



## SECTION 2: SAN PEDRO BAY PORTS CLEAN AIR ACTION PLAN GOALS

The Clean Air Action Plan establishes the path by which the targeted control measures will be implemented in the short-term and provides for budget planning over a five fiscal-year period. The Clean Air Action Plan will be reviewed each year in light of progress made during the previous year, and implementation strategies will be adjusted to ensure that the goals for the Clean Air Action Plan are achieved. Additional measures may be specified in future Clean Air Action Plan updates to maintain progress towards a complete and timely achievement of the goals. Goals will be reviewed annually as part of the update cycle and new goals may be added.

### 2.1 Foundations

The following common foundations support the San Pedro Bay Ports Clean Air Action Plan.

- The San Pedro Bay Ports are committed to expeditiously and constantly reduce the public health risk associated with port-related mobile sources, and implement a program within five years that will achieve this goal.
- The San Pedro Bay Ports are committed to facilitate growth in trade while reducing air emissions.
- The San Pedro Bay Ports will focus on lease amendments/renewals and California Environmental Quality Act (CEQA) evaluations as mechanisms to establish provisions and requirements in leases consistent with meeting the Clean Air Action Plan goals.
- The San Pedro Bay Ports will affect tariff changes as needed to influence activity changes that will result in emissions reductions.
- The San Pedro Bay Ports are committed to monitor, document, and report on performance of their efforts under the Clean Air Action Plan and will update the plan on an annual basis.



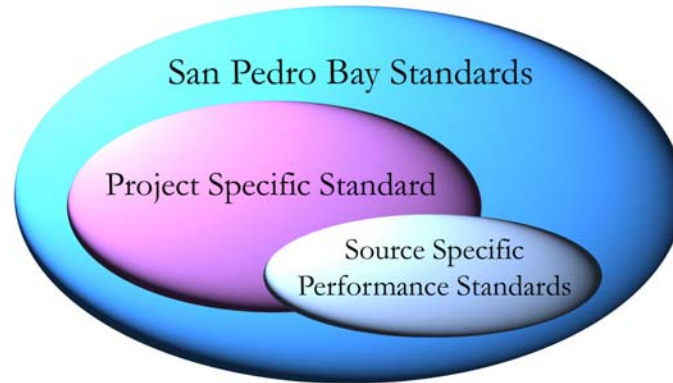
## 2.2 Standards

The principles upon which this Clean Air Action Plan is based set forth extremely ambitious goals for port-related goods movement. From the vision of reducing port-related health risk and the principles stated previously, it is the Ports' goal to establish standards at the following three levels:

- (1) **San Pedro Bay Standards –**
  - Reduce public health risk from toxic air contaminants associated with port-related mobile sources to acceptable levels.
  - Reduce criteria pollutant emissions to the levels that will assure that port-related sources decrease their “fair share” of regional emissions to enable the South Coast Air Basin to attain state and federal ambient air quality standards.
  - Prevent port-related violations of the state and federal ambient air quality standards at air quality monitoring stations at both ports.
- (2) **Project Specific Standards –**
  - Projects must meet the 10 in 1,000,000 excess residential cancer risk threshold, as determined by health risk assessments conducted subject to CEQA statute, regulations and guidelines, and implemented through required CEQA mitigations associated with lease negotiations.
  - Projects that exceed the SCAQMD CEQA significance thresholds for criteria pollutants must implement the maximum available controls and feasible mitigations for any emissions increases.
  - The contribution of emissions from a particular project to the cumulative effects, in conjunction with Clean Air Action Plan and other adopted/implemented control measures, will allow for the timely achievement of the San Pedro Bay Standards.
- (3) **Source Specific Performance Standards –**
  - A series of standards that will be met through Port lease requirements, tariffs, incentives, and market-based mechanisms as outlined below.

The standards are inter-related. Compliance with the Project Specific Standards may require that an individual terminal go beyond the Source Specific Performance Standards or advance the date of compliance with those performance standards. In addition, projects that meet the Project Specific Standard associated with health risk, must also meet the criteria pollutant emissions reductions associated with their “fair share” of regional emissions, and health risk reductions, as stated in the San Pedro Bay Standard. The relationships between these three standards are illustrated below.

