

**NATURAL RESOURCES DEFENSE COUNCIL
COALITION FOR CLEAN AIR
LONG BEACH ALLIANCE FOR CHILDREN WITH ASTHMA
SAN PEDRO AND PENINSULA HOMEOWNER'S COALITION**

July 15, 2008

VIA EMAIL AND MESSENGER

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Re: China Shipping Draft Re-circulated EIS/EIR

Dear Dr. MacNeil and Dr. Appy:

The undersigned organizations and individuals write to provide comments and supplemental comments on the Re-circulated Draft Environmental Impact Statement/Environmental Impact Report Berth 97-109 Container Terminal Project ("DEIR").¹

I. The Cumulative Impacts Analysis Does Not Meet CEQA Guidelines And Violates The China Shipping Amended Stipulated Judgment.

NRDC's June 5, 2008 comments on this issue have not been resolved. Of the list of projects in Table 4-1 of the DEIR, nearly all have already commenced the formal

¹ Signatories Natural Resources Defense Council, Coalition For Clean Air, Long Beach Alliance For Children With Asthma, and San Pedro And Peninsula Homeowner's Coalition hereby adopt the comments set out in NRDC's June 5, 2008 preliminary comment letter on the China Shipping Draft Re-circulated DEIR.

planning process, and many have CEQA-related documents already in existence. 32 of these projects are identified as “Port of Los Angeles projects” and an additional 10 are identified as “Port of Los Angeles and/or Port of Long Beach Potential Port-Wide Operational Projects.” There is sufficient data already available in documentation about these Port of Los Angeles-related projects for the DEIR to describe the current environmental and health impacts from these projects, taken together, as well as the expected situation on the ground when and if the China Shipping project is constructed and operated. In addition, there are 18 projects listed as “Port of Long Beach Projects,” “Alameda Corridor Transportation Authority and Caltrans Projects” or “City of Long Beach Projects.” Each of these is a public project for which substantial environmental documentation is or will be available.²

Nonetheless, as we noted in our initial comment letter, there is no discussion of the effects of the recognized cumulative impacts as a whole on human health or the physical environment. Nor is there any discussion of how to mitigate the cumulative impacts of the identified projects. This violates CEQA and the China Shipping Amended Stipulated Judgment. It is also inconsistent with the TraPac MOU because it fails to recognize, analyze, or propose mitigation for the cumulative effect on the near-port community of the projects described in Table 4-1..

II. The Port Should Comply With The Clean Air Action Plan And Promulgate San Pedro Bay Standards To Inform The Decision On The DEIS/DEIR.

NRDC’s June 5, 2008 comments on this issue have not been resolved

III. The Health Risk Analysis In The DEIS/DEIR Should Be Revised.

NRDC’s June 5, 2008 comments on this issue have not been resolved

² For example, there are existing EIRs, Notices of Preparation or other environmental planning documents that can be consulted on these Port of Los Angeles projects listed in Table 4-1: Pier 400 / Plains All American, Berth 136-147, San Pedro Waterfront Project, Channel Deepening Project, Cabrillo Way Marina Phase II, Port Police Headquarters, Ultramar lease renewal, Berth 206-209, Southern California International Gateway, Port Transportation Master Plan, I-110/SR-47 Connector, Terminal Free Time, Pier Pass, Union Pacific ICTF Modernization. The same is true for Long Beach projects Middle Harbor Terminal Redevelopment , Piers G and J, and Pier T, and for the Alameda Corridor Transportation Authority / CalTrans project the Schuyler Heim Bridge Replacement and SR 47 Expressway.

IV. The Port Must Evaluate And Improve The Proposed Mitigation Measures.

NRDC's June 5, 2008 comments on this issue have not been resolved.

There is still no movement towards discussing the use of electric trucks for drayage or other uses. Nor is there movement regarding strengthening requirements for using low-sulfur marine fuel. We discuss in section VI below the DEIR's failure to analyze feasible alternatives to the massive increase in greenhouse gas emissions that the DEIR describes.

Notwithstanding the proposed project's extremely significant impacts on public health and air quality, all feasible measures to reduce the project's impacts have not been considered or adopted. Under CEQA, "it is the policy of the state that public agencies should not approve projects as proposed if there are . . . feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects."³ As discussed below, the Recirculated DEIS/DEIR must be revised to consider additional feasible measures to reduce operational and construction air quality impacts.

A. The DEIR's Measures for Mitigating Operational Impacts Remain Insufficient.

The proposed project would result in operational emissions of PM_{2.5}, PM₁₀, NO_x, SO_x, CO and VOCs that exceed SCAQMD significance thresholds even after mitigation.⁴ Additionally, the proposed project with mitigation would result in offsite ambient air pollutant concentrations that exceed concentration thresholds for 24-hour PM_{2.5}, 24-hour PM₁₀ and 1-hour and annual NO₂.⁵ Therefore, the draft must incorporate all additional feasible measures to reduce these significant impacts. Additional feasible measures are suggested below.

MM AQ-9 (AMP)

We agree with the initial requirements of this measure as spelled out in the ASJ. However, given that China Shipping is already using AMP for 70% of their ship visits, we continue to strongly recommend expediting the phase-in schedule for AMP even more. Given China Shipping's success in implementing dockside power and reducing associated emissions closest in proximity to neighboring communities, we recommend that by January 1, 2009, 90% of all ship visits utilize dockside power,

³ *Los Angeles Unified School Dist. v. City of Los Angeles*, 58 Cal.App.4th 1019, 1028-29 (1997).

