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San Pedro Bay Ports Clean Air Action Plan

Located in the South Coast Air Basin (SoCAB) in the state of California, the second largest urban area in the United States of America, the Ports of Los Angeles and Long Beach (collectively, the San Pedro Bay Ports) are situated in an area with the worst air quality in the nation. US regulatory agencies have identified ozone and particulate matter less than 2.5 microns (PM2.5) to be of particular concern with diesel particulate matter (DPM) as a surrogate for total emissions. This poses a serious risk to Southern California residents who live near the Ports, transportation corridors and other areas with high levels of diesel-related activity. The California Air Resources Board predicts that 70 percent of the potential cancer risk from toxic air contaminants in California can be attributed to DPM.

With the need to accommodate the rapid growth in trade and the increased demands of goods movement, the San Pedro Bay Ports recognize the necessity to reduce their "fair share" with respect to other sources in the South Coast Air Basin . In doing so, the Ports would have to address all maritime operations by implementing strategies that would substantially reduce diesel emissions from ocean going vessels, harbor craft, cargo handling equipment, trucks and locomotives.

In March 2006, an important partnership was formed between the Port of Los Angeles and the Port of Long Beach along with the South Coast Air Quality Management District, California Air Resources Board and the United States Environmental Protection Agency Region 9 to work jointly toward solutions to enhance air quality and the quality of life for the residents of Southern California. Collaborating as team, the partnership developed the San Pedro Bay Clean Air Action Plan (CAAP).

The Clean Air Action Plan sets forth an array of control measures and implementation strategies that the Ports will use to reduce public health risk from port/maritime operations. The five-year Action Plan includes performance driven goals, emission reductions, and budgetary needs. In addition, the Ports have created a Technology Advancement Program that will evaluate promising projects and technologies that will demonstrate effectiveness in port-related emission reductions. The Plan also includes a program to evaluate infrastructure and operational efficiencies.

The CAAP began implementation in 2007. Since that time, the Ports have worked with tenants and the railroads to implement the CAAP . To substantially address diesel emissions from trucks, the Ports have initiated the Clean Truck Program whereby older trucks are progressively banned from entering the Ports. By January 1, 2012, all trucks entering the Ports will be required to have 2007-compliant engines. The Ports continue to work with all concerned parties to develop this program and secure adequate funding to make it successful.

One of the most valuable aspects of the CAAP is that both Ports will combine resources and expertise to supplement the actions of the federal, state, and local regulators as necessary to implement cleaner technologies for various source categories.

Northwest Ports Clean Air Strategy

The Ports of Seattle and Tacoma in the Pacific Northwest of the United States and the Vancouver Port Authority in British Columbia, Canada are located in areas that meet federal, state, and local ambient air quality standards. Some areas in the region are expected to have difficulties in the future meeting stricter United States standards for fine particulate matter. To this end, the ports are committed to helping the region maintain compliance to protect the environment and public health.

As maritime operations grow, the Northwest Ports are successfully reducing air emissions by means of a voluntary and collaborative approach. Through the Puget Sound Maritime Forum, the Northwest Ports aim to proactively reduce diesel emissions voluntarily, in order to protect the environment and public health from the potential negative impacts of maritime-related emissions. The three Ports are currently working on the Northwest Ports Clean Air Strategy , a joint plan aimed to substantially reduce diesel particulate matter and greenhouse gas emissions. The plan will utilize the recently comprehensive Puget Sound Maritime Air Emissions Inventory as a baseline. Using proven emission reduction strategies successfully implemented by ports in the region, the plan proposes performance goals to reduce particulate matter by 70 percent from ships at berth and 30 percent from cargo handling equipment by 2010. The Northwest Ports Clean Air Strategy will also address emissions from port-related trucks, locomotives and harbor craft and includes long-term goals for additional emissions reductions.

For cargo and cruise ships that make regularly scheduled calls at the three Ports, the proposed 2010 performance goal calls for a reduction in particulate matter equivalent to what can be achieved by using cleaner distillate fuels while at dock. There is a 2015 performance goal for ocean-going vessels that calls for compliance with standards that the International Maritime Organization (IMO) requires. The Northwest Ports support the United States IMO proposal, to reduce emissions equivalent to a sulfur level of 0.1% or less for fuels burned by ocean-going vessels while operating in the coastal waters of the United States and Canada . If new performance standards are not adopted, the Ports agree to continue to work towards meeting these goals, recognizing that technology and fuel availability will impact shipping lines ability to achieve these goals.

For cargo-handling equipment, the proposed performance goal aims to reduce emissions through the use of ultra low sulfur diesel fuel with no more than 15 parts per million sulfur, a bio-diesel blend in addition to repowering with newer engines and/or through the use of advanced emission control technologies.

The three Ports are encouraging stakeholder groups to help implement emissions reduction measures and formally sign on as partners.

Port of New York and New Jersey Clean Air Initiatives and Harbor Air Management Plan

The Port of New York and New Jersey , the largest port complex on the East Coast of North America, is located in the Atlantic Northeast of the United States within the USEPA-designated New York/New Jersey/Long Island Non-Attainment Area (NYNJLINA) for Nitrogen Oxides (NOx). Portions of the NYNJLINA are unlikely to meet federal ambient air quality standards for fine particulate matter as new stricter US standards come into place.

