



Port of
LONG BEACH
The Green Port

San Pedro Bay Ports Clean Air Action Plan

Summary of Comments on the Draft 2010 San Pedro Bay Port Clean Air Action Plan Update

The Draft 2010 San Pedro Bay Port Clean Air Action Plan (CAAP) Update was released to the public for review on April 7, 2010. The draft document was posted on the websites for both the Port of Long Beach and the Port of Los Angeles, as well as on the joint port CAAP website. The draft 2010 CAAP Update document was also provided electronically, on a compact disk, upon request. Public comments were received over a 30 day period, closing on May 7, 2010.

During the public review period, the Ports hosted two public workshops to present an overview of the document and to receive oral comment. The workshops were held at the Crowne Plaza, San Pedro on April 21, 2010 at 7:00 p.m. and at the Long Beach City Council Chambers on April 27, 2010 at 7:00 p.m. Additional presentations were also provided to the CAAP Stakeholder Group, Pacific Merchant Shipping Association, National Retail Federation, Waterfront Coalition, and Future Ports.

A total of 12 comment letters were received on the Draft 2010 CAAP Update. In addition, oral comments were presented by 11 speakers at the public meetings. The comments have been categorized into general themes. The responses to the frequently occurring comments are presented in this summary, in no particular order.

Responses to Frequently Occurring Comments Submitted on the Draft 2010 Clean Air Action Plan (CAAP) Update

1) Health Risk

Why did the Ports only analyze cancer risk from diesel particulate matter (DPM)? Why didn't the Ports analyze for increased risk of asthma and other health effects (e.g. morbidity and mortality)?

Starting in 2007, the ports of Long Beach and Los Angeles (Ports) worked with the air quality regulatory agencies to develop a protocol and to conduct a health risk assessment for the San Pedro Bay port complex to provide the technical basis for development of the Health Risk Reduction Standard. The modeling was based on a regional scale assessment, consistent with the DPM exposure study for the two Ports developed by the California Air Resources Board (CARB) in 2006.

The Ports chose to focus on cancer risk from DPM because DPM is the dominant contributor to air toxic cancer risk in the South Coast Air Basin and because reductions in DPM would be expected to reduce non-cancer effects associated with both DPM and particulate matter (PM). DPM is also the most dominant toxic air contaminant (TAC) associated with port-related operations. Other TACs comprise a small fraction of the combined emissions from the two Ports and are not significant when evaluating overall risk from port-related operations. Other TACs can be a significant factor on an individual project basis, in the permitting of individual emission sources. The potential effects of non-DPM TACs on receptors in the vicinity of specific emission sources within the Ports are evaluated as part of the project-specific Environmental Impact Report (EIR) and permitting process for individual emission sources.

DPM was also selected as the basis of the Health Risk Reduction Standard because DPM cancer risk has been established by both state and local air agencies as an accepted metric for characterizing public health risk from exposure to diesel exhaust, providing both a technical and regulatory precedent. There are currently no such agreed-upon metrics for mortality and morbidity and no conventional significance thresholds for project evaluations. Further, morbidity and mortality analyses are based on exposure to fine particulate matter (PM_{2.5}). Nearly 100% of PM_{2.5} from port-related operations comes from DPM. Thus, the DPM reductions from strategies that are implemented to achieve the Health Risk Reduction Standard should also result in commensurate reductions in morbidity and mortality.

Why didn't the Ports evaluate risk to workers or localized impacts to sensitive receptors or live-aboards? Why did the Ports establish a goal using population-weighted risk reduction instead of risks at individual receptors?

The Bay-Wide Health Risk Assessment is a tool that was designed to inform the development of the Health Risk Reduction Standard. The San Pedro Bay Standards establish the overall emissions reduction and health risk reduction goals for the two Ports that will benefit the local

communities, as a whole, over time. The metric used for evaluating the reduction in regional health risk is the reduction in DPM-related cancer risk for residents located outside of the Ports' boundaries, throughout the local region and within 2 kilometers (km) of the Ports and major transportation corridors. The Ports established a goal using population-weighted risk reduction because it is a more accurate assessment of risk in populated areas. The Health Risk Reduction Standard, as structured, will assist the Ports in their planning for adopting and implementing strategies to significantly reduce emissions, and their associated impacts, from all port-related operations. Exposures to workers or impacts to individual or sensitive receptors were not the focus of the evaluation, however, reductions observed in residential health risks will likely also indicate health risk reductions to other segments of the population. In addition, while achievement of the Health Risk Reduction Standard goal for the local communities is being evaluated throughout the Ports region and within the 2 km border, health risk reductions at the receptor-grid level (200-meter grid) in 2020 are disclosed in the HRA report which was released with the CAAP Update. Further, health risk to workers, individual and sensitive receptors will be considered at the project level in analyses prepared for environmental documents such as EIRs, where the level of refinement in the health risk model can provide a greater level of accuracy at a smaller scale. As indicated in the Project Specific Standard of the CAAP, project specific residential cancer risks must be less than 10 in a million at all receptor sites.

Why didn't the Ports use 2 km by 2 km grids located next to the port and major infrastructure boundaries to measure and monitor localized health risk?

