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September 29, 2017

Draft Supplemental Environmental Impact Report (DSEIR) for the Berths 97-109 [China Shipping] Container Terminal Project (Project) (SCH No.: 2003061153)

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document for the China Shipping Project (Revised Project). SCAQMD staff understands that the Revised Project is an important project for the Port of Los Angeles (Port) and acknowledges the challenges associated with implementing some mitigation measures by terminal operators, but is concerned that this DSEIR is backing off of the Port's CEQA obligation to implement all feasible measures to mitigate air quality impacts. Our comments seek a SEIR that fully discloses air quality impacts, and that ensures implementation of all feasible measures such as zero or near-zero emission trucks and equipment to mitigate significant impacts.

The SCAQMD has a long history of working with the ports to ensure implementation of the cleanest technologies. SCAQMD staff's comments on the China Shipping Container Terminal project, dated July 15, 2008, included recommendations to strengthen mitigation measures and accelerate implementation of zero or near-zero technologies[1]. Approved by the Los Angeles Harbor Commission (LAHC) nearly ten years ago, the Port was committed to implementing mitigation measures that would reduce significant air quality impacts. However, the Port is now proposing to revise 10 of 52 mitigation measures that were approved in 2008 for the Project, six of which are directly targeted towards reducing air quality impacts. This reverses the previous commitment to reducing emissions, particularly NOx emissions, while the Project's air quality impacts become more severe. The Revised Project, if approved, would not include Mitigation Measure (MM) AQ-20, which had previously required the Port to phase in liquefied natural gas (LNG)-powered drayage trucks arriving at and departing from the terminal[2]. Notably, only six percent of truck calls operated by West Basin Container Terminal (Terminal), including the Revised Project, were made by LNG-fueled trucks, and a Port-wide average of LNG-powered drayage trucks was 10 percent.[3] This indicates a lack of commitment by the project applicant towards implementing adopted mitigation, especially MM AQ-20, and a failure of the Port to

[1] South Coast Air Quality Management District. July 15, 2008. *Staff Comments*. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2008/july/berth-97-109-(china-shipping)-container-terminal-project.pdf.
[2] *DSEIR*. Executive Summary. Page ES-9.
[3] *Ibid*. Chapter 2, *Project Description*. Page 2-4.

enforce the measures. Furthermore, the Revised Project is not consistent with the Port's air quality commitment to use cleaner trucks.

The Revised Project plays an important role in supporting the Port's commitment to a zero-emissions goods movement future as outlined in the draft San Pedro Bay Ports Clean Air Action Plan 2017 Update (2017 CAAP Update)[4]. It is also critical to attaining the National Ambient Air Quality Standard (NAAQS). On March 3, 2017, the SCAQMD's Governing Board adopted the 2016 Air Quality Management Plan (2016 AQMP)[5], which was later approved by the California Air Resources Board of Directors on March 23rd. Built upon the progress in implementing the 2007 and 2012 AQMPs, the 2016 AQMP provides a regional perspective on air quality and lays out the challenges facing the South Coast Air Basin. The most significant air quality challenge in the Basin is to achieve an additional 45 percent reduction in nitrogen oxide (NOx) emissions in 2023 and an additional 55 percent NOx reduction beyond 2031 levels for ozone attainment.

However, the Port is allowing the Revised Project to reverse previous commitments through CEQA to mitigate significant air quality impacts. This will likely delay the implementation of zero or near-zero emission trucks and equipment at the Terminal and potentially throughout the Port. As shown in Table 3.1-5 of the DSEIR, the Project is already emitting more NOx per day in 2014 than it should be, had the Port implemented all of the mitigation measures that they committed to in 2008. The emission reductions already foregone, if continued into the future, would substantially hinder the South Coast Air Basin's ability to meet the NAAQS, in particular the upcoming critical attainment date of 2023 for federal ozone standards. The SCAQMD is committed to attaining the ozone NAAQS as expeditiously as practicable, and the SCAQMD's commitment relies on commitments made by the Port and others to ensure that emission reductions occur on time. Therefore, SCAQMD staff urges the Port to keep the commitment to near-zero emission trucks and equipment at the Terminal and pursue integration of zero emission technologies into Port-related goods movement. This will help ensure that the Revised Project contributes its fair share to reducing air pollution and advancing the mayors' vision of a zero-emissions good movement future.

SCAQMD staff is concerned about the Revised Project's impacts on the nearby community that are already heavily affected by the existing truck activities to and from the Port. The Revised Project will result in a maximum incremental individual cancer risk of 28 in a million, which is nearly three times greater than SCAQMD's CEQA threshold of 10 in a million[6]. Additionally, the SCAQMD's Multiple Air Toxics Exposure Study (MATES IV), completed in May 2015, concluded that the largest contributor to cancer risk from air pollution is diesel particulate matter emissions, and that the areas around the Port of Los Angeles and the Port of Long Beach is significantly impacted with some of the highest risks from air pollution in the region with a maximum simulated cancer risk of 1,057 in a million[7]. When the health impacts from the Revised

[4] San Pedro Bay Ports. July 2017. *Clean Air Action Plan 2017 Update Draft*. Accessed at: http://www.cleanairactionplan.org/2017-clean-air-action-plan-update/.
[5] South Coast Air Quality Management District. March 3, 2017. *2016 Air Quality Management Plan*. Accessed at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan.
[6] *Ibid*. Chapter 3.1, *Air Quality and Meteorology*. Page 3.1-63.
[7] South Coast Air Quality Management District. May 2015. *Multiple Air Toxics Exposure Study in the South Coast Air Basin*. Accessed at: http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf.

Project are added to those existing impacts, the community will face an even greater exposure to air pollution and bear a disproportionate burden of increasing health risks.

The Revised Project is an important and significant project for the Port and the region. The Port should use this Project as an opportunity to take more aggressive actions to accelerate zero emission vehicles and equipment that are expected in the life of the Revised Project. Attachment A includes additional information regarding zero emission technologies. To ensure successful implementation of the strategies in the proposed 2017 CAAP Update, SCAQMD staff recommends that the Port update their emissions reduction targets for this Terminal to be consistent with the air quality attainment goals and timelines of the 2016 AQMP and include implementation schedules and criteria for setting and assessing the targets.

Since the LAHC approved the Project in 2008, there have been substantial improvements to the zero emission technologies. The ports prepared two reports, *Roadmap for Zero-emissions – Technical Report*[8] and the *Draft Zero Emission White Paper*[9] in 2011 and 2015, respectively. In both reports, the ports laid out a framework and identified a pathway for transitioning to a zero-emission goods movement future. As discussed in the 2015 Draft Zero Emission White Paper Appendix 1 and Appendix 2, the Port of Los Angeles has made progress towards completing projects that support zero and near-zero truck technologies before 2015, and is co-funding ongoing technology development projects for zero emission electric yard tractors, plug-in hybrid electric vehicle (PHEV), zero emission electric-battery drive system for heavy-duty drayage trucks, electric drive technology for yard tractors, zero emission drayage trucks with fuel cell range extenders, and two hybrid electric drayage trucks. The reports not only provided information to show that zero emission technologies were already available, but also identified funding programs to support zero emission technology implementation at the Port. For example, the Proposition 1B Goods Movement Emission Reduction Program has incentive funds available for zero emission cargo handling equipment (CHE)[10]. The SCAQMD's Greenhouse Gas Reduction Fund (GGRF) is available for usage to develop and demonstrate zero emission drayage trucks at the Port[11]. When both zero emission technologies and funding are available and have been demonstrated to be feasible, the Port can and should do more now to advance and accelerate zero emission vehicles and equipment for this Terminal.