**Figure 2.1: Relationships of Standards**



Establishment of an appropriate San Pedro Bay Standard is a difficult task at this time, as no such standards currently exist. As currently written, there are three components to the San Pedro Bay Standards that are to be met: 1) reduction in health risk, 2) “fair share” of mass emission reductions of criteria pollutants and 3) compliance with standards at the port air monitoring stations. These three components are included to identify the direction of the Ports and the agencies in developing an appropriate San Pedro Bay standard.

Attainment of the NAAQS for the entire SoCAB is not appropriate as a San Pedro Bay Ports standard because they are national standards designated for broad areas and apply to concentrations resulting from all source categories’ emissions, not just particular industries or source types (such as Port operations). In addition, developing plans to attain the NAAQS is solely the responsibility of the State of California as described in its SIP. However, setting the initial San Pedro Bay Standards to the concentrations in the NAAQS for port monitoring sites could be a good indication of the local impacts from port operations (it’s important to note that concentrations at monitoring stations will include not only the port sources but all sources in the vicinity of the monitors).

With regard to bay-wide toxic air contaminant risk goals, the Ports have started to explore a potential health risk standard with the SCAQMD and CARB. To date, neither agency has established a toxic air contaminant health risk standard specifically for DPM associated with port mobile source operations. The SCAQMD has adopted rules establishing acceptable health risk limits for toxics emitted by stationary facilities. Those rules set limits of 25 in a million cancer risk, with authorization for the SCAQMD Board to approve risks up to 100 in a million in two-year increments based upon lack of technology and other factors. Regulatory agencies have not identified any environmental regulatory limit on cancer risk that allows risks in excess of this range for an individual facility.



CARB and SCAQMD haven't identified a "safe" level of exposure to DPM. As part of its Goods Movement Plan, CARB established a statewide goal for goods movement of reducing DPM health risk 85% below 2000 levels by 2020 with the near-term goal of establishing measures that achieve as much as possible within the first five years. Based upon the health risk assessment for the Ports of Los Angeles and Long Beach recently prepared by CARB, health risks caused in some locations by port-related sources would likely need to be reduced by that amount and possibly more. The Ports and the agencies are currently discussing development of a health risk reduction goal specifically for the port sector, and expect to set an appropriate standard by early next year.

With regard to criteria pollutants, CARB associated the emission reduction goals in its *Emission Reduction Plan for Ports and Goods Movement*<sup>4</sup> with preliminary estimates of the levels of reductions that will be needed to meet the Federal 8-hour ozone and PM 2.5 standards in the SoCAB. Subsequently, the 2007 draft AQMP for the SoCAB was released by SCAQMD on October 10, 2006 and will be finalized by early next year. The draft 2007 AQMP establishes emission reductions from all source categories which are necessary to attain the PM 2.5 and 8-hour ozone standards. In the draft AQMP, computer modeling by SCAQMD staff indicates that that the region needs a 62% reduction in NO<sub>x</sub>, a 65% reduction in SO<sub>x</sub>, and a 17% reduction in PM by 2014 (from 2002 levels) to timely attain the federal ambient air quality standard for PM 2.5. Initial estimates of the reductions of NO<sub>x</sub>, SO<sub>x</sub> and PM needed by 2020 to timely attain the federal 8-hour ozone standard are 74%, 63%, and 18%, respectively. These estimates will be subject to revision through the process of public and CARB review. In order to achieve these emission reductions, the draft 2007 AQMP proposes different and generally greater reductions from port-related sources, because they generally are less well controlled than other sources. The AQMP proposes reductions in NO<sub>x</sub>, SO<sub>x</sub> and PM emissions from port-related sources by 2014 that, respectively, are 58%, 93.3%, and 48.5% below 2002 levels. The 2007 AQMP is currently undergoing a public review process that is expected to result in adoption by the SCAQMD Board early in 2007. The plan will then be submitted to CARB, which will consider adoption of the State Element and the District's Element in Spring 2007 for submittal to EPA Region 9 as a SIP revision.