The Health Risk Reduction Standard was developed to provide a goal for health risk reduction throughout the local region. It was developed as a regional scale target, using a regional scale model. In response to the need to also demonstrate that the risk reductions identified throughout the larger region were also being achieved in the areas proximate to the Ports, the Ports and their technical advisors evaluated the level of resolution that was possible from the health risk assessment model results for the regional analysis. As a result, an evaluation of the population-weighted risk throughout the areas located within 2 km of the Ports' boundaries and major transportation corridors was also conducted. This scale was deemed adequate to monitor localized health risk, supplemented by the receptor-grid level data cited above. The results of this evaluation indicate a similar level of risk reduction as observed throughout the entire region.

The Health Risk Reduction Standard establishes the same goal of 85% risk reduction in the highly-impacted communities located proximate to port sources (within 2 km) and the residential areas throughout the larger Ports region.

2) Low Growth

Why did the Ports use the low growth forecast to derive their targets?

The emissions forecasting that was conducted for the Draft 2010 CAAP Update, including the forecasting used to establish the San Pedro Bay Standards, was based on the 2007 cargo

forecast which predicted very high levels of growth. The 2007 cargo forecast indicated that capacity at the Ports' container terminals was expected to be reached by approximately 2023. Recent changes in the global economy have resulted in a much lower level of growth. The most recent port cargo forecast completed in 2009 predicts that growth rates may be much lower than the previous estimates and that capacity at the Ports' container terminals isn't expected to be reached until around 2035. Due to current economic uncertainties and the changing nature of cargo forecasts, the Ports chose to continue using the higher 2007 cargo forecast for planning purposes in the 2010 CAAP Update because it provides a conservative estimate of the emissions reductions that can be achieved. For comparative purposes however, Figures 5.4, 5.5, 5.6, and 5.9 have been modified in the Final 2010 CAAP Update document to show the forecasted emission benefits using both the 2007 cargo forecast and the 2009 cargo forecast. As shown in the figures, the 2009 forecast yields even greater emission reductions than the 2007 forecast used for planning.

Are the emissions reductions observed to date due primarily from lower cargo volumes?

Over the past two years, the global economic downturn has resulted in lower cargo volumes through the two Ports. This reduced cargo volume has resulted in a decrease in port trade and goods movement activity, and therefore a reduction in emissions. The overall emissions reductions shown by the Ports' annual emissions inventories however show that the reductions in emissions are greater than the reductions in cargo volumes. Therefore, the efforts at the Ports to reduce emissions from port-related operations have shown a benefit beyond what is due to lower trade and goods movement activity alone. For example, between 2005 to 2009, the combined Ports had a 17% reduction in ship visits and a 17% reduction in Twenty-Foot Equivalent Units of cargo (TEUs), however the emissions reductions observed during that period were 52% less DPM, 34% less oxides of nitrogen (NOx) and 50% less oxides of sulfur (SOx). When comparing the amount of emissions produced for moving 10,000 TEUs in 2005, versus moving 10,000 TEUs in 2009, DPM emissions were reduced by about 43%. Even though there has been a lot of success in reducing emissions to date, it is still critical that the port industry remain diligent and committed to reducing emissions from their operations to meet the long-term emissions reduction and health risk reduction goals of the San Pedro Bay Standards and to reduce impacts upon the local communities and the region.

3) Evaluation of Health Impacts

Why didn't the Ports include a Health Impact Assessment in the 2010 CAAP Update?

As stated above, a Health Risk Assessment (HRA) was conducted in support of the development of the San Pedro Bay Standards. Since the San Pedro Bay Standards were establishing clear goals that could be monitored and measured, a numerical residential cancer risk metric provided by the HRA was chosen to provide a quantifiable indicator of the health impacts to the region and the local communities, and the reduction of those impacts over time. Health Impact Assessments (HIA) are another tool to evaluate potential health effects, however the endpoints

of the evaluation are multiple and less quantitative and therefore did not meet the objectives of establishing a single, numerical goal that could be tracked over time.

4) Emission Reduction Standards

Why didn't the Ports strengthen the measures in the CAAP Update and the 2014 NOx San Pedro Bay Standard to be consistent with the SIP?

It is important to note that with the exception of the emission reduction goal for NOx in 2014, the targets in the San Pedro Bay Standards substantially meet the Ports' target reductions for the South Coast Air Basin identified in the 2007 Air Quality Management Plan (AQMP). The 2014 NOx reductions called for in the 2007 AQMP is approximately twice the target of the San Pedro Bay Standards. The strategies included in the CAAP Update, which were used to develop the San Pedro Bay Standards, are based on all feasible measures. Certain assumptions made during the development of the 2007 AQMP have not come to pass, such as the availability of Tier 4 locomotive engines in 2012, which, it is now known, will not become available under US Environmental Protection Agency (EPA) regulations until 2015. Therefore, the Ports made adjustments as needed to develop targets that are aggressive, but achievable. The Ports will however strive to exceed the 2014 NOx standard of 22% reduction, potentially exceeding 40% reduction, due to two significant factors that may occur in the next few years. First, the Ports will be focusing efforts to continue to identify strategies to reduce emissions from ocean-going vessels, including the use of new technologies on in-use vessels. CAAP Measure OGV-6 seeks to encourage the demonstration and deployment of new technologies for ocean-going vessels that reduce DPM and NOx emissions. The deployment of potential new technologies may assist the Ports and the agencies in reaching the SIP and AQMP goals. Second, cargo throughput may be less than the conservative high-growth estimate used for planning purposes, and therefore associated emissions could be lower.