The Port Commerce Department of the Port Authority of New York and New Jersey (PANYNJ) is a landlord for six marine cargo terminals. Dedicated to Environmental Stewardship as one of its key business objectives, the Port Commerce Department is committed to promoting air quality enhancement efforts as it accommodates growing cargo volumes to satisfy the needs of the largest consumer demand region in the United States . In order to be successful, the Port aims to be a sustainable port, by promoting regional prosperity, financial return and the dual imperatives of security and the environment.

PANYNJ has adopted a proactive strategy to improve air quality that involves compliance with existing regulations, exceeding all mitigation requirements and undertaking voluntary initiatives to reduce air emissions. The Port Commerce Department has implemented an Environmental Management System to ensure compliance with air quality laws and regulations. In addition, there are initiatives underway to offset NOx emissions generated during channel-deepening construction that will exceed regulatory requirements. The Port Commerce Department also has several on-going voluntary, collaborative efforts that are evaluated for their ability to reduce air emissions and cost effectiveness.

For example, a cargo handling equipment (CHE) emissions inventory undertaken to assess the impact of our container terminal tenants' voluntary modernization of CHE and use of cleaner burning fuels showed a greater emission reductions across the full spectrum of pollutants despite a 25% increase in cargo handled. A subsequent emission inventory of vessels dwelling at these same facilities showed that they contributed a small percentage of overall pollutants in the non-attainment area.

In order to meet growing cargo demands, the Port Commerce Department is investing nearly two billion dollars over the next decade to reconfigure existing terminals, deepen the harbor's channels and berths and improve inland access by rail and barge. This investment will create an efficient and cost-effective port, while also reducing local congestion, enhancing air quality and conserving energy. Improvements include installing infrastructure to support electric-regenerative cranes, and significantly enhancing on-dock and regional rail capabilities. In addition, our marine tenants are investing heavily in gate improvements, electric cranes, yard equipment modernization and use of cleaner fuels, all of which enhance air quality. The Port Commerce Department, along with its tenants, public agencies and private partners collaborate on voluntary efforts to field test new off road technologies and develop clean equipment prototypes, such as active diesel particulate filters and hybrid yard tractors. Collaborative efforts that go beyond the immediate port area include working with the EPA, state regulators and port members of the Northeast Diesel Collaborative to develop voluntary regional strategies and USEPA's Clean Ports Program to help develop voluntary industry wide initiatives.

Rijnmond Regional Air Quality Action Program Port of Rotterdam

Air quality in Rijnmond among other regions in the Netherlands , has improved over the last 30 years. However, according to recent figures, emissions have increased beyond their limit values. The increase in emissions poses a serious risk to spatial and economic development and can adversely affect public health. Projections show that emissions for particulate matter (PM) and oxides of nitrogen (NOx) in the Rijnmond region will exceed European air quality standards set for 2010 if actions are not taken to reduce air pollution.

To address Rijnmond's growing air quality problems, the ROM Rijnmond Executive Council (BOR) has united in a partnership with administrative authorities to develop a package of measures to mitigate air pollution in the Rijnmond region. Better known as the Rijnmond Regional Air Quality Action Program, the program builds upon existing clean air programs. The combination of air quality programs include; Rotterdam's Approach to Air Quality, the Air Quality Master Plan developed by BOR, the Air Quality Plan of Approach by the Rotterdam Metropolitan Region, and the Plan of Approach to Air by the Rotterdam Port Authority.

Through the Top Management Steering Committee on Air, a committee comprised of leaders from all participating parties under BOR, commissioned the DCMR Rijnmond Environmental Agency to develop the Rijnmond Regional Air Quality Action Program. The program is carried out in close coordination with the participating administrative authorities and other parties such as members from the business community. In order to establish greater uniformity for measuring and calculating control measures, the Top Management Steering Committee on Air organized five task groups to focus on different source categories. The five task groups were divided into the following groups; road traffic, shipping, railway, industry and households. Each of the sources identified by the Committee, account for 90% of the emissions in the region.

Clean air strategies were evaluated by the impact on air quality, costs, feasibility, side effects, and time frame. Efforts from the five task groups resulted in 100 different strategies of which 34 were selected as most promising. The proposed strategies aim to impact air quality both in a local and regional manner. Local measures included strategies such as shore side power for ocean-going vessels and low emission zones in urban centers. Regional measures included pushing for stronger EU regulations. The 34 promising strategies are prioritized for implementation through a phased approach, which include: immediate, near-term and long term implementation.

There are a number of recommended strategies that aim to reduce emissions related to goods movement. The following strategies relate to port/maritime activities.

Shipping:
- Support for existing and future policies and legislation;
- Shore side electricity; and
- Development and implementation of emission control technologies.

Trucks and Road Haulage:
• Intelligent loading;
• Clean vehicles; and
• Clean vehicle technology.

Rail:
• Conversion of diesel to electric long haul locomotives and
• Cleaner EU emission standards for locomotives

The consultation in the task groups has contributed to creating support among the parties involved. Consultation between the parties has also contributed to a better mutual understanding and provided tools for reaching joint agreements more quickly. The Rijnmond Regional Air Quality Action Plan also includes a communications and outreach approach to encourage the public to participate in environmentally friendly practices that promote cleaner air.