



# South Coast Air Quality Management District

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Dr. Spencer D. MacNeil, Commander  
U.S. Army Corps of Engineers, Los Angeles District  
P.O. Box 532711  
Los Angeles, CA 90053-2325

Dr. Ralph G. Appy, Director of Environmental Management  
Port of Los Angeles  
425 South Palos Verdes Street  
San Pedro, CA 90731

Dear Dr. MacNeil and Dr. Appy:

## **Re-Circulated Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for Berth 97 – 109 (China Shipping) Container Terminal Project**

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. The China Shipping terminal is located in the Port of Los Angeles near already impacted residential communities that are currently experiencing health risks in excess of 500 in a million.<sup>1</sup> The proposed China Shipping project is a new container terminal project that will substantially increase the number of truck trips, annual ship calls, and trips by line-haul locomotives for the Port of Los Angeles area. At full implementation, the proposed China Shipping project will generate over 1.5 million truck trips, 230 ship calls, and 800 rail trips annually.

The SCAQMD staff acknowledges the efforts of the Lead Agencies to incorporate many of our comments that were made on the previous DEIS/EIR into the Re-Circulated DEIS/EIR. In addition, the SCAQMD staff recognizes some improvements made by the Lead Agencies to the mitigation measures since the approval of the TraPac expansion project, such as faster implementation of cold ironing for ships, all electric rubber tire gantry cranes by 2009, and use of LNG trucks. Implementation of these and other mitigation measures are expected to reduce future daily emissions and impacts to the surrounding community.

The re-circulated DEIS/EIR concludes, however, that air quality impacts and health risk from the mitigated proposed project are significant. Additional mitigation measures are feasible, and some measures included in the re-circulated DEIS/EIR can feasibly be accelerated. Such

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<sup>1</sup> California Air Resources Board April 2006 "Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach."

measures must be included as required by CEQA Guidelines §15126.4 to reduce impacts below significance. As discussed in more detail below, the three most important mitigation measures that are currently insufficient include 1) earlier introduction of low sulfur fuel, 2) reducing emissions via on-dock rail, and 3) greater specificity and commitment to implement main engine control requirements for new vessel builds and for existing vessels. In addition, Attachment I identifies additional means to feasibly strengthen mitigation measures for the proposed project.

*Low Sulfur Fuel.* Reducing fuel sulfur is one of the most significant and feasible means of expeditiously reducing particulate and sulfur oxides emissions from the proposed China Shipping terminal. SCAQMD staff recommends accelerating (MM AQ-11) the use of low sulfur fuel in main and auxiliary engines of vessels calling at the proposed China Shipping terminal. Specifically, within 6 months after approval of the China Shipping project, all vessels calling at the terminal shall use fuels with sulfur content no higher than 0.2 percent when they are within 40 nautical miles (nm) of Pont Fermin. This measure is consistent with the low sulfur marine fuel requirements in the CAAP Control Measures OGV-3 and OGV-4. In addition, all vessels shall use fuel in main and auxiliary engines with sulfur content no higher than 0.1 percent sulfur fuel by 2010. Unlike the TraPac project, the China Shipping terminal does not have the issue of third party invitees and thus should be able to implement use of low sulfur fuel upon project approval similar to the proposed Middle Harbor project in the Port of Long Beach.

*On-dock Rail.* The proposed project should include sufficient on-dock rail capacity for all containers destined to be transported by rail. This will minimize highway congestion impacts caused by truck drayage to near and off-dock rail yards, and will reduce the need for additional capacity at near and off-dock rail yards. The re-circulated DEIS/DEIR identifies the use of on-dock rail for long-haul cargo as an air quality benefit which significantly reduces the number of short-distance truck trips. Based on the projected percent TEUs and train trips, the on-dock rail yard at the adjacent Berth 121-131 (Yang Ming) terminal does not have sufficient capacity to handle cargo from the China Shipping terminal and Yang Ming terminal. We understand that space for on-dock yards is limited, but CAAP measure RL-3 committed the ports to explore all opportunities to maximize on-dock rail and explore alternative operating procedures such as transporting containers by rail from the docks unsorted by destination as a means of freeing up space devoted to creating single destination trains.