The Ports are committing to re-evaluate progress toward achieving the 2014 San Pedro Bay Standards in 2012. This re-evaluation will reflect the best information available at the time to more accurately predict conditions in 2014, including the latest information on cargo throughput and available technologies and strategies.

Why does the CAAP Update require action above and beyond what is required by regulation?

The San Pedro Bay Ports are located in the South Coast Air Basin, which has some of the worst air quality in the nation. Port-related operations are a contributor to regional air quality impacts. This represents a major health concern for residents in local communities, which led to challenges to port development needed to accommodate global trade. In the original CAAP the Ports made a commitment to do their "fair share" to reduce emissions and address the needs of the local communities impacted by air pollution from port-related operations. This commitment was further strengthened with the development of the San Pedro Bay Standards.

It is essential for the Ports to address the current impacts as well as impacts from potential future projects, to allow responsible, “green growth” to continue. The Ports are therefore continuing to move forward with strategies to address these needs and fulfill this commitment. While regulations are in place or are being developed that would reduce emissions from port-related sources, to accommodate future growth in facilities and infrastructure, the Ports find it necessary to be responsive to the community by developing and implementing near-term strategies to further reduce emissions and health risk. It has always been a philosophy of the Ports however that the emission reduction strategies implemented in the near-term to address the local needs would eventually be overtaken by regulations at a state, national or international level.

5) Ocean Going Vessels

Why doesn't the CAAP have stronger commitments to control emissions from existing vessels and include a commitment to adopt programs to spur routing of new lower emitting vessels to the San Pedro Bay Ports?

In the CAAP Update, the Ports have expanded the original CAAP vessel measures to focus efforts on identifying cleaner technologies and implementation mechanisms that can bring cleaner vessels to the San Pedro Bay Ports. Significant reductions from vessel main engines will be necessary to meet the goals identified in the San Pedro Bay Standards; therefore, identifying and implementing programs that target reductions in vessel emissions is a top priority for the Ports. Measure OGV 5 in the CAAP Update seeks to maximize the number of cleaner vessels that visit the Ports. The Ports intend to implement this through lease requirements and CEQA mitigation as well as potential tariff incentives, if determined to be an appropriate strategy. The Ports also plan to continue working with regulatory agencies to adopt PM emission standards for new ocean going vessels. Ports will require compliance with International Maritime Organization (IMO) Tier 3 NOx vessels in new leases. In addition, the Ports' staff will meet with vessel operators to understand vessel deployment issues and will develop and recommend to the Boards of Harbor Commissioners for consideration, any strategies that are identified to be appropriate and potentially effective for reducing emissions.

CAAP Measure OGV6 is focused on the fleet of existing vessels and commits the Ports to work directly with the shipping industry, including vessel operators and engines manufacturers, to identify options for achieving emissions reduction from the in-use fleet. In addition to this evaluation, the Ports will commit to seek demonstration projects of new cleaner technologies. Further, the Ports will continue to push EPA to set aggressive requirements for in-use vessels. Appropriate programs that can accelerate use of new cleaner technologies will be considered and appropriate recommendations will be brought before the Boards of Harbor Commissioners for consideration.

Port staff believes that the plan outlined in measures OGV5 and OGV6 will help the Ports achieve the goals of the San Pedro Bay Standards. While the Ports are not currently committing to a specific mechanism for implementation, the measures outline how specific implementation

mechanisms will be developed with input from the shipping industry to ensure that any mechanism that is developed will have the greatest potential for success.

6) Locomotive and Near Dock Railyard Strategies

Why didn't the Ports establish a clear standard for new and modified railyards stating that at least 95% of locomotives entering the port properties shall be Tier 4 by 2020?

Measure RL 3 includes a goal for the locomotive fleet entering the Ports be at least 95% Tier 4 locomotive engines by 2020 based on a fleet average. This goal is consistent with the goal of the California Air Resources Board, which attempts to accelerate the natural turnover of the line haul fleet resulting in a state-wide fleet average comprised of at least 95% Tier 4 locomotive engines by 2020. At a minimum, the Ports will require for new and modified railyard project approvals, at least 50% Tier 4 and 40% Tier 3 engines for locomotives entering the Port, and operating in near-dock railyards and on all port tracks. Exceeding this minimum performance requirement and achieving 95% Tier 4 remains a goal due to the significant challenges the Ports would face in implementing such a requirement, as discussed in the CAAP Update. This goal cannot likely be achieved without a coordinated effort by all parties involved. It is important to note that in June 2010, CARB proposed Draft Railyard Commitments to Reduce Diesel Soot or Particulate Matter (Rail Commitments), which would establish an emission reduction target of 85% by 2020 at four high priority railyards in the South Coast Air Basin. Adoption of the Rail Commitments may support the emission reduction goals of the CAAP by accelerating the deployment of cleaner line-haul locomotives at nearby railyards (e.g. San Bernardino) where many line-haul locomotives stop prior to entering the Ports. The Ports are in the process of preparing environmental documents containing mitigation measures for two near-dock rail yards. The Ports will make all feasible efforts to achieve the 95% Tier 4 line-haul locomotive goal by 2020.