SCAQMD staff has reviewed the air quality and health risk analyses in the DSEIR, and SCAQMD staff has concerns about the CEQA baseline and criteria pollutant calculations, the feasibility analysis, and the modeling parameters and meteorological data used. By using a 2014 CEQA baseline, the Lead Agency may have substantially underestimated and underrepresented the Revised Project's potential significant adverse air quality impacts. Based on the SCAQMD staff's calculations, the Revised Project would exceed SCAQMD's regional air quality CEQA

[8] "Final Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles." Updated August 2011. Accessed at: https://www.portoflosangeles.org/pdf/Zero_Emissions_Road_Map.pdf.

[9] "Draft Zero Emission White Paper." July 2015. Accessed at: https://www.portoflosangeles.org/pdf/Zero_Emmissions_White_Paper_DRAFT.pdf.

[10] California Air Resources Board. Goods Movement Emission Reduction Program. Accessed at: https://arb.ca.gov/bonds/gmbond/gmbond.htm.

[11] SCAQMD. March 4, 2016. The SCAQMD Board Meeting Agenda Item No. 4. Accessed at: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2016/brdpkg-2016-mar4.pdf.

significance thresholds for operation[12]. Therefore, the Lead Agency should consider mitigation measures to reduce those impacts to the maximum extent feasible. In addition, the DSEIR identifies that the Revised Project will result in a significant impact to AQ-4 (localized PM10 concentrations), AQ-7 (toxic air contaminants), and GHG-1 (Greenhouse Gas emissions). SCAQMD staff recommends additional mitigation measures that can apply to many emissions sources and would be similar to the ports' existing Green Construction Policy using a step-down program for phasing in zero or near-zero emission drayage trucks and replacing cargo handling equipment at the Terminal. The proposed measures have the potential to reduce all identified significant operational air quality impacts to a level below significance. The recommended mitigation measures are guidance for the Lead Agency and should be incorporated into the Final SEIR. Additional details are included in the Attachment B.

Thank you for the opportunity to provide comments on the DSEIR. We look forward to working with the Port to address the comments raised herein and any other questions that may arise. Please feel free to call me at (909) 396-3105, if you have questions or wish to discuss our comments.

Sincerely,

Susan Nakamura

Susan Nakamura
Assistant Deputy Executive Officer
Planning, Rule Development & Area Sources

Attachments
LAC170616-02
Control Number

[12] The SCAQMD's air quality CEQA regional pollutant emissions significance thresholds can be found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

ATTACHMENT A

ZERO EMISSION TRUCK TECHNOLOGIES

Overview

Zero emission trucks, including heavy-duty trucks, are developing rapidly with some of the technologies ready for near-term deployments. Zero emission trucks can be powered by grid electricity stored in a battery, by electricity produced onboard the vehicle through a fuel cell, or by "wayside" electricity from outside sources such as overhead catenary wires, as is currently used for light rail and some transit buses. All such technologies eliminate fuel combustion and utilize electric drive as the means to achieve zero emissions and higher system efficiency compared to conventional fossil fuel combustion technologies. Hybrid electric trucks with all-electric range (AER) can provide zero emission operations in certain corridors and flexibility to travel extended distances powered by fossil or renewable fuels (e.g. natural gas) or hydrogen for fuel cells. In collaboration with regional stakeholders and partners as well as leveraging funding support from both federal and state agencies, SCAQMD has been supporting a number of projects, as described below, to develop and demonstrate zero emission cargo transport technologies to promote and accelerate its market acceptance and deployment.

Overhead Catenary Truck Project

Project Description

Siemens Mobility is working with Volvo to integrate a pantograph system into a Class 8 heavy duty trucks. Siemens has designed and provided an adaptable pantograph system that will allow seamless connection and detachment from the catenary power source, while the vehicle is mobile. A catenary track of approximately one mile segment has been installed along Alameda Street in the city of Carson, extending north to south from E. Lomita Blvd to the Dominguez Channel. Corresponding with the operational range of the pantograph, two parallel catenary wires are installed above the roadway one mile in each direction. The connection to the grid occurs at the middle of the system where a power supply has been placed.

In addition to the Volvo truck, TransPower also developed and delivered two drayage trucks with catenary accessibility. The first truck is an existing vehicle that utilizes a battery electric drive system and has been converted to operate on the catenary system. The second truck is a CNG-hybrid truck that incorporates TransPower electric drive system on a major OEM chassis. TransPower has integrated pantographs and associated components into both vehicles. Specifically, they modified one truck currently being built with their electric drive system to operate on catenary power. The current electric truck has two 150 kW motors and 700 Ah battery pack (modified truck will have a 300 Ah battery pack). Integrating the pantograph system enabled the truck to operate on wayside power while also recharging the batteries. The second truck is new truck with a CNG hybrid drive system architecture that enables the vehicle to operate in three modes –battery-only, catenary and CNG to extend the operating range. The battery-only mode will allow the truck to have a short AER to operate without the engine for short durations while the CNG hybrid allows the truck to have regional applicability as well.

Cost
The incremental cost of the catenary battery electric truck over 8.9 L natural gas truck is approximately $250,000. This is based on limited production, however, and full production is anticipated to result in reduced costs.

Timeline and Commercialization
The project vehicles and infrastructure has been developed and is currently undergoing a 6-month demonstration with completion date by Q4 2017. Based on the project outcome, a Phase 2 demonstration with a longer track and subsequent commercialization may be considered.