*Main Engine Controls for New Vessel Builds and for Existing Vessels.* Mitigation measure (MM AQ-14) for new vessel builds should require new vessels to utilize a combination of advanced control technologies to achieve fleet average emission reductions of 30% for NO<sub>x</sub> and particulates by 2014, and a 70% reduction of NO<sub>x</sub> and 50% reduction of particulates by 2023. There are currently an extraordinary number of vessels on order to be constructed. Once those vessels are built and in the water, the technical and economic challenges to control them will be much greater. Controls such as water injection, emulsified fuels or humid air are feasible technologies. In addition, SCR is a mature technology in use on a wide variety of sources including marine vessels. The feasibility of using advanced controls on marine vessel engines, including main engines, is supported by the recent proposal by the Marine Environmental Protection Committee of the International Maritime Organization to establish increasingly stringent marine vessel emissions limits.

*San Pedro Bay Standards.* We urge the Ports to proceed as expeditiously as possible to adopt the San Pedro Bay Standards. The CAAP includes a Project Specific Standard stating that the contribution of emissions from a project to cumulative effects will allow for timely achievement of the San Pedro Bay Standards. The Ports have been working on emissions inventories and forecasting methodologies that they will use to develop projections to aid in establishing the San Pedro Bay Standards, but the Bay Standards have not yet been adopted. It is uncertain if the residual emissions and health risk from the China Shipping terminal over the course of the 40 year lease will allow for the timely achievement of the San Pedro Bay Standards. In the absence of the San Pedro Bay Standards, the SCAQMD staff urges the Lead Agencies to compare residual emissions from this proposed project, including cumulative emissions from all other foreseeable port actions, with the 2007 Air Quality Management Plan (AQMP) mass emissions and risk targets for the ports, and ensure project approval is consistent with achieving those targets.

The SCAQMD staff appreciates the opportunity to comment on this important project. We look forward to working with the Port of Los Angeles on this and future projects. If you have any questions, please call me at (909) 396-3105.

Sincerely,



Susan Nakamura  
Planning Manager

Attachment

**Attachment I**  
**Additional Comments on the DEIS/EIR for Berth 97-109**  
**(China Shipping) Container Terminal Project**

The following includes more detailed and specific comments on the Proposed China Shipping Container Terminal Project.

***Mitigation Measures***

***MM AQ-1: Harbor Craft used during Construction***

SCAQMD staff recommends editing the circumstances when the Harbor Craft measure is not met. Specifically, SCAQMD staff recommends that the contractor be required to utilize the cleaner harbor craft if the order becomes available or completed during the construction time period.

***MM AQ-3: Fleet Modernization for On-road Trucks***

SCAQMD staff urges the lead agency to require as part of this mitigation measure, use of the cleanest available trucks. Specifically, trucks used during construction should operate on engines with the lowest certified NOx emissions levels, but no greater than the 2007 NOx emission standards. In addition, SCAQMD staff recommends editing the circumstances when the On-road Truck USEPA Standard is not met, similar to the MM AQ-1 for Harbor Craft used during construction.

***MM AQ-4: Fleet Modernization for Construction Equipment***

Similarly, it is feasible as part of this mitigation measure the use of the cleanest available construction equipment. In addition to requiring all construction equipment to be equipped with a Level 2 or 3 verified diesel emission control, construction equipment should meet the cleanest off-road diesel emission level available, but no greater than Tier 3 NOx emission standards. Finally, SCAQMD staff recommends editing the circumstances when the Construction Equipment Tier Specification is not met, similar to the MM AQ-1 for Harbor Craft used during construction.

***MM AQ-11: Low-Sulfur Fuel***

Mitigation measure AQ-11 calls for a phasing-in of low sulfur (<0.2 percent sulfur) marine fuel in the main and auxiliary engines of ships calling at the China Shipping terminal in San Pedro. As previously stated, reducing fuel sulfur is one of the most significant and feasible means of expeditiously reducing particulate and sulfur oxides emissions from the China Shipping terminal. SCAQMD staff believes that, given the experience implementing low sulfur fuel to date by Maersk and that the proposed China Shipping terminal does not have third party invitee constraints experienced at the TraPac terminal, the phase-in schedule proposed in the DEIR can feasibly be accelerated. It should also be noted that the proposed Port of Long Beach Middle Harbor project has committed to use 0.2 percent low sulfur fuel upon project approval. In addition, all vessels should utilize 0.1 percent sulfur fuel by 2010.