Is achieving a fleet mix of 50% Tier 4 and 40% Tier 3 locomotives by 2023 feasible considering Tier 4 locomotives have not yet been developed? In 2008, the USEPA adopted its national locomotive diesel engine standard. This federal standard requires that, beginning in 2015, all newly-built line haul locomotives greater than 2,300 hp meet the Tier 4 standard. As this rule has been promulgated by the federal government, engine manufacturers must develop and make available Tier 4 engines by 2015. Based on USEPA's rule development analysis, USEPA believes that this standard can be met by the use of high-efficiency after-treatment technologies and ultra-low sulfur diesel. When possible, the ports will assist in the development and verification of such technologies through the CAAP Technology Advancement Program (TAP).

CAAP Measure RL 3 states a minimum performance requirement for line-haul locomotives associated with new or modified near-dock rail yard projects (CAAP Measure RL3) of a 50% Tier 4 and 40% Tier 3 fleet mix by 2023, which is 8 years after Tier 4 locomotives are introduced into the market. Some of the infiltration of Tier 4 locomotives will occur with the natural turnover

of the local and national fleet. However, some accelerated turnover may be required. The rail companies have demonstrated in the past that accelerated turnover is possible through their compliance with the 1998 Memorandum of Understanding with CARB, which resulted in a high percentage of Tier 2 locomotives within 5 years of their commercial availability.

What about the Railroads' contention that the CAAP rail measures are preempted?

The California Railroad Industry has submitted a comment letter asserting that CAAP Measures RL2 and RL3 are preempted by federal regulations, including the Federal Clean Air Act (CAA) and the ICC Termination Act of 1995 (ICCTA). The Ports and the Railroads have each asserted their legal positions and simply disagree, as set forth in the various counter legal arguments set forth in the No Net Increase legal memorandum (NNI Memo) attached as Attachment 14 to the Railroads' own comment letter. Rather than repeat them here, the Ports refer to the NNI Memo for general descriptions of the defenses to preemption available to the Ports, including:

- (1) in-use operational restrictions which do not set emissions standards but merely require use of USEPA-established engine standards not preempted;
- (2) California Health & Safety Code §43013(b) gives ARB jurisdiction for establishing emission standards and regulations for locomotives, and the CAAP rail measures are consistent with and support ARB's stated goals of 95% Tier 4 locomotives by 2020;
- (3) the CAAP rail measures are at most "incidental" burdens on interstate commerce outweighed by the substantial health and environmental benefits;
- (4) the CAAP is a generally applicable, non-discriminatory plan that will not interfere with rail operations under the ICCTA;
- (5) the "market participant exception" and "municipal-proprietor exception" to preemption as well as the sovereign Tidelands doctrine will apply to the Ports' implementation of the rail measures in connection with their Landlord and proprietary activities to develop, modernize or improve Port properties for rail facility use by the Railroads.

7) Standards Implementation

What commitments are the Ports making to evaluate progress in meeting the San Pedro Bay Standards?

The Ports are committed to performing regular evaluations of the progress toward achieving the San Pedro Bay Standards. Each port's annual emissions inventory will include a comparison of current year emissions to 2005 CAAP baseline year emissions to reports progress toward achieving the San Pedro Bay Standards. In addition, the Ports will update the emissions forecast and the HRA (current year and target years) as needed to provide the most accurate projections on meeting the Standards. At a minimum, the Ports have committed to evaluate progress toward achieving the 2014 emissions reduction goal in 2012. If a shortfall is identified, appropriate action will be recommended to each Port's Board of Harbor Commissioners.

In addition, when the CAAP was adopted, the Ports committed that it would be a “living document” meaning that it would be regularly evaluated and updates would be prepared over time. This 2010 CAAP Update is evidence of this commitment. The Ports will continue to update the CAAP to ensure that it remains relevant and continues to provide guidance for long-term air quality planning. While a specific schedule for updates has not been identified, the Ports anticipate making updates approximately every three years.

8) CAAP Baseline

How was the 2005 baseline year selected and were the regulatory agencies involved in the selection?

Through the CAAP Technical Working Group (TWG) the Ports have worked closely with representatives of the Environmental Protection Agency (EPA Region 9), California Air Resources Board (CARB), and the South Coast Air Quality Management District (SCAQMD) since the creation of the original 2006 CAAP to develop the scope and the breadth of the plan. The Ports have continued to collaborate with the agencies for the past two years during development of the Draft CAAP Update. This includes the selection of the 2005 baseline year, which also served as the baseline in the original CAAP. 2005 was selected as the baseline year because it was the most recent and comprehensive emissions inventory available during the development of the original CAAP in 2006. Additionally, this was the first time that the two Ports both conducted such inventories in a common year, as the previous Port of Los Angeles Emissions Inventory was conducted in 2001 and the previous Port of Long Beach Emissions Inventory was conducted in 2002. Use of a common inventory year was essential to provide a factual and agency-supported platform for assessing source contributions and reduction opportunities.