⁴ Recirculated DEIS/DEIR at 3.2-87.

⁵ Recirculated DEIS/DEIR at 3.2-112.

and that 100% of all ship visits to the terminal must plug into dockside power by January 1, 2010.

MM AQ-10 (Vessel Speed Reduction)

While we appreciate the stronger target of 100 percent participation in the Vessel Speed Reduction program by 2009, we continue to have concerns over compliance rates with this voluntary program. Therefore we reiterate that the DEIR *improperly assumes* emissions reductions resulting from high rates of compliance with this strategy. To date, vessel speed reduction programs have relied on “voluntary” participation, and it is unclear from the measure’s description what the compulsory rate of compliance will be and how it will be enforced. In the absence of a mandatory requirement and a strict program to enforce such a measure, the draft should realistically consider and disclose the percentage of ships that are expected to participate in the program to achieve the reductions assumed under this measure.

Furthermore, this measure must consider and disclose whether speed reduction programs will result in any increases in PM or NO_x emissions both within and outside of the VSR zone. In fact, a recent study indicates increased NO_x emissions at lower speeds due to inefficient engine operation at lower loads;⁶ PM and NO_x logically increase due to extended use of auxiliary engines. Additionally, there is concern that PM from main engines may increase at slower speeds. Before continuing or enhancing this measure, the draft must first ensure that no pollutant increases will occur.

MM AQ-11 (Low Sulfur Fuel)

We are pleased that the DEIR includes a low sulfur fuel requirement for the main engines and boilers of ocean-going vessels in addition to auxiliary engine requirements. The use of cleaner fuels in ships is especially important since ship transit and anchoring is the largest source of remaining emissions from the project even after mitigation.⁷ While we appreciate that this measure has been significantly strengthened in the Recirculated draft, we believe the measure can be improved more and that improvements are warranted due to the magnitude of this source. Strengthening this measure could result in significant decreases in PM₁₀ and PM_{2.5} levels as well as reduced cancer risk from DPM.

There is substantial evidence that all technological concerns regarding the use of cleaner fuels in auxiliary engines, main engines and boilers have been addressed, given the decision by Maersk to use cleaner marine fuel, information provided by marine engine manufacturers, and the CARB Auxiliary Engine Regulation. Furthermore, Kjeld Aaabo, Senior Manager with MAN B&W has publicly stated during past Faster Freight Conferences as well as CARB Maritime Technical

⁶ H. Agrawal et al. / Atmospheric Environment 42 (2008) 5504–5510.

⁷ Recirculated DEIS/DEIR at 3.2-87.

Working Group meetings that main propulsion engines on ocean-going vessels such as container ships can run on lower-sulfur fuels at or below 1,000 ppm sulfur content.

Given a) the magnitude of the emissions from auxiliary and main engines, b) the current availability of a feasible strategy to significantly reduce PM and SO_x from auxiliary and main engines, and c) the shortfall that exists to achieve significance thresholds, it is imperative that the DEIR pursue the cleanest lower sulfur distillate fuels in auxiliary engines, main engines and boilers for all ships visiting Berths 97-109. Therefore, we recommend the following requirements:

- Continued compliance and enforcement of the CARB marine distillate or gas oil requirements for auxiliary engines through 2008; and
- By January 1, 2009, the required use of 1,000 ppm sulfur fuel for all auxiliary engines, main engines, and boilers.

Finally, we want to emphasize that dock-side power should not be viewed as a substitute for cleaner fuels. These two strategies must be used in concert to ensure that emissions from large vessels are significantly reduced and significance thresholds are met.

MM AQ-12 (slide valves)

We support the use of slide valves on main engines; however, we continue to strongly recommend that additional emissions control devices must be included in this measure. For example, we support the installation of emissions control devices such as SCRs on existing ocean-going vessels. As demonstration testing is completed and emission control devices for large ships are verified, applying these technologies to ships visiting the terminal must be a priority. As we have stated in the past, in order to properly reduce emissions from ocean-going vessels, we strongly believe that emissions control devices will be necessary and must be coupled with the cleanest sulfur fuels in auxiliary and main engines as well as dockside power. In fact, strategies that promote the use of control devices *must* be coupled with a mandate for ships to use low sulfur diesel fuel, because certain after-treatment technologies will not work if the sulfur content of the fuel is too high. For example, 2,000 ppm sulfur fuel (ideally lower) should be used with SCR; 500 ppm sulfur fuel must be used with DOCs; and 15 ppm sulfur fuel must be used with DPFs.

MM AQ -13 (Reroute Cleanest Ships)

Due to the minimal NO_x benefit and the lack of PM benefits from MARPOL Annex VI compliant ships, we continue to believe that this measure must be more aggressive. We agree that the DEIR can encourage the cleanest ships to frequent the terminal; however, the measure must aggressively pursue additional emission reductions from the visiting shipping fleets. The DEIR should outline specific target requirements for the fleet visiting the terminal as a whole. Specifically, we

recommend altering this measure from simply focusing on rerouting Annex VI compliant ships to the terminal, to focusing on increasingly stringent ocean-going vessel ship engines standards. We again recommend the following explicit standards and timeline for ships serving Berth 97-109:

- 25% of OGVs must meet “Blue Sky Series” Category 3 ship engine standards (those are 80% below current IMO NO_x standards) by 2010, either OEM or through SCR, or other add-on controls;
- 50% of OGVs must meet “Blue Sky Series” Category 3 ship engine standards (those are 80% below current IMO NO_x standards) by 2015 (OEM or add-on); and
- 100% of OGVs must meet Blue Sky Series standards by 2020 (OEM or add-on).