TransPower Catenary Truck on the OCS Track

Volvo Catenary Truck

2012 DOE Zero Emission Cargo Transport Demonstration Project (ZECT I)

Project Description
With an award of approximately $4.2 million from the DOE in 2012, SCAQMD has contracted two local EV integrators, TransPower and US Hybrid, to develop and demonstrate a total of 11 zero emission capable heavy-duty drayage trucks, based on four different architectures, consisting of two battery electric vehicles and two plug-in hybrid electric drivetrains with AER capability. These trucks are deployed in real world drayage operations with fleet partners operating at the Ports of Los Angeles and Long Beach for demonstration up to two years. Vehicle performance and operational data is being collected and analyzed by National Renewable Laboratory (NREL) to evaluate both technical feasibility and market viability of the technologies to support drayage operations. The four demonstration technologies are summarized as follows:

Battery Electric Trucks (BETs)

a. TransPower developed four Class 8 BETs on International Prostar chassis, incorporating improvements and lessons learned from the operation of their prototype, ElecTruck. The drive system is powered by a dual motor unit, rated at 300 kW and the trucks are equipped with an innovative Inverter-Charger Unit (ICU) that combines the function of both vehicle inverter and battery charger. TransPower has installed an automated manual

transmission with proprietary software to control the transmission shift mechanism, enabling operation in multiple gears to maximize vehicle efficiency. The battery pack can provide 215 kWh of energy to support 70-100 miles in operating range and can be fully recharged within 3 hours. These trucks have been in revenue service, meeting the daily duty cycle needs of the trucking companies.

b. US Hybrid also developed two BETs on International Prostar chassis. Each vehicle is equipped with a 320kW traction motor, powered by a 240 kWh battery pack with lithium-ion cells for highly efficient and reliable performance, capable of 70-100 miles of operating range per charge. A 60 kW on-board charger is capable of fully recharging the truck within 3-4 hours. These trucks have also been in revenue service with local fleet operators.

Plug-In Hybrid Electric Trucks (PHETs)

c. Two Class 8 PHETs are being developed by TransPower with a targeted operating range of 150-200 miles, including 30-40 all-electric miles. The hybrid technology is based on the ElecTruck^{TM} system TransPower has developed for their BETs, augmented with a CNG auxiliary power unit for extended range and power. TransPower is utilizing commercially available and widely used components, including Ford 3.7L CNG engine-generator, to ensure that these trucks are cost-competitive and well-positioned for commercialization. As in their BETs, these trucks are equipped with a 300 kW traction motor with an automated transmission. A 115 kWh battery pack on-board will support zero emission operations when traveling through the communities around the Ports that are heavily impacted by diesel traffic and activities.

d. US Hybrid is also developing three Class 8 PHETs for demonstration in this project. US Hybrid converted exiting LNG trucks with 8.9L ISLG engine into PHETs with all-electric range capability. The hybrid system is designed to provide comparable power and torque to those from larger Cummins 12L engines to support a full range of drayage operations. The trucks are capable of providing a combined power of 600 HP between the LNG engine and a 223 kW traction motor, with a targeted operating range of 250 miles, including 30-40 miles in all-electric range. Two of these trucks are currently deployed in drayage service with local fleet operators.

Cost

The incremental cost of the BETs over a natural gas truck is approximately $200,000, and the incremental cost of the PHETs is estimated to be around $250,000. These estimates are based on limited productions, and the costs are expected to be substantially reduced in larger volume production.

Timeline and Commercialization

Seven of the 11 demonstration trucks are currently in deployment with participating fleets at the Ports. The remaining trucks are expected to be deployed soon and the overall project will be completed by Q3 2018. Overseas truck OEMs have commercial products that are already eligible for incentive funding from the state, such as the HVIP, and other truck OEMs are anticipating commercialization pathways by 2019.

TransPower BETs

US Hybrid PHET

US Hybrid BET

2014 DOE Zero Emission Cargo Transport Demonstration Project (ZECT II)

Project Description

In August 2014, the SCAQMD received an award of approximately $9.7 million from the DOE to develop and demonstrate seven zero emission drayage trucks in real world drayage operations at the Ports of Los Angeles and Long Beach. Six of them will be of fuel cell range extended electric trucks and the remaining truck will be built on a hybrid electric drive platform using a CNG auxiliary power unit as described below:

Fuel Cell Range Extended Trucks (FCREs)

a. Under project management by Center for Transportation and Environment, Kenworth and BAE Systems are developing a battery electric truck with hydrogen fuel cell range extender. This project will leverage the expertise of BAE Systems to test their hybrid electric fuel cell propulsion system, currently used for transit buses, in drayage applications. The power output of the electric drivetrain is comparable to currently used

Class 8 truck engines power output. AC traction motors will be mounted one on each rear drive axle and the electric drivetrain in the architecture is set up to be fully redundant. The vehicle will operate primarily from the batteries, engaging the fuel cell system only when the batteries reach a specified state of charge. BAE anticipates that the 30 kg of hydrogen (25 kg usable) will provide approximately 110 to 120 miles of range between re-fueling.

b. Hydrogenics will develop a hydrogen fuel cell drayage truck powered by their latest advanced fuel cell drive technology (Celerity Plus fuel cell power system) and Siemens' ELFA electric drivetrain, customized for heavy duty vehicle applications. The proposed fuel cell drayage truck is designed to be capable of delivering over 150 miles of zero emission operation with 10-15 minutes fast refueling of hydrogen. The fuel cell drivetrain will be customized, tested and optimized for port applications.

c. TransPower will develop two battery electric trucks with hydrogen fuel cell range extenders. The fuel cell range extender project is to use TransPower's proven ElecTruck™ drive system as a foundation and add fuel cells provided by Hydrogenics, one of the world's leading suppliers of hydrogen fuel cells. The proposed project will result in the manufacturing and deployment of two demonstration trucks, one with a 30 kW fuel cell and one with a 60 kW fuel cell, enabling a direct comparison of both variants. The higher power output of the 60 kW systems is expected to be better suited for trucks carrying heavy loads over longer distances that might exceed the average power capacity of the 30 kW systems. The system will store 25-30 kg of hydrogen onboard based on an estimated 7.37 miles per kg fuel economy. TransPower's system also includes a bi-directional J1772-compliant charger that can recharge the vehicle batteries or provide power export.

d. U.S. Hybrid will develop two battery electric trucks with an onboard hydrogen fuel cell generator. U.S. Hybrid has been involved with fuel cell-powered vehicles for several years (including cargo vans, transit/shuttle buses and heavy-duty military vehicles) and believes the technology and product has reached maturity beyond feasibility and is ready for commercial demonstration deployment. The truck is powered by a lithium-ion battery with an 80 kW hydrogen fuel cell generator in charge sustaining mode, eliminating the need for charging. The fuel cell power plant is sized to sustain continuous operation based on average power demand for drayage applications. As a result, the battery size is significantly reduced, as is the required charging infrastructure. The proposed technology will provide a 150-200 mile range between refueling. Each truck will carry approximately 20 kg of hydrogen storage at 350 bar with an estimated fueling time of less than 10 minutes.

The fuel cell Class 8 trucks are expected to initiate demonstration at local trucking fleets over the next 3-18 months.

<u>Plug-In Hybrid Electric Trucks (PHETs)</u>

e. Under project management by Gas Technology Institute, Kenworth and BAE Systems will develop a PHET with a CNG range extender. The proposed technology is capable of

providing a well-balanced blend of all electric and CNG-based hybrid operations. The electric drivetrain will be based on BAE Systems HybriDrive® Series (HDS) propulsion system hardware. The electric drivetrain will be capable of combined propulsion power output of 320 kW (430 hp) continuous using two AC traction motors. The power output of the electric drivetrain is comparable to currently used Class 8 truck engines power output. The truck will be designed to provide an operating range of 150 miles with 30 all-electric miles.