It is important to note that emission levels in the 2005 baseline year are not the emission target. It is used only as a baseline measurement for progress. Implementation of the CAAP Update and achievement of the San Pedro Bay Standards is projected to lower emissions to well below 2005 emission levels.

9) Incentives

Will incentives be offered to the industry to accelerate emission reductions and will cargo fees be assessed to fund these incentives?

The use of incentives has been a successful implementation strategy for CAAP programs in the past. The Clean Truck Program (CTP) provided financial incentives for truck owners to turnover the fleet of trucks serving the Ports. The Ports have also successfully incentivized vessel operators to comply with the Vessel Speed Reduction Program and the ocean vessels’ switch from bunker fuel to low sulfur fuels. The use of incentives for future CAAP programs will be considered on an as-needed basis as programs are being developed and implemented. Several measures outlined in the CAAP Update (i.e. OGV 5, OGV 6) note incentives as potential

implementation strategies, however the actual use and amount of incentives, if any, has yet to be determined.

Cargo fees have been used in the past to fund specific port programs, such as incentives to reduce emissions. The Ports use a Clean Truck Fee to support the implementation of the Clean Trucks Program (CTP). This fee assesses \$35 per TEU fee on containerized merchandise that enters or leaves a terminal with a truck that does not meet the 2007 EPA emission standard. The fees collected have been used in conjunction with port funds and other grant funding to fund financial incentives for the benefit of the CTP. Similar fees that directly support implementation of CAAP measures may be considered, however the use of fees will be determined by need and other economic factors.

Will the Ports establish a fund to mitigate public health impacts?

The CAAP focuses on programs that result in direct emission reductions from port-related sources. Funding other initiatives such as health care programs or clinics is outside of the scope of the CAAP. However, the Ports have separate mitigation funds and grant programs that fund projects addressing off-port cumulative impacts in nearby communities. Projects include installation of sound dampening double-paned windows in schools and residences, and installation and maintenance of air filtration systems and air purifiers in schools. The Port of Long Beach Mitigation Grant Program supports local clinics, healthcare and senior facilities.

10) Scope of Emissions Sources

Why aren't construction and stationary source emissions included in the CAAP?

Emissions from construction activities and stationary sources are not port goods movement related operations and are therefore outside of the scope of the CAAP. Stationary sources are regulated by AQMD and typically Best Available Control Technology is required. Based on recent project analyses, construction emissions are small compared to port operational emissions (e.g. approximately 1 to 3% of total recent project emissions), and are of short duration in nature. Construction emissions are also project-specific and are not considered to be a part of typical port-related goods movement operations. However, construction emissions are assessed by each port under the CEQA evaluation process, when environmental impacts of the particular development project and anticipated construction activity are assessed. While not the focus of the CAAP, as identified in Section 4, each port has developed best management practices and standards for construction activities to address and minimize construction-related air quality impacts from such activities, and adherence to these practices is required in all project bid specifications.

11) Maintenance of Emissions Reductions

Do the Ports perform emissions testing to verify that emission reductions are achieved and that equipment is being maintained?

The Ports do not verify the actual emissions from equipment. The Ports currently do not possess the manpower or resources to conduct such an effort. The Ports rely on emission estimation methodologies provided or endorsed by the air quality regulatory agencies to estimate the emissions from port-related sources, the results of which are published in each port's annual Emissions Inventory (EI). The EI methodology includes deterioration rates, which assume a certain amount of degradation on an engine and its associated emissions based on its age. While deterioration rates take into account the natural degradation, the Ports are aware that the lack of regular maintenance can cause further degradation of engines and an increase in emissions. In some cases, the Ports have been proactive regarding maintenance. For example, the CTP for Port of Los Angeles includes truck maintenance requirements implemented through the concession agreement. While some maintenance efforts are in place, the Ports agree that that additional testing may be beneficial and may consider this practice in the future.

12) Industry Costs

Why doesn't the CAAP include private industry expenditures, in addition to costs for the Ports and the air agencies?

The CAAP was developed primarily as a tool for the Ports to identify strategies for reducing air quality impacts from port-related operations. Therefore, in the context of a planning document for the Ports, only costs that needed to be considered for the Ports' future budget planning were estimated within the CAAP. However, the Ports also recognize that industry has made significant investments in CAAP technologies, including upgrading truck fleets and cargo handling equipment and vessel modifications to utilize electric shore power, and that continued cooperative efforts will be a key to successful implementation of the CAAP. It is assumed that the total cost of CAAP implementation less the funding contributed by the Ports and other funding agencies will be borne by industry.

13) GHG Emissions

Why aren't GHG emissions included in the CAAP?

The CAAP is focused on the strategies needed to meet the Ports' regional air quality and health-risk reduction goals. While not a focus of the CAAP, greenhouse gases (GHGs) are an important consideration when evaluating emissions from mobile sources, due to their potential global effect. It is important to note that many of the emissions-reduction strategies in the CAAP will result in co-benefits, reducing the targeted emissions of DPM, NOx and SOx, while also reducing GHG emissions. These potential GHG benefits have been identified in each CAAP measure, where applicable. Further, each port is working with its respective municipality to develop GHG-reduction plans and to identify strategies for further reductions in GHG emissions from port administration and tenant operations. Lastly, statewide GHG reductions are expected to be achieved through the California Global Warming Solutions Act of 2006 (AB32), which

requires CARB to develop regulations and market mechanisms to implement a cap on GHG emissions to reduce statewide GHG emissions to 1990 levels by 2020. The Ports will continue to work collaboratively with CARB on this effort, as appropriate. In addition, the Ports have been reporting GHG emissions associated with port-related operations in their annual emissions inventories since 2006.