We thus urge the lead agencies to accelerate use of low sulfur fuel in main and auxiliary engines of vessels calling at the China Shipping terminal, as follows:

- Within 6 months after approval of the China Shipping project, all vessels calling at the terminal shall use fuel with sulfur content no higher than 0.2 percent when they are within 40 nm of Point Fermin.
- Finally, on or before January 1, 2010, all vessels shall use fuel in main and auxiliary engines with sulfur content no higher than 0.1 percent within 40 nm of Point Fermin.

Such strengthening of the mitigation measure will ensure that all feasible mitigation measures are employed as specified in CEQA. This amendment would also help implement the South Coast AQMP which calls for 0.1 percent sulfur fuel by 2010.

*MM AQ-12: Slide Valves in Ship Main Engines*

The SCAQMD staff supports use of slide valves in ship main engines. Slide valves are available technology that can be readily retrofitted into existing engines without the need to enter dry-dock. Many such applications have occurred. The phase-in schedule in the re-circulated DEIS/EIR (culminating in 100 percent of ship calls by 2014) can be feasibly be expedited. We urge that 100 percent of ship calls be equipped with slide valves no later than two years after project approval.

Slide valves and other control technologies could be used in combination to obtain higher control rates, and can be retrofitted to existing vessels. These additional control technologies can feasibly be applied to ship main engines and should be required by the project approval. Below is a table listing feasible measures with the associated emission reduction estimates compiled by SCAQMD staff.

**List of Feasible Controls**

Control	Control Details	Estimated Emission Reductions		
		PM	NO <sub>x</sub>	Other
SCR and DOC	Selective Catalytic Reduction with Urea Injection and Diesel Oxidation Catalyst	25-50%	90%	90% CO
Engine Optimization	Slide Valves, Injection Timing Delay	20-30%	30%	
Exhaust Gas Water Treatment	Exhaust Gas Mixes with Sea Water	80%	N/A	70-90% SO <sub>2</sub>
Water Injection	Humidification of Fuel-Air Mixture	10-20%	20-40%	N/A

Slide valves that provide a 30 percent reduction in NOx emissions and 20-30% reduction in PM emissions are available from Mann, one of the leading marine engine manufacturers. These slide valves have been installed on several ocean-going vessels and are being demonstrated as part of a joint effort with the California Air Resources Board (CARB). Water injection, emulsified fuels, or humid air are established technologies in use in Europe. In addition, SCR is a mature technology in use on a wide variety of sources including marine vessels. It has not to the SCAQMD staff's knowledge been applied to a large container ship. However, based on SCAQMD staff visits to European marine vessel operators, such an application is feasible and

merely a matter of appropriate engineering. Utilization of the control device could be limited to areas adjacent to the coast. Space constraints would be an issue, thus making installation most feasible in new builds, but SCR may be retrofitted if space issues are addressed.

Many of the above retrofit technologies are summarized a report by Lovblad and Fridell (2006). The report can be found at [www.profu.se](http://www.profu.se) or can be obtained from the SCAQMD staff.

Retrofits of existing vessels should meet the State Implementation Plan (SIP) of achieving fleet average emission reductions utilizing a combination of advanced controls technologies mentioned above. Those emission reductions include a 30% reduction of NO<sub>x</sub> and particulates by 2014, and a 70% reduction of NO<sub>x</sub> and 50% reduction of particulates by 2023.

#### *MM AQ-14: Main Engines in New Vessel Builds*

This mitigation measure lacks commitments that are specific or enforceable. Based on the information and plans summarized in the preceding section, SCAQMD staff urges inclusion of language in the mitigation measure requiring new vessel builds for the China Shipping terminal to meet at a minimum the SIP requirement for main engine controls for new vessel builds. As mentioned in MM AQ-12, the SIP assumes that new and existing vessels will utilize a combination of advanced control technologies to achieve fleet average emission reductions of 30% for NO<sub>x</sub> and particulates by 2014, and a 70% reduction of NO<sub>x</sub> and 50% reduction of particulates by 2023.