Cost

The incremental cost of the FCREs and the PHET over 8.9 L natural gas truck is estimated to be $250,000 or higher. These estimates are based on limited productions, and the costs will be substantially reduced in full production, and state incentives funds are anticipated for the trucks and associated refueling infrastructure.

Timeline and Commercialization

The demonstration phase of this project is expected to start by Q1 2018 with at least two trucks, one each from TransPower and US Hybrid. The project is set be completed by Q3 2019 and the commercialization of these truck technologies can be expected after 2019.

CARB Zero Emission Drayage Truck Demonstration Project

Project Description

SCAQMD received an award of approximately $23.6 million to develop and demonstrate zero emission drayage trucks under CARB's Low Carbon Transportation Greenhouse Gas Reduction Fund Investments Program in 2016. The project is to develop a total of 44 Class 8 drayage trucks based on a portfolio of most commercially promising zero- and near-zero emission truck technologies for statewide demonstrations, across a variety of real world drayage applications in and around the Ports of Long Beach, Los Angeles, Oakland, Stockton and San Diego, in collaboration with four other air districts: BAAQMD, Sacramento Metropolitan AQMD, SJVAPCD and SDAPCD. The SCAQMD has contracted with three major U.S. OEMs and an international OEM, with necessary resources and networks to support future commercialization efforts, to develop and demonstrate four different types of battery and hybrid electric drayage truck technologies in this project, including: two battery electric platforms (BYD and Peterbilt), and two plug-in hybrid electric platforms (Kenworth and Volvo) as summarized below:

Battery Electric Trucks (BETs)

a. BYD, a global company with over $9 billion in revenue and 180,000 employees, will develop 25 battery electric drayage trucks for demonstration with multiple fleet partners across the state. The BET is optimized to serve near-dock and short regional drayage routes with a range of 70-100 miles, supported by 207 kWh batteries on board. The truck is designed to provide similar operating experience compared to equivalent diesel and CNG trucks with matching or exceeding power and torque, powered by two 180 kW traction motors. BYD will utilize 80 kW on-board charger to fully recharge the truck within 3-4 hours. These trucks are already eligible for incentive funds under CARB's HVIP.

b. Peterbilt, in partnership with TransPower, will develop 12 BETs in this project, building on a platform developed under the DOE ZECT I project, incorporating lessons learned from ongoing demonstrations to further refine and optimize the electric drive system. Eight trucks will be designed to provide 80 to 100 miles in range, powered by a 215 kWh battery pack to support near-dock drayage operations, and four longer range BETs will incorporate a new battery design that allows for 120 to 150 miles of operation per charge with a 311 kWh battery pack at the same system weight with similar volume as the 215 kWh battery pack. These longer range BETs will be well suited for regional drayage routes such as from port terminals to Inland Empire and from the Port of Oakland to Sacramento and the San Joaquin Valley.

Plug-In Hybrid Electric Trucks (PHETs)

c. Kenworth expands its partnership with the BAE Systems to develop four PHETs with natural gas range extenders, leveraging the prototype development under the DOE-funded ZECT II project. These vehicles will target longer regional drayage routes. The team will continue refining the hybrid drivetrain to provide a system that can operate in a zero emissions (all-electric) mode and in a conventional hybrid electric mode to meet customer range needs and flexibility. The powertrain includes a 200 kW genset using a recently-certified 8.9L NZ CNG engine and two AC traction motors that produce 320kW (430 hp) continuous, with comparable power output to what is typically found in Class 8 truck engines. The hybrid system will be designed for an operating range of 250 miles with approximately 30-40 miles of all-electric range to operate in zero emissions mode in sensitive areas and disadvantaged communities.

d. Volvo will build on the success of past projects to develop three commercially attractive, highly-flexible hybrid trucks, with all-electric mode capability for zero emission operations in the most heavily emissions-impacted communities. Volvo offers a unique approach to system-focused hybrid powertrain improvements, utilizing a suite of innovative technologies such as energy and emission optimized driveline controls; aerodynamics and weight improvements; vehicle energy management and driver coaching systems optimized for port drayage operation; and a complete suite of NOx reduction technologies, including engine and exhaust after-treatment innovations. Furthermore, Volvo, in partnership with Metro and UC Riverside, will also integrate ITS connectivity solutions, such as vehicle-to-infrastructure and vehicle-to-vehicle communication technologies, to improve dynamic speed harmonization and reduce idling, for better fuel economy and reduced emissions.

Cost

The incremental cost of the BETs over 8.9 L natural gas truck ranges from $150,000 to $200,000. No estimate is available for the Kenworth or Volvo PHETs. As noted earlier, the cost estimates are based on limited production, and the costs are expected to be substantially reduced once these trucks reach a full-production phase.

Timeline and Commercialization
The demonstration phase of this project is expected to start by Q4 2017 with BYD trucks and the rest to follow over time throughout 2018 and 2019. This project is set be completed by Q2 2020 and the commercialization of these truck technologies can start as early as 2019 for BYD trucks with the rest taking place in the 2020-2021 timeframe.

BYD Prototype Drayage Truck

Volvo PHET

CEC Sustainable Freight Transportation Project

Project Description
SCAQMD recently received a $10 million award from the CEC under the Alternative and Renewable Fuel and Vehicle Technology Program to develop and demonstrate zero and near-zero emission freight transportation technologies. One of the awarded technologies is electric drayage trucks, to be built on the PowerDrive™ platforms developed by Efficient Drivetrains, Inc., (EDI), a global leader and innovator of advanced, high-efficiency electric drivetrains and vehicle control software.

Under project management by Velocity Vehicle Group, this project is to develop and demonstrate four electric drayage trucks, consisting of one BET and three PHETs, with EDI serving as the technical lead and vehicle integrator, and Freightliner providing necessary engineering resources and expertise in vehicle design and glider manufacturing. Both battery electric and hybrid electric drive platforms will be designed to meet end-user fleet requirements. The platforms will be also designed so that it can be easily integrated by post-production truck modification service companies and serviced by Freightliner dealerships. Based on the proposed technical concept, the BET will be capable of 100 miles in operating range and the PHETs will utilize Cummins 8.9L natural gas engine as a range extender to provide 250 miles in operating range per fueling with up to 35 miles in all-electric range.

Cost
Cost estimates are not available for these trucks but it is expected to be in line with other similar technologies, and the costs are expected to be substantially reduced once these trucks reach a wide-scale deployment and full-production phase.

Timeline and Commercialization

This project is to be completed by Q4 2020 and the commercialization of these truck technologies can be expected in the 2021-2022 timeframe.

ATTACHMENT B

SCAQMD Staff's Summary of Project Description

SCAQMD staff understands that the Revised Project involves continued operation of the China Shipping (CS) Container Terminal under new or modified mitigation measures previously approved in the 2008 Final EIS/EIR. Modifications are proposed for 10 of the 52 mitigation measures that were approved in 2008, including six that are related to air quality. The Revised Project also assumes an increase in the projected cargo throughput of 147,504 twenty-foot equivalent units (TEUs) from the 1,551,000 TEUs projected in the 2008 Final EIS/EIR to 1,698,504 TEUs estimated for years 2030 and 2036-2045 in the DSEIR. The CS Container Terminal lease with the Los Angeles Harbor Department (Lead Agency) will expire in year 2045.