14) New Technologies and Alternative Fuels

Why haven't the Ports included a commitment to develop zero emission container movement systems in the CAAP?

Zero Emissions Container Movement Systems (ZECMS) were not included in the CAAP Update as a requirement because such technologies have yet to be demonstrated and proven as a viable option. ZECMS may be included for consideration in future CAAP Updates. As discussed in Section 4.9 of the CAAP Update, the Ports are moving forward in evaluating ZECMS. The Ports assembled an evaluation team comprised of staff from each port, legal counsel, Alameda Corridor Transportation Authority, and a panel of experts chosen by the Keston Institute of USC. The team reviewed proposals in response to the ZECMS Request for Concepts and Solutions (RFCS). The purpose of the RFCS was to determine the technical and financial feasibility of such a system and to gather information for use in a solicitation for a potential demonstration. Keston reported that none of the systems proposed are sufficiently mature to move to a full-scale operational deployment in a port application at this time. . Keston concluded that prior to the selection and deployment of any guideway system, additional testing needs to be carried out in an environment that replicates actual container handling and transportation operations. In addition, Keston concluded that in light of the capital intensive nature of fixed guideway systems and the best case assumptions regarding growth in container volume, market share, capital costs, and system availability used in many of the respondents' analyses, a ZECMS will have difficulty competing economically with conventional truck drayage. While the Keston panel has concluded that none of the systems proposed are sufficiently mature for full-scale operational deployment in the Ports at this time, Port staff will coordinate on developing an approach for increasing technology readiness and demonstrating such a system in a port environment.

What do the Ports do to ensure proven technologies under Technology Advancement Program (TAP) are successfully implemented?

As new technologies are successfully demonstrated by the TAP and agency verification is obtained, they can be considered for use as mitigation measures for projects and for inclusion in lease requirements as appropriate. Additionally, new port leases include technology review provisions which require the Port and the tenant to conduct a comprehensive review of feasible and cost-effective new technologies at a frequency of five or seven years, depending on the lease. If the technologies are determined by the Port to be feasible in terms of cost, and technical and operational feasibility, the tenant will work with the Port to implement such technologies.

Have the Ports made an effort to move away dependence from fossil fuels and promote the use of biodiesel and other non fossil fuels?

The Ports recognize the importance of reducing the dependence on fossil fuels. The Ports together with South Coast AQMD have contributed significant funding for alternative fuel trucks and fueling stations for use in Port drayage trucking, and through the TAP, several alternative fuels and propulsion technologies have been considered in other applications. These include electrification, liquefied natural gas, compressed natural gas, hydrogen fuel cells, emulsified biodiesel, methanol, ethanol and hybrid engines using some of the above alternative fuels. The Ports will continue to pursue alternatives to fossil fuels through the continued commitment in the TAP as discussed in the CAAP Update.

Why isn't it a requirement for the Advanced Maritime Emission Control System (AMECS) required for ocean vessels in the CAAP and will the Ports provide incentive funding for such technologies?

The AMECS system has yet to be tested in a full operational demonstration at the Ports. The Ports are unable to require the use of this or any technologies until they have been fully demonstrated, proven to be applicable in port-related operations, and the emission reductions verified. No shore power alternatives have completed this type of evaluation at the Ports, and therefore, none have been required through the CAAP. Technology vendors that can potentially provide a feasible alternative to grid-based shore power are encouraged to submit a proposal to the TAP to be considered for future demonstrations.

The Ports have not budgeted funding assistance for shore power alternatives. However the Ports will consider assisting terminal operators in applying for outside grant funding for any shore power alternatives they choose to utilize.



San Pedro Bay Ports Clean Air Action Plan 2010 Update

Supplemental Response to Comments on the Final 2010 CAAP Update

1. **Is the CAAP a planning or regulatory document? Through the CAAP, are the ports setting standards or goals? How is the CAAP implemented? Are the Boards of Harbor Commissioners required to do what the CAAP says?**

The CAAP is a planning document that sets goals and implementation strategies to guide future actions. The CAAP does not constrain the discretion of the ports' Board of Commissioners (Ports) as to any future action. The CAAP is being implemented with various means available to the Boards, including tariffs, leases, contracts, incentives, voluntary measures, and grant funding. Each individual CAAP measure is a proposed strategy for achieving necessary emission reductions. If that measure proves infeasible or if better alternatives for that measure emerge, the ports can and have adjusted the plan accordingly. The ports recognize that if a measure is abandoned or weakened, additional measures will be necessary to ensure the success of the plan as a whole.