The relative feasibility of installing advanced control in new builds as discussed in MM AQ-12 underscores the importance of acting immediately to establish control requirements for new vessels in the proposed terminal operator's lease. There are currently an extraordinary number of vessels on order to be constructed. Once those vessels are built and in the water, the technical and economic challenges to control them will be much greater. The Port has eluded to the fact that MM AQ-22 (Periodic Review of New Technology and Regulations) as a "back-up" measure to MM AQ-14 in re-opening the lease agreements to require feasible advanced control technologies in the future. However, SCAQMD staff is concerned that MM AQ-22 waits until a mutual agreement on operational feasibility and cost sharing to occur prior to requiring advanced controls. Reductions from advanced controls on new vessel builds are feasible now and needed to ensure consistency with the adopted air quality plans to meet federal attainment deadlines.

The feasibility of using advanced controls on marine vessel engines, including main engines, is supported by the recent proposal by the Marine Environmental Protection Committee of the International Maritime Organization to establish increasingly stringent marine vessel emissions limits. These proposed limits include a requirement that new vessels built after January 2016 and operated in Emission Control Areas control NO<sub>x</sub> emissions by 80% beyond pre-existing standards. Approximately 100 nations agreed to propose these limits. The limits are similar to those in a proposal made by the United States government that was supported by the World Shipping Council – an industry organization made up of carriers of over 90% of containerized cargo. Under these circumstances, the failure of the China Shipping EIR to include emissions standards that are at least as stringent as those proposed at IMO is a failure to include all feasible mitigation measures. Indeed, we believe that, given that the proposed IMO standards are based

on existing technologies, the China Shipping EIR can and should *accelerate* implementation of such standards sufficiently for the emission reductions assumed in the SIP to be achieved.

*MM AQ-15: Yard Tractors*

SCAQMD staff understands that the electric yard tractor is still in the test phase. However, SCAQMD staff recommends the use of an all electric yard tractor fleet for the China Shipping terminal once the test phase is successfully completed. The mitigation measure should anticipate the electric yard tractor becoming commercially available for use at the terminal.

*MM AQ-18: Yard Locomotives at Berth 121-131 Rail Yard*

The mitigation measure states that beginning January 1, 2015, all yard locomotives at the Berth 121-131 Rail Yard that handle containers moving through the China Shipping terminal will be equipped with diesel particulate filters (DPF). SCAQMD staff recommends 90% control of PM and NOx for switchers and helper locomotives at the Berth 121-131 Rail Yard by 2011. In addition, SCAQMD staff recommends all line haul locomotives at the Berth 121-131 Rail Yard achieve a Tier 4 emission rate by 2014, as assumed in the SIP.

*MM AQ-19: Clean Truck Program and MM AQ-20: LNG Trucks*

SCQMD staff understands that the electric drayage truck is still in the test phase. However, SCAQMD staff recommends a phase-in schedule of electric drayage trucks for the China Shipping terminal once the test phase is successfully completed. Both MM AQ-19 and MM AQ-20 should anticipate the electric drayage truck becoming available for use at the terminal.

*Green-Container Transport System.* The Final EIS/EIR should commit to a process of implementing zero- or near-zero emission transport technologies such as rail electrification. Through implementation of the CAAP the Ports of Los Angeles and Long Beach are evaluating advanced cargo transportation technologies. The Lead Agencies should include a mitigation measure that would incorporate this commitment. Freight rail electrification is clearly feasible, being in wide use in Europe.

*Cleaner Locomotives for Class I Railroad Operations.* SCAQMD staff recommends implementation of CAAP Measure RL-2 to reduce emissions from existing Class I railroad operations that will be servicing the on-dock rail. With roughly a four fold increase in annual rail movements from 2005 to 2030 for the proposed China Shipping project, CAAP Measure RL-2 implementation is critical to reducing emissions from existing Class I railroad operations at the Port. SCAQMD staff believes that the emissions reduction strategy for RL-2 should be based on the State Implementation Plan (SIP) strategy of accelerating introduction of cleaner locomotives achieving a Tier 4 Fleet-wide average by 2014 and require that all locomotives moving in and out of the Port would be equipped with Tier 3 equivalent controls by 2011.