SCAQMD Staff's Summary of Air Quality and Health Risk Assessment (HRA) Analyses

In the air quality analyses, the Lead Agency found that the Revised Project would have a significant and unavoidable impact related to carbon monoxide (CO) impacts during operations for all four years analyzed (2023, 2030, 2036 and 2045)[13]. In addition, a significant and unavoidable localized impact was determined for ambient concentrations of PM_{10} (annual average) for years 2023, 2030, 2036 and 2045. However, the Lead Agency found that the Revised Project's emissions from VOCs, NOx, PM10, PM2.5, and SOx would not exceed SCAQMD's air quality CEQA significance thresholds[14]. The Revised Project would result in a significant and unavoidable impact related to toxic air contaminates (TACs) for residential, occupational, and sensitive receptor types[15]. The main sources of TACs from Revised Project operations would be diesel particulate matter (DPM) emissions from container ships, tugboats, cargo handling equipment, locomotives, and most importantly trucks.

After a review of the air quality and health risk analyses and supporting technical documents in the DSEIR, SCAQMD staff has comments as follows. Pursuant to Public Resources Code Section 21092.5 and CEQA Guidelines Section 15088, SCAQMD staff requests that the Lead Agency provide SCAQMD with written responses to all comments prior to the certification of the Final SEIR.

CEQA Baseline

1. The DSEIR should include a realistic baseline which accurately reflects the improvements in air quality that will occur, independent of the Revised Project. The Lead Agency chose a CEQA baseline year of 2014 with full implementation of the 2008 approved Project for determining the air quality impacts from criteria pollutants[16]. The 2014 existing conditions with approved Project mitigation baseline is held constant (i.e. using emission rates from 2014) and compared to future interim years under the Revised Project (i.e. using emission rates from future years)[17]. This approach using a comparison between the Revised Project's impacts in future years (using emission rates from those years) and a 2014 baseline (using emission rates from 2014) improperly credits the Revised Project with emission reductions that will occur independent of the Revised Project due to adopted state and federal rules and regulations, since

[13] *Ibid.* Chapter 3.1, *Air Quality and Meteorology*. Page 3.1-66.
[14] *Ibid*. Executive Summary. Page ES-14.
[15] *Ibid*. Pages 3.1-26, 36, 59, and 63.
[16] *Ibid*. Executive Summary. Page ES-4.
[17] *Ibid*. Chapter 3.1, *Air Quality and Meteorology*. Pages 3.1-42 to 44.

these rules and regulations are expected to improve air quality, even in the absence of the Revised Project. For example, the California Air Resources Board's (CARB) current regulation for trucks and buses will provide significant near-term and long term reductions in NOx emissions from trucks and buses, at 124 tons per day for 2014 and 98 tons per day for 2023[18]. The use of the 2014 baseline masks the emission increases from the Revised Project with reductions that have been achieved due to state and federal rules and regulations. As shown in Table 1, the use of the 2014 baseline comparison is misleading because it showcases the Revised Project as an emissions reduction project when mitigation measures have not been implemented since 2008 and are being modified or removed going into the future, if the Revised Project is approved.

Table 1: Copy of Table 3.1-8, Peak Daily Operational Emissions – Revised Project (lbs/day)

Table 3.1-8. Peak Daily Operational Emissions—Revised Project (lbs/day)

Source Category	Peak Day Emissions (lb/day)					
	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x
2023 Revised Project						
Cargo Handling Equipment	43.0	4142.1	108.4	4.0	3.7	1.3
Harbor Craft	2.5	49.6	19.9	0.4	0.4	0.1
Worker Vehicles Offsite	0.4	22.0	1.8	5.3	1.3	0.1
Trucks Offsite Driving	15.9	287.9	509.5	52.4	15.4	3.5
Ocean Going Vessels	193.2	340.3	5622.9	76.3	70.5	165.0
Worker Vehicles Onsite Driving	0.0	1.3	0.1	0.7	0.1	0.0
Trucks Onsite Driving/Idling	4.8	93.3	130.5	30.2	4.8	0.3
Rail Offsite Operations	28.4	220.4	788.6	17.8	16.6	0.9
Rail On Dock Operations	3.6	27.9	96.8	2.1	2.0	0.1
Total	**292**	**5185**	**7279**	**189**	**115**	**171**
2014 Unmitigated Baseline	584	4,729	9,396	213	146	163
Revised Project Minus 2014 Unmitigated Baseline	-292	456	-2118	-24	-31	9
2014 Mitigated Baseline	555	4,731	8,193	193	128	150
Revised Project Minus 2014 Mitigated Baseline	-264	453	-915	-4	-13	22
Significance Threshold	55	550	55	150	55	150
Significant?	**No**	**No**	**No**	**No**	**No**	**No**
2030 Revised Project						
Cargo Handling Equipment	130.3	13831.5	141.1	6.4	5.8	1.4
Harbor Craft	2.7	53.2	21.1	0.5	0.5	0.1

[18] California Air Resources Board. July 14, 2017. Trucks and Bus Regulation: On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Accessed at: https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm, and https://www.arb.ca.gov/msprog/onrdiesel/documents/truckrulehealth.pdf.

Source Category	Peak Day Emissions (lb/day)					
	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x
Worker Vehicles Offsite	0.2	15.8	1.2	5.5	1.4	0.1
Trucks Offsite Driving	19.6	221.3	404.6	56.8	16.6	4.3
Ocean Going Vessels	372.0	716.4	4594.1	114.7	105.9	170.0
Worker Vehicles Onsite Driving	0.0	0.9	0.1	0.7	0.1	0.0
Trucks Onsite Driving/Idling	5.7	62.5	166.8	33.7	5.3	0.4
Rail Offsite Operations	20.1	233.3	581.0	11.8	11.2	0.9
Rail On Dock Operations	2.5	27.7	68.8	1.3	1.3	0.1
Total	**553**	**15163**	**5979**	**231**	**148**	**177**
2014 Unmitigated Baseline	584	4,729	9,396	213	146	163
Revised Project Minus 2014 Unmitigated Baseline	-31	10434	-3417	18	2	14
2014 Mitigated Baseline	555	4,731	8,193	193	128	150
Revised Project Minus 2014 Mitigated Baseline	-2	10431	-2215	38	20	28
Significance Threshold	55	550	55	150	55	150
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**
2036 Revised Project						
Cargo Handling Equipment	101.1	6016.6	135.0	5.8	5.3	1.4
Harbor Craft	3.0	56.4	22.1	0.6	0.5	0.1
Worker Vehicles Offsite	0.2	12.2	0.8	5.2	1.3	0.1
Trucks Offsite Driving	21.2	205.8	350.6	56.8	16.6	4.4
Ocean Going Vessels	372.0	716.4	2991.5	114.7	105.9	170.0
Worker Vehicles Onsite Driving	0.0	0.7	0.0	0.7	0.1	0.0
Trucks Onsite Driving/Idling	5.8	51.4	172.6	33.9	5.4	0.4
Rail Offsite Operations	12.9	221.7	379.1	6.7	6.5	0.9
Rail On Dock Operations	1.8	27.4	48.4	0.8	0.8	0.1
Total	**518**	**7308**	**4100**	**225**	**143**	**177**
2014 Unmitigated Baseline	584	4,729	9,396	213	146	163
Revised Project Minus 2014 Unmitigated Baseline	-66	2580	-5296	12	-3	15
2014 Mitigated Baseline	555	4,731	8,193	193	128	150
Revised Project Minus 2014 Mitigated Baseline	-37	2577	-4093	32	15	28
Significance Threshold	55	550	55	150	55	150
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**
2045 Revised Project						
Cargo Handling Equipment	96.0	8915.9	132.8	5.6	5.2	1.4
Harbor Craft	2.5	50.0	20.0	0.5	0.4	0.1
Worker Vehicles Offsite	0.1	11.2	0.8	5.3	1.3	0.1
Trucks Offsite Driving	26.6	254.6	421.7	56.9	16.7	4.4
Ocean Going Vessels	372.0	716.4	1288.0	114.7	105.9	170.0
Worker Vehicles Onsite Driving	0.0	0.6	0.0	0.8	0.1	0.0