MM AQ-14 (Clean New Vessels)

We strongly support this additional measure to require all new vessels orders that are bound to serve the Port of Los Angeles to incorporate design specifications and technologies to reduce criteria and global warming pollutants. We strongly support a focus on all feasible technology to reduce DPM, NO_x and GHG emissions.

MM AQ-15 (Clean Yard Tractors)

We strongly support the ASJ requirement in this measure as well as the additional commitment to tier 4 equivalent alternative-fueled engines in 2015 and beyond. The commitment to an all-alternative-fuel fleet of yard hostlers is important. The EIR should offer a comparison over the life of the vehicles among the alternative fuel options, including propane, LNG, and electric. To be sure air quality benefits are maximized, the best performing option should be chosen

Yard tractors should also be required to subscribe to idling limits, which would save fuel and cut pollution from these terminals, and reduce a significant source of worker exposure. Idling limits for captive fleets such as these should be easy to enforce. We recommend a five minute idling limit for all yard equipment similar to that for construction equipment.

MM AQ-16 (Yard Equipment at Berth 121-131 Rail Yard)

It appears that the commitment in the previous DEIR for alternative fuel equipment by 2007 has now slipped to 2009 in the Recirculated DEIR. We support the prior commitment and recommend that all equipment operating at this rail yard be transitioned to alternative fuel or tier 4 equivalent standards right away.

MM AQ-17 (Yard Equipment at Berth 97-109)

We strongly support the strengthening changes to this measure to require tier 4 equivalent equipment or the best available Verified Diesel Emission Control Strategies (“VDECS”) as well as requiring electric RTGs.

MM AQ-18 Locomotives

We are pleased that the DEIR includes this measure for locomotives, however it should be strengthened and expanded. Switching locomotives are among the oldest and dirtiest diesel sources, posing significant health risks to hundreds and possibly thousands of Californians living near rail yards, as recently evidenced through the release of Health Risk Assessments for dozens of railyards throughout California.⁸ These major sources of diesel pollution must be cleaned up immediately. The Clean Air Action Plan for San Pedro Bay Ports requires that all switchers must be replaced by 2008. Therefore all switchers servicing the terminal should now be new; we recommend utilizing hybrid (e.g., Green Goat), alternative fuel or gen-set locomotives. Further, all switchers should also be required to install anti-idling devices within one year. We strongly support the requirement for DPFs.

The DEIR should also ensure that by 2010 all line-haul locomotives servicing Berths 97-109 will be below Tier 2 engine standards for PM and NO_x, and use ULSD and idling devices. At the very least, all line-haul locomotives must meet CAAP targets.

Rail mitigation measures should also require a minimum percentage of on-dock rail usage. Moving more cargo by rail instead of truck is important since trucks remain the largest source of emissions even after mitigation.⁹ It is unclear to what extent on-dock rail will be utilized. The Port should commit to a similar or greater percentage on-dock rail usage as committed to by the Port of Seattle (approximately 70%).¹⁰

MM AQ-19 (Clean Trucks) and MM AQ-20 (Alternative Fuels for On-Road Trucks)

Although we are pleased to see that the DEIR includes restrictions on the types of trucks servicing the terminals, we again are concerned that the lengthy phase-in schedule and the significant 7-year delay prior to the introduction of any LNG trucks will unnecessarily postpone these critically important mitigation measures.

Addressing pollution from diesel-fueled, container-hauling trucks is a major priority, as trucks emit significant quantities of toxic particulate matter and smog-forming pollution. The diesel exhaust from these sources of pollution impacts workers and residents of communities adjacent to the Ports as well as residents of communities along the transport corridors which extend throughout the SCAB. The health impacts from diesel exhaust and regional smog have been well-documented and have been linked to respiratory illnesses such as asthma, heart disease, elevated cancer risk, and even premature death.¹¹

⁸ For information on these Assessments see: <http://www.arb.ca.gov/railyard/hra/hra.htm>.

⁹ Recirculated DEIS/DEIR at 3.2-85.

¹⁰ See CARB ERP, at 34, 95; NRDC and Coalition for Clean Air, *Harboring Pollution: Strategies to Clean Up U.S. Ports*, at 54.

¹¹ NRDC and Coalition for Clean and Safe Ports, *Driving on Fumes: Truck Drivers Face Elevated Health Risks from Diesel Pollution*, December 2007.

We support the Port of Los Angeles Clean Truck Program, however commitments must be made for trucks to meet US EPA 2010 standards as quickly as possible. We recommend a requirement that all trucks serving these terminals meet 2010 standards by 2015. Additionally we recommend that within 2 years all trucks frequenting the terminal must either comply with current model year truck standards ('07 or newer) or run on alternative fuels such as LNG.

B. The Recirculated DEIS/DEIR Measures for Mitigating Construction Impacts Remain Insufficient.

We are deeply concerned that “emissions of NO_x, SO_x, PM₁₀, and PM_{2.5} from construction activities would remain significant under CEQA and NEPA,¹² and that offsite ambient concentrations of NO₂ remain above the SCAQMD threshold.¹³ While we appreciate the additional mitigation measures that have been added, the remaining emissions are still above the relevant thresholds and therefore must be mitigated further, as outlined below.

MM AQ-1 (Emulsified Fuels for Derrick Barges)

Again, we recommend that if derrick barges will idle for any period of time, they must be fitted to accept shoreside power and associated dock space must have shoreside power installed. We strongly support the added phase II and III requirements for harbor craft to use the most modern engine available.

