baseline for Air Quality, Health Risk, and Greenhouse Gas Impacts

The 2017 Draft SEIR used 2014 (the year before the NOP was issued) as the CEQA baseline. Several comments on the 2017 Draft SEIR disagreed with that baseline, alleging that use of a 2014 baseline ignored the period between 2008, when the project was approved, and 2014 during which some mitigation measures were not fully implemented in a timely manner, and that the appropriate baseline would be the year 2000-2001 baseline used in the 2008 EIS/EIR. The LAHD acknowledges that the period of partial implementation was not fully addressed in the 2017 Draft SEIR, and has determined that the appropriate baseline would be 2008. That approach captures the period in question but avoids revisiting the period between 2000 and 2008, which preceded the certification of the 2008 EIS/EIR that this SEIR supplements. Since this SEIR evaluates the effects of proposed modifications to mitigation measures that were analyzed in the previously certified 2008 EIS/EIR, CEQA does not require that this SEIR evaluate impacts compared to a baseline that precedes the conditions analyzed in the 2008 EIS/EIR.

The baseline used for assessing the air quality and related impacts of the Revised Project in this Recirculated Draft SEIR is the "2008 Actual Baseline", which is identical to a "2008 Mitigated Baseline" (that is, a 2008 baseline that assumes implementation of mitigation measures from the 2008 EIR/EIS): since the conditions during the 2008 Baseline were found to be in compliance with the 2008 EIR/EIS mitigations, there is no difference between a 2008 Mitigated Baseline and the 2008 Actual Baseline used in this Recirculated Draft SEIR.

Rules and regulations effective by December 31, 2007 are considered in the 2008 Actual Baseline for the source categories listed. In the 2008 Actual Baseline, conditions are modelled using current (2018) methodologies and assumptions, since it is not possible to re-create the methodologies, input data, and other assumptions used in the 2008 EIS/EIR. Changes in analytical and modelling techniques, as discussed in sections 2.6.2 and 3.1, since 2008 have made it unworkable or confusing to analyze impacts in this SEIR using data and techniques employed in the 2008 EIS/EIR.

The 2008 Actual Baseline is used to evaluate increments in air pollutant emission and related concentration impacts (Criteria AQ-3, AQ-4 in Section 3.1) and greenhouse gas impacts (Section 3.2). In assessing cancer risk impacts under Criterion AQ-7, this Recirculated Draft SEIR employs not only the 2008 Actual Baseline, but also a secondary analysis that compares the Revised Project to a "static" Baseline and a "floating" Future Baseline.

- The static Baseline cancer risk uses 2008 activity levels and 2008 emission factors based on actual compliance of 2008 EIR/EIS Mitigations at the time, and assumes these remain constant or "static" over 25-, 30-, and 70-year exposure periods.
- The floating Future Baseline cancer risk also uses 2008 activity levels, but uses emission factors, projected over 25-, 30-, and 70-year exposure periods, that incorporate the future effects of existing air quality regulations.

2.6.1.2 Baseline for Ground Transportation Impacts

Changes in analytical and modelling techniques for ground transportation impacts make it infeasible to use a baseline drawn from data in the 2008 EIS/EIR. 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.

Additionally, there was no failure, prior to the issuance of the NOP for this SEIR, to implement mitigation for ground transportation identified in the 2008 EIS/EIR in a timely manner. Therefore, as described in more detail in Section 3.3, LAHD has determined to employ a 2014 Mitigated Baseline to analyze project-specific ground transportation impacts of proposed modifications to certain ground transportation mitigation measures that were identified in the 2008 EIS/EIR. In the case of cumulative impacts, the appropriate baseline is the future conditions that would exist when the related projects and the Revised Project are in full operation. Accordingly, the baselines for this Recirculated Draft SEIR's analysis of cumulative impacts to street intersections and rail crossings are referred to as "Future Mitigated Baselines," and they consist of the forecasted 2015, 2030, and 2045 cumulative conditions under the Approved Project, with mitigation, which were disclosed in the 2008 EIS/EIR, as described in more detail in Chapter 4. The Future Mitigated Baselines represent anticipated traffic conditions (including background traffic growth) at the study intersections and grade crossings during the study years, with the added assumption of timely implementation of all mitigation identified in the 2008 EIS/EIR.