Source Category	Peak Day Emissions (lb/day)					
	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_x
Trucks Onsite Driving/Idling	5.8	47.9	174.0	33.9	5.4	0.4
Rail Offsite Operations	7.8	206.0	209.4	3.1	3.1	0.8
Rail On Dock Operations	1.2	27.4	30.8	0.4	0.4	0.1
Total	**512**	**10230**	**2278**	**221**	**139**	**177**
2014 Unmitigated Baseline	584	4,729	9,396	213	146	163
Revised Project Minus 2014 Unmitigated Baseline	-72	5501	-7119	8	-7	14
2014 Mitigated Baseline	555	4,731	8,193	193	128	150
Revised Project Minus 2014 Mitigated Baseline	-43	5499	-5916	28	11	28
Significance Threshold	55	550	55	150	55	150
Significant?	**No**	**Yes**	**No**	**No**	**No**	**No**

Note:
Increments between the Revised Project and the 2014 Unmitigated Baseline are shown for informational purposes only.
Rail Offsite Operations considered for the peak day include emissions occurring only within SCAB boundaries
OGV emissions for peak day include operations up to SCAB Overwater Boundary
CHE: LPG yard tractor emission factors for CO from Port of Los Angeles 2014 Emission Inventory; these emission factors are of lower certainty in future years where forecasts of CO emission rates from LPG yard tractors are not available.

In *Neighbors for Smart Rail v. Exposition Metro Line Construction (2013) 57 Cal.4th 439*, the California Supreme Court held that using a future baseline is proper in some cases. The purpose of CEQA is to disclose environmental impacts from the Revised Project to the public and decision makers in order to provide the public and decision makers with the actual changes to the environment from the activities involved in the Revised Project. By taking credit for future emission reductions from existing air quality rules and regulations, the Revised Project's air quality impacts are likely underestimated. Therefore, SCAQMD staff believes that the Lead Agency may have substantially underestimated the true impacts attributable to the Revised Project's activities for VOCs, NOx, PM10, PM2.5, and SOx emissions. SCAQMD staff recommends that the Lead Agency revise the air quality analysis to include a comparison between the emissions in year 2023, year 2030, year 2036, and year 2045 with the Revised Project and the emissions in the same respective years without the Revised Project, and use this analysis to determine the level of significance (i.e. air quality impacts based on the change in activity due to the Revised Project).

Methodology Used for the Air Quality Impacts and the Health Risk Assessment

2. As described in Comment No. 1, SCAQMD staff found that the Revised Project's operational air quality emissions from criteria pollutants were first subtracted from the 2014 mitigated or unmitigated CEQA baseline air emissions, and the resulting differences were compared to the SCAQMD's regional air quality CEQA significance thresholds to determine the level of significance in year 2023, year 2030, year 2036 and year 2045[19]. However, based on a review of the HRA[20], SCAQMD staff found that the methodology for the HRA analysis included a comparison to the 2014 mitigated CEQA baseline and a comparison to the floating future

[19] *Ibid.*
[20] *Ibid.* Pages 3.1-59 to 60.

mitigated baseline[21,22]. The comparison to the floating future mitigated baseline was used to determine the level of significance[23]. As such, SCAQMD staff found that the methodology for determining the significance of air quality impacts from criteria pollutants is not consistent with the methodology for determining the significance of health risks. It is recommended that the Lead Agency use consistent methodologies when determining both air quality and health risk impacts in the Final SEIR or provide clarification on the use of different methodologies.

Analysis of the Revised Project's Consistency with the Air Quality Management Plan

3. The air quality analysis in the DSEIR did not analyze whether the Revised Project is consistent with the Air Quality Management Plan (AQMP). Since this DSEIR is only being prepared because of the project's inability to meet previous commitments, and the air quality impacts, based on SCAQMD staff's calculations, will be significant as described above in Comment Nos. 1 and 2, this question should not be dismissed in the air quality analysis. The AQMP relies on commitments made by the port and others to ensure that emission reductions occur on time to meet federal and state standards. Because of the precedent the Revised Project is setting by failing to meet previous commitments, the consistency of this Project with the AQMP should be fully analyzed

Feasibility of the Mitigation Measure (MM) AQ-20

4. The Lead Agency excluded six of the mitigation measures that were approved in 2008 in the Revised Project, and one of these removed mitigation measures was MM AQ-20, which required the phase in of LNG-fueled heavy-duty trucks serving the Project by 50 percent in 2012 and 2013, 70 percent in 2014 through 2017, and 100 percent in 2018[24]. The Lead Agency stated that the MM AQ-20 was "not included in the Revised Project because there is no feasible measure for reducing drayage truck emissions by quantifiable amounts"[25].

   SCAQMD staff disagrees with the Lead Agency's feasibility assessment. CEQA defines feasible to mean "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors" (California Public Resources Code Section 21061.1 and CEQA Guidelines Section 15364). The Lead Agency has already established the feasibility for phasing in LNG-fueled heavy-duty trucks over time in the DSEIR and the draft 2017 CAAP Update. In the DSEIR, the Lead Agency showed that in 2014, six percent of truck calls operated by West Basin Container Terminal, including the Revised Project, were made by LNG-fueled trucks, and a Port-wide average was 10 percent[26]. While China Shipping points to the technological limitations of LNG-fueled trucks[27], the number of LNG-fueled trucks that are already operating at the ports, including the CS Container Terminal, establishes the technological feasibility for implementing MM AQ-20 over time. The Port's own 2015 Draft Zero Emission White Paper Appendix 2 identified programs and responsible agencies for funding zero and near-zero trucks and equipment. This establishes the economic feasibility. In the recent draft 2017 CAAP

[21] *Ibid.*
[22] *Ibid*. Page 3.1-26. "The floating future baseline uses 2014 activity levels, but uses emission factors averaged over a 30-year exposure period, that incorporate the effects of existing air quality regulations."
[23] *Ibid*. Page 3.1-36.
[24] *Ibid*. Page ES-9.
[25] *Ibid.*
[26] *Ibid*. Chapter 2, *Project Description*. Page 2-4.
[27] *Ibid*. Chapter 1, *Introduction*. Page 1-10.