For example, with CAAP Measure HDV1 (Performance Standards for On-Road Heavy-Duty Vehicles), each port used its own discretion to adopt separate tariffs, motor carrier agreements, incentives and grants, and other implementing documents. The strategies were not only different from the original CAAP HDV1 measure, but each port's version differed in some content from each other; however, the emissions reductions achieved by the two programs were consistent and were in fact greater than the reductions originally identified in the CAAP. Furthermore, over time, the various tariffs, motor carrier agreements and other implementing documents were amended separately by each port. These amendments were in response to real world conditions and in order to adapt their respective Clean Truck Programs to improve performance. Improvement in performance has, in fact, occurred through the early achievement of HDV1's original goals. This is a key example that demonstrates how the CAAP is utilized as a planning document and that the ports retain and fully exercise their own discretion at the time of implementation and on an ongoing basis.

2. **Why was the line-haul locomotive performance requirement in Measure RL3 developed?**

A fundamental principle of the CAAP is that all major port-related emissions sources would contribute a fair share of emissions reductions in order to reduce emissions in the South Coast

Air Basin, as required under the South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP) and the State of California's State Implementation Plan (SIP). Therefore, the CAAP includes strategies for achieving the rail industry's fair share contribution to these emissions reductions. For locomotives, both the AQMP and the SIP identified the need for an emissions equivalent of a Tier 4 line-haul locomotive fleet to meet the future air quality attainment dates.

As identified in the original CAAP, the initial approach to implementing emission reduction measures for locomotives was through Memoranda of Understanding (MOUs). The ports attempted to develop voluntary MOUs with the rail companies that would achieve emission reductions for line haul locomotives; however, an agreement was never reached. With the 2010 CAAP Update, the ports chose to focus on implementation of Measure RL3 through requirements implemented through CEQA or leases for the near-dock rail facilities. To align with CARB's statewide goal, the ports included a similar goal in RL3 of 95% Tier 4 engines for line haul locomotives by 2020. The ports understood that this goal would be difficult to achieve at the project level for a number of reasons, including operational logistics, the availability of new engines and the current state of the economy. Therefore, the ports included a minimum performance requirement of an emissions equivalent of 50% Tier 4 and 40% Tier 3 line-haul locomotive fleet mix by 2023 in Measure RL3. Ultimately, a Tier 4 line-haul locomotive fleet average is anticipated to be achieved by 2020 through efforts implemented by the rail companies at the project level, in combination with fleet modernization efforts implemented state-wide in coordination with CARB.

3. Is the minimum line-haul locomotive performance requirement for Measure RL3, as described in the Final 2010 CAAP Update, the only way to comply with measure?

The Clean Air Action Plan is a planning document that outlines the policy direction and establishes the air quality goals for the two ports. The actual implementation of individual measures may change from the detailed description in the plan. Therefore, consistent with the language of RL3, the ports would accept an alternative implementation plan for reducing emissions at the near-dock rail yards as long as the proposed alternative results in an equivalent or greater level of emissions and health risk reductions associated with Measure RL3.

4. What are the amounts of emissions reductions estimated to be achieved by the line-haul locomotive requirement in Measure RL3?

For the line-haul locomotive fleet operating at the ports and out to the South Coast Air Basin boundary, the ports estimate that the emissions reductions that will be achieved by attaining the goal of a 95% Tier 4 line-haul locomotive fleet in 2020 will be 69% less DPM and 58% less NO_x, compared to the 2005 baseline. By 2023, the emissions reductions from a 95% Tier 4 line-haul locomotive fleet will be 68% less DPM and 56% less NO_x, compared to 2005. Achieving the minimum performance requirement of a 50% Tier 4 and 40% Tier 3 line-haul locomotive fleet by 2023 will result in 37% less DPM and 2% more NO_x, compared to 2005. These reduction estimates are based on the high level of growth assumed in the 2007 cargo forecast, consistent with all emissions forecasting conducted in support of the 2010 CAAP Update.

5. Is reliance on future locomotive emissions standards reasonable or feasible?

In 2008, the United States Environmental Protection Agency (USEPA) adopted its national locomotive diesel engine standards. These federal standards require that, beginning in 2015, all newly-built line haul locomotive engines greater than 2,300 hp meet the Tier 4 emissions standard. As this rule has been promulgated by the USEPA, engine manufacturers are required to develop and make available engines that meet the emissions standards by the established timeline. Based on USEPA's rule development analysis, USEPA believes that this standard can be met by the use of high-efficiency after-treatment technologies and ultra-low sulfur diesel. Further, precedent exists for relying on USEPA engine standards for air quality planning and implementation of future year requirements; this approach is consistent with the approach taken for in-use requirements implemented by regulatory agencies such as the California Air Resources Board (CARB).

6. Should a threshold of a 10 in a million incremental increase in residential cancer risk be used to evaluate projects?

Each port's Board of Harbor Commissioners adopted a policy that they will not approve projects that have an incremental increase in residential cancer risk greater than 10 in a million, as evaluated under the California Environmental Quality Act (CEQA). That policy was established during adoption of the original CAAP in November 2006. The threshold applies to all projects, in both ports, that are considered by the Boards; all projects are held to that same requirement. Since adoption of the policy, each port has evaluated and approved major development projects that have achieved that requirement.

As a significance threshold, an incremental increase in residential cancer risk of 10 in a million is consistent with other agencies, including the South Coast Air Quality Management Agency (SCAQMD), when determining significant impacts under CEQA. While it is at the discretion of the each port's Boards to adopt a statement of overriding considerations and approve a project that exceeds that threshold if the Board deems necessary, the policy was established to be protective of the community and the ports continue to believe it is appropriate.