MM AQ-2 (Expanded VSR)

Again, we repeat that expanded VSR alone is insufficient for ships used to transport marine terminal cranes. These ships must use marine fuel with no higher than 1,000 ppm sulfur fuel and must be retrofitted with best available control technology (BACT), such as selective catalytic reduction, where feasible. If these ships will idle for any period of time, they must also be fitted to accept shoreside power and associated dock space must have shoreside power installed. All of these measures recommended for harbor craft used during construction in the previous draft DEIS/DEIR should have been included in the Recirculated draft: Low sulfur fuel (1,000 ppm sulfur), BACT, and shoreside power.

MM AQ-3 (Fleet Modernization for On-Road Trucks)

We support the added requirements that loaded dump trucks be fully covered and that all idling be restricted to a maximum of five minutes. While these measures are already required by the air district as well as the state, we believe it is helpful to reinforce the measures and expect the port to fully enforce them. We strongly

¹² Note that PM10 would not be significant under NEPA. Recirculated DEIS/DEIR at 3.2-56.

¹³ Recirculated DEIS/DEIR at 3.2-58.

support the strengthened requirements for all on-road heavy-duty diesel trucks to meet US EPA 2004 emission standards and be outfitted with BACT.

MM AQ-4 (Fleet Modernization for Construction Equipment)

We support the inclusion of two new provisions to incorporate fuel efficient equipment where feasible and limit idling to five minutes. While we appreciate the slightly stronger fleet modernization components of this measure, there is still room for improvement. The mitigation measure should simply require that all construction equipment meet the cleanest emission standards possible, either through originally certified engines, or the use of CARB-verified controls. Specifically, we expect equipment meeting US EPA tier IV standards to be available soon.

MM AQ-5 (Best Management Practices)

We continue to support the requirements of this measure, although some of the elements are redundant, such as diesel retrofits and idling restrictions. Additionally, the Los Angeles Harbor Department must ensure that grid power is available to the construction site whenever power is needed in place of using any diesel generators.

MM AQ-6 (Construction Emissions Reporting)

We continue to support the requirements of this measure.

MM AQ-7 (General Mitigation)

We appreciate the inclusion of this new measure. The measure should include a requirement for annual review of new technology and inclusion where appropriate and as such, we would strongly support it.

MM AQ-8 (Sensitive Site Precautions)

We are strongly supportive of this new measure. Notification of sensitive sites of upcoming construction within 1,000 feet is of paramount importance so that necessary precautions can be taken. Notification should include a full description of the project including duration and anticipated air quality and health impacts.

V. The DEIS/DEIR Admits That Impacts Will Occur In The Community But Fails To Provide Mitigation Measures For Those Impacts.

NRDC's June 5, 2008 comments on this issue have not been resolved.

VI. The DEIS/DEIR Contains An Inadequate Analysis Of Mitigation Measures For The Greenhouse Gases That The Project Will Create

Our June 5, 2008 comments on this issue have not been resolved. To remind you, Table 3.2-43 of the DEIR shows that greenhouse gases will increase by a huge 319,000 metric tons per year by 2015, and nearly 300,000 metric tons by 2030 – at

the same time that AB32 is demanding an 80% *reduction* in greenhouse gases.¹⁴ While we approve of proposed mitigation measures AQ-25 (LEED Gold certification for the main terminal building), AQ-26 (use of compact fluorescent light bulbs), AQ-27 (energy audits every five years), AQ-27 (solar panels on the main terminal building), AQ-29 (recycling) and AQ-30 (tree planting) for what they contribute, the DEIR itself shows that the magnitude of the problem after mitigation will still be enormous.¹⁵

Moreover, there are many other feasible greenhouse gas mitigation measures that are not discussed, the most obvious of which is the implementation of the electric drayage trucks that the Port has already demonstrated. Other measures include:

Bulbous Bows

Application on large tankers and bulk cargo ships result in a 5-15% decrease in resistance, thus decreasing the amount of fuel necessary to power ships and reducing emissions.¹⁶ Bows save significant fueling costs and overall life cycle costs.¹⁷

Sky Sail

Initial retrofit of a cargo vessel utilizing the Sky Sail system was completed January 2008. Testing under normal shipping operation is currently being conducted, with

¹⁴ These figures are conservative. It seems problematic to us to limit the distances travelled and associated greenhouse gas creation to California state boundaries. Doing so essentially “orphans” the miles travelled and greenhouse gases emitted out of state – emissions that are caused by the transport of goods that come through the Port of Los Angeles. In the same way that the Port suggests (and we agree) that all greenhouse gases attributable to electric power use should reflect all power regardless of origin (in- or out-of-state), we believe that at the emissions associated with (at least) a truck or train’s one-way trip carrying Port-related freight out of state be counted, and that appropriate mitigation be required.

¹⁵ Compare Table 3.2-41 (unmitigated GHG emissions) with Table 3.2-43 (mitigated GHG emissions). Moreover, it appears that proposed measures AQ-9 (cold ironing), AQ-10 (vessel speed reduction), AQ-17 (electrifying yard equipment), Aq-20 (LNG trucks) and AQ-21 (truck idling reduction) are primarily designed to reduce criteria pollutants. It is unclear whether the “Potential GHG Emission Reduction Strategies” in Table 3.2-42 are being proposed as mitigation in the DEIR or simply identified as future possibilities.

