

Mobile Sources Technical Review Subcommittee Ports Subgroup Meeting Notes

March 8, 2005
Washington, DC

Purpose

The purpose of this meeting was to discuss diesel emissions reduction strategies and incentives, discuss the current status of the workgroup, and make recommendations for future actions.

Status Report

Michael Block (NESCAUM, co-chair) and Trish Koman (EPA, co-chair), reviewed the Clean Ports program schedule and status. Trish Koman indicated that the entire Retrofit Workgroup final recommendations are due to the Mobile Sources Technical Review Subcommittee by their next meeting in early September. The Ports section of the report will be brief, only about 20 pages, and will mainly list the recommendations for the agency. This report will not, however, be the only product from this sector. Other products include the Corpus Christi Workshop Report produced by Stratacomm, and the report entitled "Emission Reduction Incentives for Off-Road Diesel Equipment Used in the Port and Construction Sectors" produced by ICF Consulting, Inc. Dick Gibbs (NY DEC) suggested that the group work backwards from the end-product deadline in order to ensure that the schedule meets the charge of the work group.

Clean Ports USA Workshop

The group discussed the recent Clean Ports USA workshop held in Corpus Christi, TX. Meredith Martino (American Association of Port Authorities) indicated that the AAPA was pleased with the turnout and the degree of participation. There was a good mix of participants, and the ports representatives were pleased to have an opportunity to provide input in this process.

Trish Koman indicated that the workshop report is available on the Ports section of the Clean Fleets website (www.cleenfleetsusa.net). She encouraged work group participants to review the report and provide comments to her if they find any errors. Michael Block and Trish Koman acknowledged the corporate sponsors of the Corpus Christi workshop.

Some of the ports representatives who participated in the Corpus Christi workshop were asked to give a brief summary of the programs that are underway or planned to reduce diesel emissions in their ports.

The Clean Ports group held a meeting a year ago as part of the 2004 Retrofit Conference to kick off the diesel cooperative. One-pagers are available on the Clean Fleets website in addition to the following summaries.

Port of Seattle

Barbara Cole (Port of Seattle) described programs in the Port of Seattle. As a landlord port in an attainment area, Seattle's circumstances are different from many other ports. Ms. Cole emphasized that it's important to understand that each port has a unique set of circumstances and constraints. Seattle is a very diverse port, including cruise ships, cargo ships, an airport, and a very large fishing fleet.

To date, the port has not had to do very much to reduce emissions because they are an attainment area. However, because there is now a public health concern with diesel PM emissions, the port is working on voluntary reductions. The port is working closely with Environment Canada, and sister ports on a detailed comprehensive inventory for the Strait of Juan de Fuca area. It is also working with Canada and Princess Cruise Lines on a cold-ironing program, whereby the cruise ships will use shore power instead of their auxiliary diesel engines to provide for the ships' electricity needs while in port. This involves retrofit costs both for the dock and for each vessel. Under this program, Princess Cruise Lines will be the first cruise line to plug in at both ends.

The port has an alternative fuel program for some airport equipment, including ultra-low sulfur diesel (ULSD) and natural gas. They are also working with tenants to retrofit diesel cargo-handling equipment, to develop anti-idling programs, and to use on-road fuel in lieu of off-road diesel for harbor craft. They emphasize collaboration, since there are no regulatory hammers.

Port of Long Beach

Thomas Jelenic (Port of Long Beach) gave a brief discussion of programs at Long Beach. The impetus for this program was the Multiple Air Toxics Exposure Study (MATES II) performed by the South Coast Air Quality Management District (SCAQMD) several years ago, which estimated that 70% of the health risks in the area come from diesel particulate.

The Port's diesel emission reduction programs include alternative fuels and clean diesel, operational improvements, and vessel emission reductions. The California Air Resources Board (CARB) NO_x & PM Mitigation Fund has partially funded these efforts.

The alternative fuels program includes:

- Using emulsified diesel fuel in all equipment
- Installing diesel oxidation catalyts (DOC) on all terminal equipment
- Negotiating with an operator to open a liquefied natural gas (LNG) terminal at the Port to Provide customers throughout the region with the alternative fuel.