7. Does the CAAP adequately address health impacts?

One of the guiding principles of the CAAP is to reduce health risks to the local communities from air emissions associated with port operations. The measures included in the CAAP are designed to significantly reduce emissions of diesel particulate matter (DPM), nitrogen oxides (NO_x) and sulfur oxides (SO_x), both in the near-term and over the long-term, and to therefore reduce potential impacts from those pollutants. As a goal and measure of these reductions, in the 2010 CAAP Update, the ports established the San Pedro Bay Standards which call for significant emissions reductions and health risk reductions at milestone dates of 2014, 2020 and 2023.

The Health Risk Reduction Standard, as structured, will assist the ports in their planning for adopting and implementing strategies to significantly reduce emissions, and their associated impacts, from all port-related operations. For the Health Risk Reduction Standard, the ports

chose to focus on cancer risk from DPM because DPM is the dominant contributor to air toxic cancer risk in the South Coast Air Basin and because reductions in DPM would be expected to reduce non-cancer effects associated with both DPM and particulate matter (PM). DPM is also the most dominant toxic air contaminant (TAC) associated with port-related operations. Other TACs comprise a small fraction of the combined emissions from the two ports and are not significant when evaluating overall risk from port-related operations. DPM was also selected as the basis of the Health Risk Reduction Standard because DPM cancer risk has been established by both state and local air agencies as an accepted metric for characterizing public health risk from exposure to diesel exhaust. The ports recognize that use of a human health-risk assessment to evaluate cancer risk is just one tool for evaluating potential health impacts; however it was selected based upon the technical and regulatory precedent for its use. There are currently no such agreed-upon methodologies or metrics for use of Health Impact Assessments or mortality and morbidity and no conventional significance thresholds for project evaluations. Finally, morbidity and mortality analyses are based on exposure to fine particulate matter (PM_{2.5}). Nearly 100% of PM_{2.5} from port-related operations comes from DPM. Thus, the DPM reductions from strategies that are implemented to achieve the Health Risk Reduction Standard should also result in commensurate reductions in morbidity and mortality.

8. Why doesn't the CAAP include a ZECMS commitment?

As discussed in Section 4.9 of the CAAP Update, on June 3, 2009, the Port of Long Beach, in conjunction with the Port of Los Angeles and the Alameda Corridor Transportation Authority (ACTA), released a formal Request for Concepts and Solutions (RFCS) to design, build, finance, operate and maintain Zero Emissions Container Movement Systems (ZECMS) between the ports and the near-dock rail facilities (i.e. the existing Intermodal Container Transfer Facility (ICTF) and proposed Southern California International Gateway (SCIG)). The ports assembled an evaluation team comprised of staff from each port, legal counsel, Alameda Corridor Transportation Authority, and a panel of experts chosen by the Keston Institute for Public Finance and Infrastructure Policy of USC. The evaluation panel reviewed seven proposals in response to the RFCS and interviewed each respondent in May 2010. The evaluation panel concluded that none of the submissions were deemed "fully compliant" with the RFCS. Furthermore, the information provided by the respondents in their submittals or in the subsequent interviews has not demonstrated that the intended ZECMS objectives can currently be achieved, considering assumptions regarding market share and estimated capital costs, and absent other drivers (e.g. environmental regulations and/or a significant financial subsidy). At this time, a ZECMS connecting the port terminals to the near-dock rail facilities would not be financially competitive with conventional truck drayage. This is consistent with on-going work conducted in support of development of the I-710 Corridor Environmental Impact Report/Environmental Impact Statement (EIR/EIS), in which the use of electrically powered and/or propelled trucks is being evaluated as an element of a project alternative.

Ports' staff are in the midst of informally soliciting interest from the RFCS vendors in advancing the technological readiness of their systems. Technological readiness is defined as systems achieving an equivalent of Technological Readiness Level 7 (TRL7), using the evaluation criteria developed by the National Aeronautics and Space Administration and United States Department of Defense. TRL7 calls for system prototype demonstration in an environment comparable to

the actual terminal operations. The ports and ACTA are developing performance requirements needed to field test and demonstrate attainment of TRL7. Following attainment of TRL7 by a vendor, the ports will need to determine the appropriate opportunities for proceeding with participation in a proof-of-concept, equivalent of TRL8, which calls for the actual system to be completed, operational and qualified through testing and demonstration.

9. How are the ports addressing the issue with Class 7 trucks being used to avoid the requirements of the Clean Trucks Programs?

The number of Class 7 trucks registered in the ports' Drayage Truck Registry has increased over the past year. While the absolute number of trucks has been growing, the actual impact has been muted with approximately 2% of all truck moves being conducted by Class 7 trucks.

Nonetheless, the ports do believe that these trucks should meet the same emissions standards as other drayage trucks serving the ports. The two ports have been working with CARB on how best to address this issue. Currently, CARB staff is proposing to extend the requirements of the State Drayage Truck Rule to include Class 7 trucks; the ports are supportive of this proposal. CARB is scheduled to consider the proposal at their December meeting. Once port staff fully understand the impact of any CARB actions, port staff will determine whether additional action by the ports' respective Boards are necessary to further address the problem.