¹⁶ Kyriazis, Georgios. *Bulbous Bow Design Optimization for Fast Ships*. Massachusetts Institute of Technology, 1996.

<http://dspace.mit.edu/bitstream/1721.1/40238/1/36001502.pdf>

¹⁷ Zoccola, Mary. *Bulbous Bows Save Fuel*.

<http://www.dt.navy.mil/pao/excerpts%20pages/1997/bulbous3.html>

potential fuel reduction use of up to 35 percent.¹⁸ Since high propulsion power can only be reached from 70 degrees onwards, with optimal courses between 120 and 140 degrees,¹⁹ the Sky Sail is not appropriate for all routes. However, the Port should analyze up to what extent the Sky Sail would be feasible and develop incentives to encourage vessel owners to test and adopt the technology.

Energy Recovery Systems

Incorporate shaft generators, micro turbines, and waste heat recovery/economizer devices to take advantage of main engine power and exhaust heat. These systems allow for better energy efficiencies and can allow boilers and auxiliary engines to be shut down during ocean transits. Such systems can reduce fuel consumption and corresponding GHG emissions by 10 percent.²⁰

Fueling Flexibility

Design extra fuel storage tanks and appropriate piping to run both main and auxiliary engines on a separate/cleaner fuel, as ports, states, and national governments set regional or localized fuel standards.

Additional On-Dock Rail

Rail is a more efficient and less polluting means to transport cargo than drayage trucks. Considering that current demand on the Alameda Corridor is low and that forecasted project-related increases in trains could be easily accommodated, the Port needs to explore further increasing on-dock rail.

Moreover, the DEIR indicates that the percentage of cargo being moved by on-dock rail declines over time, even while the total volume carried by on-dock rail increases. The DEIR should consider the alternative of reconfiguring the Yang Ming facility (the on-dock facility used by China Shipping) to increase its capacity for on-dock rail and to reduce the necessity of draying containers from the China Shipping terminal to Yang Ming.

Maglev

Utilizing electromagnetic force, a Maglev system would create zero emissions at source and has been demonstrated in La Jolla, CA as a feasible cargo shipping technology, though not yet ready and market available. At 80 mph new, elevated

¹⁸ <http://news.bbc.co.uk/2/hi/europe/7205217.stm> and [http://www.skysails.info/index.php?id=64&L=1&tx_ttnews\[tt_news\]=98&tx_ttnews\[backPid\]=6&cHash=c1a209e350](http://www.skysails.info/index.php?id=64&L=1&tx_ttnews[tt_news]=98&tx_ttnews[backPid]=6&cHash=c1a209e350)

¹⁹ http://www.skysails.info/fileadmin/user_upload/Pressedownload/Dokumente/EN_Technology_Information.pdf pg.3

²⁰ Maersk. *Maersk Pilot Fuel Switch Initiative*. 16 May 2008. <http://www.futureports.org/events/airquality/aq-flanagan-ppt.pdf>

guideways would move cargo, also requiring associated terminal infrastructure. A demonstration project would not be undertaken to prove technological capacity but economic feasibility, since the Maglev is admittedly expensive.

LIM-Rail

Linear motors would be placed along railroad tracks and aluminum plates attached to the bottom of cars. A magnetic field moving along the motors in the track would induce a current in the plates and propel the vehicles. The LIM-Rail system uses existing infrastructure and current railroad operational practices, but can also be used in conjunction with the Maglev system. There is currently no test track for this concept, though the principles have been applied in other systems.

Electric Dual-Mode Trams

The CargoRail trams are rubber-wheeled vehicles that can carry marine cargo containers at 75 mph on an elevated guideway or on local streets. On the guideway, they would be propelled by electricity via permanent magnet hub motors in the wheels. On local streets they could be fueled by clean fuel, such as CNG, to generate the electricity for the motors.

Funding for Demonstration Projects

The Port needs to create further funding for such demonstration projects. Clearly, mitigating project impacts will rely in large part on implementation of emerging technologies. The Port should consider requiring tenants to contribute a certain percentage of revenues or profits into the Technology Advancement Program in order to finance demonstrations of these technologies.

Electric Drayage Trucks

As noted above, the Port recently announced the introduction of a heavy-duty electric short-haul truck. Based on the average emissions generated by the 2006 fleet of drayage trucks that served the San Pedro Bay ports, if 1.2 million truck trips were to be made with electric trucks then 34,987 tons per year of Carbon Dioxide (CO₂) emissions would be eliminated. Furthermore, electric trucks present a significant 85 percent cost savings for operations.²¹

Truck Idling Reduction Measures

The Port should provide plug-ins for trucks that must keep engines running for operational purposes. Climate-controlled “comfort stations” could be provided for drivers who would otherwise idle their trucks in order to operate the air conditioner or heating. Mandatory logistics software as a part of the tracking system would improve scheduling, increase efficiency and ensure full truckloads.

²¹ Port of LA. 16 May 2008.

http://www.portoflosangeles.org/newsroom/2008_releases/news_051608_et.asp

As recommended by the EPA Smartway Program, the following measures should be considered as part of a heavy-duty truck efficiency standard:²²

Improved Aerodynamics

Truck aerodynamics can be improved by adding integrated roof fairings, cab extenders, and air dams. The tractor-trailer gap can be minimized by adding side skirts and rear air dams. Single unit trucks can be improved with air deflector bubbles. Improving the aerodynamics of a typical line-haul truck by 15 percent could cut annual fuel use more than 2,000 gallons, save over \$3,500 in fuel costs, and eliminate 20 metric tons of carbon dioxide.