*Air Quality Analysis*

*Emission Estimates in California.* The re-circulated DEIS/EIR, again did not calculate emissions in the state of California and only included emissions to the edge of the South Coast Air Basin. This same comment was made by SCAQMD staff in our previous comment letter on the China Shipping terminal DEIR/EIS released back in 2006. Page 3.2-32 of the re-circulated DEIS/EIR states that average one way truck trip distances from Berth 97-109 were assumed to be "82 miles

to the edge of the basin (for destinations outside the basin).” In addition, page 3.2-33 also states that, “the average one-way train trip distance is assumed to be 105 miles, which is the average travel distance from the Berth 121-131 rail yard to the edge of the South Coast Air Basin.” It is SCAQMD staff’s understanding that it is the intent of CEQA to apply to impacts occurring within the state. Further, CEQA Guidelines §21080(14) states that, “any emissions or discharge that would have significant effect on the environment in this state are subject to this division.” Thus, SCAQMD staff recommends the re-circulated DEIS/EIR include all emissions that would occur in the state of California.

*Line-hauls.* Page 3.2-29 table 3.2-8 provides regulations and agreements assumed as part of the unmitigated project emissions. Under the Train column of the table, the 2005 CARB/Railroad Statewide Agreement is described as “reduced line-haul locomotive idling times assumed to take effect starting in 2006.” Although the Statewide Agreement includes a provision for idling, there are many exceptions to this provision. In addition, there is no assurance that even the agreed upon idling scenarios would be limited to 1.5 hours (page 3.2-33 line 10), since the Statewide Agreement contains exemptions for self-determined “essential” idling and CARB enforcement staff cannot feasibly enforce more than a small portion of idling events. If the analysis assumes a 1.5 hour idling limitation (page 3.2-33 line 10) for line-haul locomotives, the Lead Agencies should include an enforceable mitigation measure that would reflect this idling assumption. Lastly, SCAQMD staff recommends incorporating into the table the USEPA 2008 Locomotives and Marine Diesel Engines Emissions Standards rule as an assumption for trains. Additional information on this rule finalized March 2008 can be found at <http://epa.gov/otaq/locomotv.htm>.

*Vessels.* Page 3.2-30 line 45 provides fleet mix assumptions for the future analysis years. Please reference where this information was obtained and how the fleet mix assumptions were determined.

*Peak Daily 2010 Construction and Operational Emissions.* Page 3.2-65 line 25 states, “year 2010 was chosen as a representative year during which construction and operation activities would overlap.” SCQMD staff requests the lead agencies clarify the term “representative.” According to the construction schedule found on Page 2-17, for Phase II and Phase III, construction is anticipated to occur between 2009 through 2012. Does “representative” mean that the year 2010 overlapping emissions is the peak when evaluating construction and operational emissions? Please confirm in the Final EIS/EIR that 2010 represents the year in which peak daily emissions will occur.

*On-dock Rail Usage.* Page 3.6-23 provides on-dock rail usage assumptions. Line 2 and 3 of the page states, “Increased on-dock rail usage due to expanded rail yard is assumed to be as follows.” However, the proposed project description does not entail an expansion of the rail yard. SCAQMD staff requests clarification of the on-dock rail usage assumptions. Furthermore, please provide details of when the rail yard at Berth 121-131 (Yang Ming) will reach capacity. SCAQMD staff is concerned that the air quality analysis assumes 50 percent of the on-dock rail yard capacity will be China Shipping according to Page 2-25. Yet, due to capacity constraints and being that the rail yard is on the Yang Ming terminal, China Shipping containers that would be transported by on-dock rail would be limited and would have to be transported by trucks generating additional emissions not accounted by the air quality analysis. SCAQMD staff



recommends a requirement that 50 percent of containers transported by the Yang Ming terminal rail yard annually will be China Shipping terminal containers, at a minimum.