Update, the San Pedro Ports renewed their commitment "to assist in transitioning the current drayage truck fleet to a near-zero and ultimately zero-emissions drayage trucking fleet by 2035"[28]. This renewed commitment establishes the social feasibility and willingness to implement zero or near-zero technologies at the ports. Therefore, SCAQMD staff recommends that the Lead Agency require the implementation of zero or near-zero emission heavy-duty trucks at the Terminal with a new timeline and implementation mechanism that are consistent with the draft 2017 CAAP Update and require the Terminal operator to fund the implementation.

5. Further, SCAQMD staff found that there was no analysis in the DSEIR to support the Lead Agency's statement – "there is no feasible measure for reducing drayage truck emissions by quantifiable amounts"[29]. The feasibility analysis on MM AQ-20 in the DSEIR was related to the technological, practical, and operational feasibility, which did not speak to the feasibility of methodologies or modeling for calculating emission reductions from LNG-fueled trucks. Therefore, SCAQMD staff recommends that the Lead Agency provide additional information to support the feasibility analysis related to emission calculations in the Final SEIR.

6. The Revised Project is an important and significant project for the Port and the region. SCAQMD staff recommends that the Port set emissions reduction targets for this Terminal that are consistent with the air quality attainment goals of the 2016 AQMP. The Terminal-based emission reduction targets should use more recent Port's growth projections, 2016 AQMP emission inventories, and updated technology assessments to improve quantification efforts to help determine the Terminal's fair share of emissions reductions. The emission reduction targets will also help monitor the progress of emission reductions at the Terminal level, and ensure necessary actions by the Terminal operator and tenant for successful and effective implementation of the CAAP's Technology Advancement Program (TAP) and Clean Trucks Program (CTP), particularly for zero or near-zero emission heavy-duty trucks.

Mitigation Measures

Performance Standards-Based Technology Review

7. Consistent with the 2017 CAAP Update goals, the Lead Agency should take this opportunity to deploy the lowest emission technologies possible. This is consistent with Port's technology advancement commitment to cleaner air, as well as in support of the SCAQMD's commitment to achieve NOx emission reductions. The deployment should include those technologies that are "capable of being accomplished in a successful manner within a reasonable period of time" (California Public Resources Code Section 21061.1), such as zero and near-zero emission technologies that are expected to be available in the life of the Revised Project. Additionally, CEQA requires feasible mitigation measures for effects that are found to be significant. Here, since the Lead Agency found that the air quality and health impacts for the Revised Project would be significant, the Lead Agency should consider and discuss measures to mitigate the significant impacts in the Final SEIR. Formulation of mitigation measures should not be deferred until some future time. However, measures may specify performance standards which

[28] San Pedro Bay Ports. July 2017. *Clean Air Action Plan 2017 Update Draft*. Page 29.
[29] *Ibid.*

would mitigate the significant effect of the project and which may be accomplished in more than one specified way (CEQA Guidelines Section 15126.4). As such, SCAQMD staff recommends that the Lead Agency assess equipment availability, equipment fleet mixtures, and best available emissions control devices every two years beginning two years after the Revised Project is approved, and specify performance standards for the technology assessment. The 2017 CAAP Update Draft such as the TAP and the CTP establishes the economic, environmental, social, legal, and technological feasibility for implementing a performance standards-based technology assessment for the Revised Project.

Other Enforceable Mitigation Measures

8. As described in Comment No. 1 above, the Revised Project's emissions from VOCs, NOx, PM10, PM2.5, and SOx would exceed SCAQMD's air quality CEQA significance thresholds, resulting in significant and unavoidable air quality impacts, had the Lead Agency used a proper CEQA baseline to calculate emissions for years 2023, 2030, 2036 and 2045. CEQA requires that the Lead Agency considers mitigation measures to minimize significant adverse impacts pursuant to CEQA Guidelines Section 15126.4 and that all feasible mitigation measures that go beyond what is required by law be utilized. To reduce the significant adverse air quality impacts from the Revised Project, SCAQMD staff recommends that the Lead Agency develop new or additional mitigation measures for the Revised Project to:

   (1) Require all newly registered trucks at the Terminal to meet the CARB Optional Low NOx Standard of 0.02 g/bhp-hr (0.02NZ).
   (2) Develop a truck fee or rate structure for the Terminal with preferential access through a lease measure for zero- or near-zero emission trucks. The structure should be tied with the CARB's truck engine rule in 2019 and is also consistent with the timelines and goals of the 2016 AQMP and 2017 CAAP Update strategies.
   (3) Develop a target-focused and performance-based timeline and structure to turn over to zero emission vehicles and trucks between 2020 and 2035.
   (4) Implement zero emission truck commercialization and demonstration programs or projects at the Terminal.
   (5) Offer funding to incentivize zero- or near-zero emission drayage trucks at the Terminal to enter the Port Drayage Registry Program before year 2023.
   (6) Develop specific timelines for transitioning to zero emission cargo handling equipment (CHE). For example, SCAQMD staff recommends that the Port develop a step-down program to require any off-road equipment to be zero-emissions first, then followed by near-zero emission, then Tier 4 alternative fuels, and then Tier 4 engine as a floor. The criteria for a step-down program can be based on availability of equipment at the time of purchase and cost of equipment compared to the Tier 4 floor after considering available incentive funds.
   (7) Develop interim milestones with a minimum amount of CHE replacement each year to ensure that the Port is making adequate progress towards the target of replacing all equipment by 2023. The interim milestones should support the recommended timelines as described No. (6).
   (8) Offer incentive to encourage the use of on-dock rail to serve this Terminal with a similar step-down program as described in No. (6). For example, the Port should

provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.

(9) Develop a purchasing policy to require that all new equipment and vehicles after 2022 be zero emission.

(10) Develop timelines for setting and assessing performance and emission reduction targets, implementation schedules for each new mitigation measure, and the process for evaluating the effectiveness of any proposed mitigation measure.

Air Dispersion Modeling Parameters

9. The Lead Agency used differing Locomotives – Day and Night release heights in their source parameters (Day – 5.6 meters and Night – 14.6 meters). Based on a review of Table B2-1: AERMOD Source Parameter[30], SCAQMD staff found that locomotives were set to different heights for daytime conditions compared to nighttime conditions. Changes in atmospheric conditions are already accounted for within AERMOD. By using higher nighttime release heights, the Lead Agency has likely underestimated health risks. The Lead Agency should revise the HRA to use the same release heights for daytime and nighttime locomotive emissions and re-evaluate the health risks.