Automatic Tire Inflation Systems

Retrofitting a line-haul truck with an automatic tire inflation system could save 100 gallons of fuel annually and reduce tire wear and maintenance, while eliminating one metric ton of carbon dioxide. An ATI system used on a typical line-haul truck can generally pay for itself in just over two years, while decreasing the risk of expensive tire failure caused by under inflation.

Single Wide-Base Tires

Single wide-base tires save fuel by reducing vehicle weight, rolling resistance and aerodynamic drag, while also improving tank trailer stability by allowing lower mounting. Specifying single wide-base tires on a new combination truck could save \$1,000 immediately and reap annual fuel savings of two percent or more while cutting carbon dioxide by more than four metric tons.

Weight Reduction

Lighter weight tractor and trailer components, such as aluminum axle hubs, frames and wheels, can reduce truck weight by thousands of pounds, thus improving fuel economy. Every 10 percent drop in truck weight reduces fuel use between 5 and 10 percent.

Low Viscosity Lubricants

Low viscosity lubricants can reduce friction and energy losses. Typically, the combined effect of low viscosity synthetic engine oils and drive train lubricants can improve fuel economy by at least 3 percent. Despite the higher cost of synthetic oils, truck owners can save nearly 500 gallons of fuel and cutting five metric tons of carbon dioxide annually. Additional monetary savings may be possible due to reduced wear and maintenance.

Driver Training Program

Even highly experienced drivers can enhance fuel economy using simple practices

²² US EPA. *Overview of Carrier Strategies*. February 2004.
http://www.epa.gov/smartway/documents/carrier_strategies.pdf

such as cruise control, coasting whenever possible, limiting use of cab accessories, smooth and gradual acceleration, progressive shifting, etc. Driver training can reduce fuel consumption by 5 percent or more, eliminating about eight metric tons of greenhouse gas emissions per truck each year.²³

Electrification of Port Operations

Beyond the use of electric trucks and cold-ironing, other aspects of port operations could also be electrified in order to reduce GHGs. The Port should explore electrification of the following equipment:

Electrified Tugs

Electrified tugs could plug in to charge at dock and use stored electric energy to perform ship assist operations. Fast-charging systems have already been commercialized for use at airports (for ground support equipment) and other industrial settings, powering over 15,000 vehicles in North America. The Port should commit to commissioning the development of electrified tugs for port application.

Cranes

Cranes that are already powered by electricity could be further optimized to save energy. Virtually all ship-to-shore cranes are equipped with regenerative braking to capture energy while lowering containers. However, this energy often goes unused for lack of storage or load sharing. We recommend optimization of cranes to fully utilize regenerative power. Other cargo-handling equipment can be electrified, at least partially. RailPower Technologies, for example, offers a retrofit hybrid system for rubber-tired gantries.

Yard Hostlers

Yard Hostlers may be the most promising piece of yard equipment to electrify, since these are the greatest source of GHGs from yard equipment. Yard hostlers idle up to half the time, often pull minimal loads rather than a full container, and operate at low speeds. These characteristics make yard hostlers amenable to similar technology used to electrify airport ground support equipment. The Port is currently in development and demonstration of an electric hostler,²⁴ and is also considering the substitute of electric drayage trucks for hostlers. Once these prototypes have been developed, the Port should commit to using as many electric yard hostlers or electric trucks as possible, at the China Shipping terminal and elsewhere.

²³ US EPA. *A Glance at Clean Freight Strategies*.
<http://epa.gov/smartway/documents/drivertraining.pdf>

²⁴ SCQAMD. *Board Meeting Date: April 4, 2008. Agenda No. 5*.
<http://www.aqmd.gov/hb/2008/April/08045a.htm>

Intelligent Container Design²⁵

The Port should commit to exploring efficiency and design improvements to containers. Dramatically reducing the weight and improving the design of containers can result in greenhouse gas reductions as well as criteria pollutant reductions. The container itself is typically 10-25% of the gross weight of a container loaded with cargo, and 20% of containers are shipped empty. Container design has not changed in almost 50 years.

Clear targets for redesign include weight reduction and technology to facilitate logistics, such as tracking devices, as well as improved design for refrigeration. The most significant gains from redesign are the following:

- Reduced loads and increased efficiency for ships, trucks, and trains that carry containers;
- Reduced loads and increased efficiency for cargo handling equipments at ports, rail-yards, and warehouses;
- Reduced emissions of climate-changing refrigerant compounds and improved efficiency in refrigeration;
- Improved facility of security scanning and related logistical benefits;
- Improved ease of recycling or non-container reuse to reduce the waste caused by shipping and storing empty containers resulting from the trade imbalance; and
- Fewer trips necessary to carry the same amount of freight because of reduced tare weights.

Nationwide adoptions of a lightweight container (~30-50% weight reduction) could reduce at least 1 million tons of CO₂e (assuming that 5% of Class 8 trucks carry new containers and 20% of freight trains carry new containers).

Also, there is significant potential to reduce greenhouse gas emissions from the volatilization of HFCs via alternate refrigeration and improved efficiency of the refrigerated containers. Refrigerated transport is responsible for around 14 million tons of CO₂-equivlanet emissions in the US.