The Ports and the agencies anticipate building upon these modeled AQMP estimates for developing overall San Pedro Bay emissions targets for NO<sub>x</sub>, SO<sub>x</sub> and PM, with targets and milestones for 2014 and 2020. These targets will establish the San Pedro Bay Ports' "fair share" of regional emissions reductions. These targets will be a valuable tool for long-term air quality planning, aiding the Ports and the agencies with evaluating the long-term cumulative effects of future projects. The Ports and the agencies are currently discussing the appropriate emissions targets for the two Ports, and expect to set an appropriate standard by early next year.

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<sup>4</sup> <http://www.arb.ca.gov/planning/gmerp/gmerp.htm>



As stated above, discussions between the Ports and the regulatory agencies to better define both a toxics health risk standard and the criteria emissions reduction standard (“fair share”) for the San Pedro Bay have already begun. The goal of these discussions is to develop and present the agreed upon San Pedro Bay Standards to the Ports’ Boards for their approval by Spring 2007. It is the goal of the Ports to establish these standards as soon as possible in order that they may be considered in the CEQA documents for a number of upcoming development projects. Due to the critical nature of these standards, the Ports and regulatory agencies will work together expeditiously to deliver sound proposals to the Boards as soon as possible.

As stated above, Project Specific Standards require all new projects to meet or be below acceptable health risk standards (10 in 1,000,000 excess residential cancer risk threshold) and for projects that exceed the SCAQMD CEQA significance thresholds for criteria pollutants to implement the maximum available controls and feasible mitigations for any emissions increases. The Project Specific Standards do not limit the types of impacts that will be considered or mitigated pursuant to CEQA. For example, while the 10 in a million project standard for cancer risks applies to residential risks, the ports will continue to evaluate and, if required by CEQA, mitigate all impacts. Additionally the Ports will evaluate and mitigate, where required, non-cancer health impacts.

There is precedent for establishing thresholds at these levels for any emissions increases associated with a new project. Both components of the Project Specific Standard are consistent with SCAQMD CEQA guidance. One challenge however is that the Ports do not wish to discourage early action by tenants to reduce emissions beyond regulatory requirements. Therefore, the ports will meet with SCAQMD and CARB to develop procedures by which early actions will be considered when evaluating projects under both the health risk and “fair share” criteria emissions reduction standards. It is against both the interest of the Clean Air Action Plan and the AQMP to discourage voluntary early action on emission reductions.

As also specified under the Project Specific Standards, the emissions from an individual project will be analyzed based upon its contribution to cumulative effects. The project contribution will be evaluated in conjunction with the Clean Air Action Plan and other federal, state and local adopted and/or implemented control measures to ensure that the contribution to cumulative effects will allow for the timely achievement of the San Pedro Bay Standards.

The Ports have established Source Specific Performance Standards to assist in Clean Air Action Plan implementation which lay out particular strategies to attain the ultimate goals. However, the Ports encourage innovation and will accept equivalent strategies once proven. The Source Specific Performance Standards proposed in the Clean Air Action Plan are:



#### HEAVY-DUTY VEHICLES/TRUCKS

- ✓ By the end of 2011, all trucks calling at the ports frequently or semi-frequently will meet or be cleaner than the EPA 2007 on-road PM emissions standards (0.01 g/bhp-hr for PM) and be the cleanest available NO<sub>x</sub> at the time of replacement or retrofit.

#### OCEAN-GOING VESSELS

- ✓ 100% compliance with the Vessel Speed Reduction Program [initially out to a distance of 20 nm from Point Fermin, and expanded to 40 nm].
- ✓ The use of ≤0.2% sulfur MGO fuel in vessel auxiliary and main engines at berth and during transit out to a distance of 20 nm from Point Fermin and expanded to 40 nm or equivalent reduction (starting 1<sup>st</sup> quarter 2008).
- ✓ The use of shore-power (or equivalent) for hotelling emissions implemented at all major container, selected liquid bulk, and cruise terminals in POLA within five years and at all container terminals and one crude oil terminal in POLB within five to ten years (the implementation time difference being due to the Port of Long Beach's more extensive infrastructure development schedule).
- ✓ The use of DPM and NO<sub>x</sub> control devices on auxiliary and main engines mandated on new vessel builds and existing frequent callers.

