

Status of Port of Long Beach Air Quality Improvement Projects

In response to a request by the Board, Planning has prepared the following summary of Air Quality Improvement Projects and will provide a presentation on this information at the May 17, 2004, Board Meeting. The Port of Long Beach, through the Planning Division, is engaged in a number of air quality initiatives that assess and address the impacts of port operations within the Port and surrounding community. A number of these programs have existed for several years, while others have been implemented more recently as part of the Air Quality Improvement Program approved by the Board of Harbor Commissioners on April 14, 2003. These programs, in total, constitute the air quality component of the Port's Healthy Harbor Program that is designed to improve the local environment and quality of life while accommodating the increasing local demand for international trade. The summary below highlights these programs, goals/benefits and status.

PETROLEUM COKE FALLOUT PROGRAM

Program Description: Construct infrastructure improvements to the petroleum coke bulk-handling facility to meet and exceed the requirements of Amended Rule 1158 and AB1775. In addition, conduct a 5½ year fallout monitoring study in downtown Long Beach to monitor the benefits as improvements came online.

Goals/Benefits: Reduce fugitive dust fallout in Long Beach that occurs through the handling, storage, and transfer of petroleum coke.

Status: Results of the Fallout Study to date show that the contribution of petroleum coke to fallout has been reduced to 3% from 21% in 1996. All infrastructure improvements have been completed.

SMOKE STACK EMISSIONS PROGRAM

Program Description: The Port of Long Beach has received complaints from tenants and Long Beach residents concerning damage caused by excessive smoke and soot fallout from vessel smoke stack "blows" at berth.

Goals/Benefits: Through a program of Harbor Patrol Officer training, vigilance, and enforcement as well as outreach and education to vessel masters, the Port seeks to substantially reduce the instances of smoke stack "blows".

Status: Harbor Patrol Officers have documented and forwarded several complaints to the South Coast Air Quality Management District for action and have reduced the overall number of incidents within the Harbor District. The officers are currently going through their regular training and testing required for the program.

VESSEL SPEED REDUCTION PROGRAM

Program Description: The program seeks to reduce air polluting nitrogen oxides, from transiting ocean-going vessels by requesting vessels calling on the Ports of Long Beach and Los Angeles to voluntarily reduce speed. A voluntary MOU was entered into by the Ports of Long Beach and Los Angeles, California Air Resources Board, Environmental Protection Agency, South Coast Air Quality Management District, Marine Exchange, and Pacific Merchant Shipping Association.

Goals/Benefits: The program has a goal to achieve vessel compliance rates in excess of 90%. At that level of compliance emissions would be reduced by approximately 10% or 3 tons per day.

Status: Current compliance levels are at approximately 50% with nitrogen oxides reduction of approximately 1 ton per day.

COLD-IRONING STUDY

Program Description: Vessels at berth (hotelling) produce 38% of the air emissions from ocean-going vessels. The Port of Long Beach examined the feasibility and cost effectiveness of providing shore power to a wide variety of ships that call at the Port. In addition, the study evaluated other strategies to reduce emissions from these vessels.

Goals/Benefits: The study sought to identify emission reduction strategies that could be implemented for hotelling vessels.

Status: The study has been completed and found that cold-ironing is feasible and cost-effective for a subset of the vessels calling at the Ports of Long Beach and Los Angeles. The study findings were presented to the Board of Harbor Commissioners on April 5, 2004.

VESSEL RETROFIT PROGRAM

Program Description: The Port of Long Beach is working with the California Air Resources Board's Maritime Air Quality Working Group to identify and implement a vessel emission reduction retrofit technology to be applied to vessels currently in operation.

Goals/Benefits: Vessel Retrofit Program seeks a technology that is cost-effective and can significantly reduce emissions of nitrogen oxides and particulate matter without increasing other pollutants.

Status: The Maritime Air Quality Working Group, composed of the California Air Resources Board, Environmental Protection Agency, California Ports, Air Districts, terminal operators, and vessel lines, is working with stakeholders to implement the pilot retrofit technology project in 2004.