Solar Panels

We are pleased that the DEIR includes the installation of photovoltaic panels in order to increase the amount of renewable power used and reduce GHGs. However the small amount of photovoltaics on the main terminal building will result in a less than 1% reduction in GHGs created by the project, while solar panels are a measure that

²⁵ Information provided by Laura Schewel, Rocky Mountain Institute, Personal Communication, 21 September 2007.

could be expanded beyond the main terminal building and beyond the Port complex. The installation of photovoltaic panels on all buildings, parking lots or carports within the project, as well as to houses, schools and buildings within the communities of Wilmington and San Pedro could make a large impact on the amount of carbon emissions for the project.

- Photovoltaic panels are a renewable, clean energy source that would provide 3.6 MWh/year per average household for 250 square feet of PV panels, saving approximately over 3,000 pounds of CO₂ and over a thousand dollars per average household annually.²⁶
- The solar industry is one of the few construction sectors currently growing, with solar companies employing between 16,500-17,500 California workers and expecting to hire approximately 5,000 more in the next year. Most of these jobs are in installation, requiring limited training and providing annual salaries ranging from \$31,200 to \$60,000.²⁷ An increase in solar power in Los Angeles would not only mean reductions in greenhouse gases and energy cost savings for city residents, but also the creation of well-paid green collar jobs.

Tree Planting

We also support the planting of trees around the main terminal building in order to decrease the amount of energy needed for heating and cooling, as well as for the uptake of carbon. This is another measure that could be expanded beyond the Port complex. Enhancement of Los Angeles' Urban Forest²⁸ is an effective way of not only reducing greenhouse gas emissions, but also improving air quality and reducing air pollution.

- A single mature tree can absorb as much as 48 lbs of CO₂ per year and release enough oxygen into the atmosphere to support two human beings.
- Urban forests provide tangible economic benefits, including: energy savings, enhancement of property values, deferred street maintenance costs, reduced costs associated with poor air quality, and increased commercial activity.²⁹

²⁶ Assumptions: 50% capacity, annual usage is 7200 KWh/year, average electricity rate is \$0.1738/kWh. <http://www.findsolar.com/index.php?page=rightforme>

²⁷ Baker, David. *Solar industry needs workers*. San Francisco Chronicle. May 8, 2008. <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/05/10/BUGD10JVGP.DTL>

²⁸ See: <http://www.laparks.org/dos/forest/urbanforestprogram.htm>

²⁹ ICLEI Local Governments for Sustainability. *Talking Trees An Urban Forestry Toolkit for Local Governments*. November 2006.

The Port should work with the City of Los Angeles in order to survey the current urban forest and create appropriate targets and programs for the planting and maintenance of trees within the city; ideal canopy is considered to be between 30 to 40 percent.³⁰ Guidelines on analyzing an Urban Forest as a carbon sink can be found under the Urban Forest Greenhouse Gas Protocol.³¹

VII. The Recirculated DEIS/DEIR Underestimates Emissions From the Major Pollution Sources at the Proposed Project

Container Ships

We continue to have concerns that baseline auxiliary engine emissions are understated because CARB estimated that the majority of ship auxiliary engines use much dirtier fuels than what is assumed in the DEIR. For its auxiliary engine rule, CARB assumed that roughly 75% of auxiliary engines use residual fuel (or heavy fuel oil) with an average of 2.5% sulfur content, whereas only 25% of the auxiliary engines used marine distillate fuel with an average of 0.5% sulfur content.³²

Again, we reiterate that the DEIR should utilize the emission factors that CARB relied upon for its auxiliary engine rule to estimate emissions from ship auxiliary engines, as opposed to the older Starcrest/Entec emission factors utilized in the document. CARB states:

Instead of the *Starcrest/Entec* emission factor for PM of 0.8 g/kW-hr for auxiliary engine using Heavy Fuel Oil (HFO), CARB staff used a PM emission factor of 1.5 g/kW-hr. Staff believes that the *Starcrest/Entec* emission factor was too low based on the results of calculations based on a U.S. EPA methodology (EPA, 2003). Based on that methodology, the sulfate PM fraction by itself was estimated to be approximately 0.8 g/kW-hr. In addition, several other sources

³⁰ California Climate Action Registry, US Forest Service et al. *Urban Forest Greenhouse Gas Reporting Protocol*. June 1, 2008.

³¹ See:

http://www.fs.fed.us/psw/programs/cufr/products/12/psw_cufr742_UrbanForestProtocol.pdf

³² As opposed to 71% of ship auxiliary engines and boilers using 2.7 percent sulfur fuel. CARB, Staff Report: Initial Statement of Reasons for Proposed Rulemaking—Proposed Regulation for Auxiliary Diesel Engines, at ES-4 (October 2005) (hereinafter “Aux. Eng. Staff Report”). See also <http://latimesblogs.latimes.com/greenspace/2008/07/deadly-plumes-t.html>, from the July 9, 2008 Los Angeles Times, reporting that soot emissions from marine vessels may be twice as much as previously estimated.

(Environ, 2002 and Sine Maersk Testing Report) support using a higher emission factor for auxiliary engines using HFO.³³

The emission factors used by CARB must be used here. These factors would almost double the hoteling emissions assumed for auxiliary engines running on residual oil in the DEIS/DEIR.

Harborcraft

It remains unclear whether the DEIR attributes any emissions to tugs that are idling while waiting for container vessels to arrive. The Draft should attribute and incorporate an appropriate portion of emissions for tugs and any additional harborcraft associated with the project (e.g. crew vessels, supply boats, etc.).

Heavy-Duty Vehicles

The DEIR still appears to have excluded all truck emissions outside of a truck's first "drop-off" point.³⁴ In addition to accounting for the first leg of a delivery trip, the average truck emissions necessary to complete the delivery and the return trip must be included. This must include the full trip regardless of whether it goes outside of the air district boundary. The 82 mile limit representing the edge of the air basin is inappropriate. In other words, the draft should incorporate all associated truck emissions due to container transport associated with past, current and future uses of this terminal.