While the 2014 Mitigated Baseline does not permit precise comparison of the ground transportation impacts of the Revised Project 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 2014 at somewhat less than 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 project-specific highway traffic delay 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.

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

Air quality impacts are analyzed in this Recirculated Draft SEIR against one baseline scenario: 2008 actual activity and actual compliance with 2008 EIS/EIR mitigations (the "2008 Actual Baseline"). Two future conditions (2018 to 2045) scenarios are analyzed in comparison to the 2008 Actual Baseline (the year 2018 is considered a future year because actual terminal activity data are not yet available, necessitating the use of forecasted data):

1) future conditions (2018 to 2045) assuming incremental increase in terminal throughput as shown in Table 2-3 and timely implementation of the 2008 EIS/EIR mitigation measures (referred to as the FEIR Mitigated Scenario); and
2) future conditions (2018 to 2045) assuming an incremental increase in terminal throughput as shown in Table 2-3 and implementation of the modified mitigation measures under the Revised Project (referred to as the Revised Project Scenario).

In addition, in this Recirculated Draft SEIR analysis, two past conditions ("interim years" 2012 and 2014) scenarios are analyzed in comparison to the 2008 Actual Baseline:

1) past conditions (in "interim years" 2012 and 2014), assuming actual activity and actual compliance with 2008 EIS/EIR mitigations (referred to as the "2012 Actual and 2014 Actual" under the Revised Project Scenario); and
2) past conditions (in "interim years" 2012 and 2014) assuming actual activity but also assuming implementation of all mitigation measures required by the 2008 EIS/EIR had occurred in a timely fashion (2012 and 2014 "FEIR Mitigated" Scenarios).

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 Section 3.1, 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 EMFAC2017 model (CARB, 2018) 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 Cargo Handling Equipment Inventory Model (CARB, 2017b) for cargo-handling equipment, which replaced some of the pollutant emission rates from 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 2008 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 Past Conditions Scenarios for Air Quality and Related Impacts

For analysis of past years, including the baseline (2008, 2012, 2014), the Revised Project and the Approved Project (also referred to as FEIR Mitigated Scenario, or simply Mitigated Scenario) are developed using "actual" activity levels for CS terminal from those years. Under the Revised Project, the "actual" compliance level of 2008 EIS/EIR mitigations during each year is represented in the emissions by using terminal equipment records (for CHE) and vessel call data records (for AMP and VRSP compliance). In the Approved Project (FEIR Mitigated Scenario), past conditions represent a hypothetical "what-if" scenario that shows emission effects from 2008 EIS/EIR mitigations had they been implemented timely. The past conditions for interim years 2012 and 2014 are compared to the 2008 baseline as it would be with implementation of all mitigations imposed by the 2008 EIS/EIR to describe the impacts of each scenario. Finally, for information only, the two past conditions scenarios are compared to each other to identify whether the Revised Project caused new impacts or had more or less severe impacts than those of the Approved Project.

2.6.2.3 Future Conditions Scenarios for Air Quality and Related Impacts

For the future conditions analyses (2018, 2023, 2030, 2036 and 2045), the Revised Project and the Approved Project (FEIR Mitigated 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 in Section 2.5.2.1 is assumed to take effect at the beginning of 2019. In the Approved Project (FEIR Mitigated Scenario), future conditions represent activity projections and effects from the mitigation measures from the 2008 EIS/EIR had they been implemented in a timely manner. These future conditions are compared to the 2008 Actual baseline to determine incremental emissions or air pollutant concentrations. 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.