DIESEL EMISSION REDUCTION PROGRAM

Program Description: The installation of diesel oxidation catalysts (DOCs) on Port tenant terminal equipment throughout the Harbor District and to provide incentives to use emulsified diesel fuel.

Goals/Benefits: DOCs reduce particulate matter emissions by 25% and when used with emulsified diesel reduce particulate matter in excess of 50% and nitrogen oxides by 20%.

Status: 600 DOCs have been shipped and installation is complete on approximately 400 units with installation proceeding on the remaining 200 DOCs. Approximately 160 pieces of equipment are being fueled on emulsified diesel. Annual emission benefits result in a reduction of 36 tons of NOx and 9 tons of PM.

HARBOR DEPARTMENT FLEET CONVERSION

Program Description: The Port of Long Beach seeks to reduce emissions from its own fleet of vehicles and equipment through the use of alternative fuels, hybrids, clean diesel fuels, and engine retrofits.

Goals/Benefits: Through the adoption of clean technologies the Port will achieve emission reductions of nitrogen oxides and particulate matter.

Status: Port Planning, Maintenance, and Security staff are currently working together to identify measures that could be implemented in the Port's small but diverse fleet. Implementation to date includes: purchase of two liquefied petroleum gas street sweepers, two compressed natural gas security patrol cars (with three more budgeted for next fiscal year), and the use of O₂ Diesel in Port diesel-powered equipment. This will reduce particulate matter emissions by 20% from all diesel Harbor Department equipment.

PORT OF LONG BEACH EMISSION INVENTORY

Program Description: In prior years, proposed AQMP regulations were based on emissions inventories for port-related activity that were grossly estimated. In cooperation with the CARB, AQMD, and EPA, the Port of Long Beach prepared a rigorous emissions inventory of all cargo-handling equipment in the Harbor District.

Goals/Benefits: The cargo-handling equipment emissions inventory will serve as a planning document and baseline for implementation of future emission reduction strategies including an air quality tariff.

Status: The emissions inventory has been completed.

LNG YARD HOSTLER DEMONSTRATION PROJECT

Program Description: Conduct a liquefied natural gas yard hostler pilot project to determine the technical, operational, and economic feasibility of using LNG equipment on a container terminal.

Goals/Benefits: The project would determine the feasibility of using LNG equipment on container terminals. If successful, the project would make available new emission reduction strategies for cargo-handling operations in the Port.

Status: Planning is working with CalStart and Mitsubishi to identify project needs, tenant participant, and determine project logistics.

CLEAN DIESEL FUEL FOR CONSTRUCTION EQUIPMENT PROGRAM

Program Description: The Port of Long Beach is identifying and implementing strategies to reduce emissions from Port construction projects. As a first step, the Port now requires that all construction equipment fueled on-site use ultra-low sulfur diesel fuel.

Goals/Benefits: The use of ultra-low sulfur diesel fuel will reduce emissions of particulate matter by 10% and sulfur by 90%.

Status: The Port is now requiring this in all bid specifications.

PACIFIC HARBOR LINE LOCOMOTIVE REPLACEMENT

Program Description: The Port of Long Beach is working with the Port of Los Angeles and Pacific Harbor Line (PHL) to replace PHL's old polluting locomotive fleet with cleaner locomotives.

Goals/Benefits: By replacing the PHL fleet with new, clean locomotives, nitrogen oxides emissions will be reduced between 90-100 tons per year and diesel particulate matter will be reduced by at least 1.4 tons per year.

Status: The Ports and PHL are reviewing a draft modification of the current Operating Agreement for the replacement of the PHL fleet with Tier 2 locomotives and the introduction of one Green Goat (Hybrid) locomotive and one LNG locomotive.

AIR QUALITY IMPROVEMENT TARIFF

Program Description: Planning, with the assistance of Trade & Maritime, has drafted a new tariff item that reduces emissions from all terminal equipment at our tenant’s facilities over three years.

Goals/Benefits: By reducing NOx and PM emissions for each piece of equipment, the Port can continue to accommodate international trade while minimizing the impact to the local environment.

Status: The tariff language has been prepared and will be presented to the Board of Harbor Commissioners pending a legal opinion from the City Attorney’s office.