We also remain concerned that the DEIR further underestimates truck emissions by understating the amount of time trucks idle within port terminals. The document assumes that trucks idle for 20 minutes within terminals.³⁵ However, this statistic appears to be overly optimistic given reports that the wait time inside terminals at the Ports of Los Angeles and Long Beach had a mean of 72 minutes and a median of 44 minutes.³⁶ Further, it is unclear how the Port will have such a short wait time given that the truck traffic will dramatically increase at the China Shipping terminal into the future.

The DEIR still fails to outline whether or not all containers were assumed to require 1 or more truck trips. In past EIRs the Port has estimated that, on average, each container requires 1.8 truck trips due to inefficiencies in terminal operations.³⁷ The

³³ Aux. Eng. Staff Report, Appendix D at D-13.

³⁴ Recirculated DEIS/DEIR, at 3.2-32

³⁵ Recirculated DEIS/DEIR, at 3.2-32.

³⁶ See Kristin Monaco and Lisa Grobar, *A Study of Drayage at the Port of Los Angeles and Long Beach*, at 38 (Dec. 14, 2004).

³⁷ See, e.g. 1997 West Basin Transportation Improvement Program EIR.

draft should explain which assumptions would apply to this project. Without explicit, new efficiency requirements being applied at the terminal as part of the proposed project, and given that the terminal is relatively old, we assume that the inefficiencies present at other port terminals will be present at Berths 97-109. If an inconsistent assumption was used, truck trips, truck miles, truck emissions, as well as traffic and noise impacts will be significantly understated.

Trains

Similar to truck emissions, the DEIR significantly underestimated rail emissions by only considering emissions to the first drop-off point and not considering impacts from other intermodal facilities.³⁸ Specifically, limiting train distance to 105 miles to the “edge of the South Coast Air Basin” is inappropriate.³⁹ The second leg of a container’s journey must be considered, whether it is at intermodal facilities near downtown Los Angeles, near Colton, or elsewhere. The draft must correct these defects and provide additional detail regarding the train switching and transport assumptions within the South Coast Air Basin.

Construction Emissions

We are concerned that the DEIS/DEIR may have underestimated construction emissions by understating the number of days that construction activities will occur. Indeed, while the air quality section states that construction schedules will be 10 hours per day, 5 days a week, and 52 weeks per year, the traffic section states that construction will take place 6 days a week. This conflict must be resolved, and any related adjustments to construction emissions should be made.

XIII. The Army Corps Must Independently Assess The Impacts From Construction And Operation Of The Container Terminal Expansion, And Not Just From Dredging And Discharging Of Materials Within The Waters Of The United States

This proposed project would require dredge and fill activities in navigable waters of the United States in connection with the construction of wharves, thus invoking United States Army Corps of Engineers jurisdiction under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act.⁴⁰ Since the construction of new wharves is the linchpin of the project, the projected increase in container operations and ensuing cargo movement at and from the China Shipping terminal will be a direct result of these proposed federal actions, and the EIS (not just the EIR) must assess the impacts of operating the proposed project. In addition, the Corps

³⁸ Recirculated DEIS/DEIR at 3.2-33.

³⁹ Ibid.

⁴⁰ DEIR at ES-3, Section ES 2.2

must assess the upland impacts of operating the proposed project.⁴¹ The Corps must analyze these impacts independently, and not rely on the analysis prepared by the Port.

The Corps' own regulations properly recognize that "[i]n some situations, a permit applicant may propose to conduct a specific activity requiring a Department of the Army (DA) permit (e.g., construction of a pier in a navigable water of the United States) which is merely one component of a larger project." 33 C.F.R. Pt. 325 (App. B., § 7(b)(1)); *see also Friends of the Earth v. U.S. Army Corps of Engineers*, 109 F. Supp.2d 30, 40-41 (D.C. Dist. 2000)(holding that the Corps was required to prepare an EIS that assessed the impacts of the *entire* project, including the building and operation of hotels, parking garages and other related complexes on the upland area, and not just from the physical mooring of the boat at the harbor as the Corps had contended). The regulations further explain that "shipping terminals" are one clear example of a project for which the Corps should expand the scope of its environmental review to include the impacts of the larger project. In such an instance, the Corps must determine whether an EIS is required for the larger project. The regulations explain:

a shipping terminal normally requires dredging, wharves, bulkheads, berthing areas and disposal of dredged material in order to function. Permits for such activities are normally considered sufficient Federal control and responsibility to warrant extending the scope of analysis . . .

33 C.F.R. § 325 (App. B., § 7(b)(3)) (emphasis added).

IX. There Should Be A Lease Reopener Every Five Years To Consider New Technologies

A lease reopener every five years would allow BACT and new technology options in general to be evaluated and, if appropriate, instituted as they develop, rather than waiting out the term of the China Shipping lease. Any such technology that is technically and economically feasible should be required to be used.

⁴¹ DEIR at 3.2-37. The document states that "the NEPA baseline condition for determining significance of impacts includes the full range of construction and operational activities the applicant could implement and is likely to implement absent permits from the USACE."

X. Conclusion

The shortcomings of the DEIR are so serious that significant additional work is required. The undersigned stand ready to work with the Port in this respect.

Sincerely,



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Natural Resources Defense Council



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Campaign Director
Coalition for Clean Air



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