#### CARGO HANDLING EQUIPMENT

- ✓ Beginning 2007, all CHE purchases will meet one of the following performance standards:
  - Cleanest available NO<sub>x</sub> alternative-fueled engine, meeting 0.01 g/bhp-hr PM, available at time of purchase, or
  - Cleanest available NO<sub>x</sub> diesel-fueled engine, meeting 0.01 g/bhp-hr PM, available at time of purchase.
  - If there are no engines available that meet 0.01 g/bhp-hr PM, then must purchase cleanest available engine (either fuel type) and install cleanest Verified Diesel Emissions Controls (VDEC) available.
- ✓ By the end of 2010, all yard tractors operating at the San Pedro Bay Ports will meet at a minimum the EPA 2007 on-road or Tier IV engine standards.
- ✓ By the end of 2012, all pre-2007 on-road or pre-Tier IV top picks, forklifts, reach stackers, rubber tired gantries (RTG), and straddle carriers <750 hp will meet at a minimum the EPA 2007 on-road engine standards or Tier IV off-road engine standards.
- ✓ By end of 2014, all CHE with engines >750 hp will meet at a minimum the EPA Tier IV off-road engine standards. Starting 2007 (until equipment is replaced with Tier IV), all CHE with engines >750 hp will be equipped with the cleanest available VDEC verified by CARB.



#### HARBOR CRAFT

- ✓ By the second year of the plan, all Harbor Craft (HC) home-based at San Pedro Bay Ports will meet EPA Tier 2 for harbor craft or equivalent reductions.
- ✓ By the fifth year, all previously repowered HC home-based at San Pedro Bay Ports will be retrofitted with the most effective CARB verified NO<sub>x</sub> and/or PM emissions reduction technologies.
- ✓ When Tier 3 engines become available, within five years all HC home-based at San Pedro Bay Ports will be repowered with the new engines.

#### RAILROAD LOCOMOTIVES

- ✓ By 2008, all existing Pacific Harbor Lines switch engines in the Ports shall be replaced with Tier 2 engines equipped with 15-minute idling limit devices, retrofitted with either DOCs or DPFs, and shall use emulsified or other equivalently clean alternative diesel fuels available.
- ✓ Any new switch engine acquired after the initial Pacific Harbor Line replacement must meet EPA Tier 3 standards or equivalent to 3 grams NO<sub>x</sub>/bhp-hr and 0.023 g PM/bhp-hr.
- ✓ By 2011, all diesel-powered Class 1 switcher and helper locomotives entering Port facilities will be 90% controlled for PM and NO<sub>x</sub>, will use 15-minute idle restrictors, and after January 1, 2007 use ULSD fuels.
- ✓ Starting in 2012 and fully implemented by 2014, the fleet average for Class 1 long haul locomotives calling at Port properties will be Tier III equivalent (Tier 2 equipped with DPF and SCR or new locomotives meeting Tier 3) PM and NO<sub>x</sub> and will use 15-minute idle restrictors. Class 1 long haul locomotives will operate on ULSD while on Port properties by the end of 2007. Technologies to get to these levels of reductions will be validated through the Technology Advancement Program.
- ✓ Any new rail yard developed or significantly redesigned at the San Pedro Bay Ports shall be required to operate the cleanest available technology for switcher, helper, and long haul locomotives, utilize idling shut-off devices and exhaust hoods, use only ULSD or alternative fuels, and have clean only CHE and HDVs consistent with the Clean Air Action Plan.

As stated above, Project Specific Standards require all new projects to meet or be below acceptable health risk standards (<10 in 1,000,000 excess residential cancer risk threshold) and for projects that exceed the SCAQMD CEQA significance thresholds for criteria pollutants must implement the maximum available controls and feasible mitigations for any emissions increases.



*Final 2006*  
*San Pedro Bay Ports Clean Air Action Plan Technical Report*

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