   Based on a review of the CARB's 2004 Roseville Study[31], SCAQMD staff found that the nighttime release height for the Revised Project was based on the recommendations in the ISCST3 User's Guide. "AERMOD's formulation is significantly more advanced than that of ISCST3, includes a mechanical component, and in using hourly input data, provides a more realistic sequence of the diurnal mixing height changes"[32]. As such, SCAQMD staff recommends that the Lead Agency revise air dispersion modeling to use the same release heights for daytime and nighttime and re-evaluate the air quality and health risk impacts.

Meteorological Data

10. Section 3.1.2 Meteorological Data of the DSEIR indicated that 2006-2007 meteorological data from the Wilmington Community Station – Saints Peter and Paul School (SPPS) was used for dispersion modeling for both criteria pollutants and TACs[33]. The U.S. EPA recommends five years of meteorological data, or at least one year of site-specific data for the purposes of air dispersion modeling. Consecutive years from the most recent, readily available five-year period are preferred[34]. Additionally, the meteorological data was processed in 2013 using the U.S. EPA approved AERMET (version 12345)[35]. However, since AERMET (version 12345), there has been four AERMET versions released[36]. AERMET version 16216 is the most recent

[30] *Ibid*. Appendix B2, *Criteria Pollutant Modeling*. June 2017. Table B2-1.
[31] California Air Resources Board. October 2014. *Roseville Rail Yard Study*. Accessed at: https://www.arb.ca.gov/diesel/documents/rrstudy/rrstudy101404.pdf.
[32] U.S. Environmental Protection Agency. June 2003. *Comparison of Regulatory Design Concentrations: AERMOD VERSUS ISCST3 AND CTDMPLUS*. Page 40. Accessed at: https://www3.epa.gov/scram001/7thconf/aermod/compar.pdf.
[33] DSEIR. Appendix B2, *Criteria Pollutant Modeling*. June 2017. Page B2-9
[34] United States Environmental Protection Agency. February 2000. *Meteorological Monitoring Guidance for Regulatory Modeling Applications*. Page 6-30. Accessed at: https://www3.epa.gov/scram001/guidance/met/mmgrma.pdf. See also 40 CFR Ch. I (7-1-11 Edition). *Appendix W to Part 51 – Guideline on Air Quality Models*. Available at: https://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol2/pdf/CFR-2011-title40-vol2-part51-appW.pdf.
[35] DSEIR. Appendix B2, *Criteria Pollutant Modeling*. June 2017. Page B2-9
[36] U.S. EPA. *Meteorological Processors and Accessory Programs*. Accessed at: https://www.epa.gov/scram/meteorological-processors-and-accessory-programs.

version. Therefore, SCAQMD staff recommends that the Lead Agency update the meteorological data with the latest five years of available data and use AERMET version 16216 (or the most recent version available at the time of analysis) to process the data consistent with the U.S. EPA's recommendation. Updates and improvements to AERMET may also affect the air dispersion modeling results. Alternatively, SCAQMD staff has prepared AERMOD-ready meteorological data which could be used by the Lead Agency in its air quality analysis. The meteorological data is available for download at the SCAQMD's website.[37]

Methodology for Determining Morbidity and Mortality Impacts

11. Mortality is a measure of the number of deaths in a population, scaled to the size of that population, per unit time. Morbidity refers to the number of individuals who have contracted a disease during a given time period (the incidence rate) or the number who currently have that disease (the prevalence rate), scaled to the size of the population. The Lead Agency stated that it had "developed a methodology for assessing mortality and morbidity in CEQA documents based on the health effects associated with changes in PM2.5 concentrations,"[38] and it "[…] generally follows the approach used by CARB to estimate statewide health impacts from ports and goods movement in California (CARB, 2006b)."[39] Based on the morbidity and mortality analysis, the Lead Agency used SCAQMD's PM2.5 localized significance criterion of 2.5 $\mu g/m^3$ and did not conduct a morbidity and mortality analysis claiming the Revised Project would not exceed SCAQMD's PM2.5 localized significance criterion[40].

    First, SCAQMD staff does not agree with using SCAQMD's localized PM2.5 threshold as a screening threshold for determining the significance of morbidity and mortality impacts. The SCAQMD's PM2.5 significance threshold of 2.5 $\mu g/m^3$ is designed to determine the significance of localized impacts on nearby receptors, and it was made to be consistent with existing permitting requirements under SCAQMD Rule 1303. The PM2.5 significance threshold of 2.5 $\mu g/m^3$ was not intended to be used as a screening tool to determine if mortality and morbidity impacts analysis would be warranted. As such, SCAQMD staff recommends that the Lead Agency revise the PM mortality analysis and use the methods described in California Air Resources Board's 2010 guidance document[41]. Second, the analysis did not include a reference to the LAHD's methodology that was used for assessing mortality and morbidity attributable to PM. As such, SCAQMD staff recommends providing a reference to the LAHD's methodology in the Final SEIR.

Other Comments

12. Based on a review of Table 2-1 in Section 2, *Project Description*, SCAQMD staff found that MM AQ-9 (Alternative Maritime Power (AMP)) had achieved 98% compliance with vessels

[37] South Coast Air Quality Management District. Meteorological Data for AERMOD. Accessed at: http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod.
[38] DSEIR. Chapter 3.1. Pages 3.1-26, 31, and 35.
[39] *Ibid*. Page 3.1-35.
[40] *Ibid*. Page 3.1-65.
[41] California Air Resources Board. August 31, 2010. *Estimate Premature Deaths Associated with Long-term Exposure to Fine Particle Pollution (PM2.5) in California Using a U.S. Environmental Protection Agency Methodology*. Accessed at: https://www.arb.ca.gov/research/health/pm-mort/pm-report_2010.pdf.

using AMP in 2014[42]. However, the narration in other parts of the DSEIR stated that 80% maximum AMP compliance was achieved for that same year[43]. It is recommended that the Lead agency correct the inconsistency in the Final SEIR.

13. Table 3.1-8: Peak Daily Operational Emissions – Revised Project (lbs/day) of Section 3.1, *Air Quality and Meteorology* showed that the Revised Project's operational CO emissions for year 2023 did not exceed SCAQMD's air quality CEQA significance threshold. However, the Lead Agency found that "the Revised Project will have a significant and unavoidable impact related to criteria pollutants because emissions of Carbon Monoxide (CO) would exceed significance criteria for all four analysis years [2023, 2030, 2036, and 2045] even after mitigation.[44]" Therefore, SCAQMD staff recommends that the Lead agency correct the inconsistency in the Final SEIR.

[42] DSEIR. Chapter 2, Project Description. Page 2-3. Table 2-1: *Summary of 2008 EIS/EIR mitigation and lease measures for the CS Container Terminal being re-evaluated in this SEIR.*
[43] *Ibid*. Page 2-10 and 2-12.
[44] *Ibid*. Chapter 1, *Introduction*. Page 1-28.