Operational improvements include:

- Developing an Emissions Inventory for Cargo Handling Equipment
- Converting port-owned vehicles to cleaner burning engines such as compressed natural Gas and hybrid/electric and installing pollution control devices such as DOCs on heavy-duty maintenance equipment operated by the Port.
- Developing a tariff requiring tenants to prepare plans to significantly reduce PM and NO_x emissions by 2008.
- Upgrading freight trains from below Tier 0 standards in some cases to Tier II standards. The Port of Long Beach and the Port of Los Angeles would each contribute 25% of the cost to upgrade, and locomotive companies would contribute the additional 50% of the cost.

Vessel emission reductions include:

- considering requiring distillate fuels for all ocean-going vessels and emulsified oil for diesel vessels. Mr. Jelenic indicated that the biggest problem in controlling port emissions is from ocean-going vessels.

- looking at some cold ironing programs^a, including possible lease language that would require 100% cold ironing of docked vessels.

Barbara Cole commented that the Port of Seattle strongly supports the SO_x emission control area (SECA) scheme to slash bunker-fuel sulfur to 15,000 ppm, down from the current 45,000-ppm sulfur limit for bunker fuel. Long Beach is working with other ports to explore a potential SECA designation, which would limit the sulfur content of bunker fuels on the Pacific Coast, or in the entire North American region. Trish Koman indicated that there is broad interest in a proposed SECA but that there are many procedural steps such as Congress ratifying Annex VI that must occur first. .

New York and New Jersey

Joe Monaco (Port Authority of NY & NJ) summarized diesel emission reduction programs in New York and New Jersey. This is a landlord port so most initiatives are voluntary programs, and include the following:

- \$600 million allocated to port and rail improvement
- Electrification of cranes by purchasing new equipment, or creating the infrastructure (\$100 million worth) to install cranes purchased by others
- Reducing truck congestion by using electronic gates, relocating gates, and extending hours
- Working to provide alternatives to trucking with an efficient barge and rail network

Mr. Monaco emphasized that these programs are win-win situations: they benefit the environment, and they are also good business decisions. As the port authority and its tenants upgraded or replaced equipment, they considered environmental and economic factors in their renovations.

The Port Authority has been impacted by federal regulations as well. In order to allow for dredging to deepen the harbor, it needed to find an offset for NO_x from the dredges. To achieve this offset, they are re-powering tugboats and retrofitting Staten Island ferries with low-NO_x engines.

The port has surveyed operators on the initiatives they are taking, so that each can take advantage of the experience of their counterparts. Operators are replacing off-road yard equipment with engines that meet onroad standards, and also modernizing their fleets. They have inventoried emissions before and after these changes. The initial inventory was done with the goal of showing that port emissions were lower than was being assumed in the overall SIP inventory. This didn't work out as they expected, and resulted in the implementation of the various voluntary programs to reduce diesel emissions. A follow-up survey was done to demonstrate the reductions achieved by these programs. The new inventory showed a 31% decrease in NO_x emissions, and 32% decrease each in VOC, CO, PM₁₀, and SO_x. This occurred despite increases in operations: a 19% increase in number of pieces of equipment, a 5% increase in the hours of operation, and a 25% increase in the number of containers handled at the port. He added that on average, the Port Authority and tenants used 1999 model year equipment.

Wayne Pighin (APM Terminals) discussed voluntary projects in NY/NJ from the standpoint of the operator. APM Terminals generally chooses engine replacement over retrofit to reduce diesel emissions. There are a number of reasons for this choice. First, the equipment receives heavy use, making new equipment preferable to retrofits which may not last long. The

^aCold-ironing refers to ships using electric power rather than internal combustion engines while at berth. Normally, vessels shut off their main engines but use auxiliary diesel and steam engines to power refrigeration, lights, pumps, and other functions.

new equipment also offers additional benefits such as improved safety features, and improved system integration.

APM Terminals also uses on-highway instead of off-highway engines. They can distribute fuel that meets national on-highway standards for a number of uses. The on-highway fuel also has the benefit of improving fuel economy. They did not initially expect this, but they found that fuel usage was reduced by 20% over a 2-year period. The incremental cost of using on-highway engines is about \$2,000-3,000, depending on engine size. But the on-highway engines also have a better warranty than off-highway engines. The on-highway engines also fit better with some port applications. For instance, off highway engine did not work well with the transmission for an on-terminal tractor. The duty cycle fit better with an on-highway vehicle engine than with a high RPM engine designed for stationary applications.

Paul Bubbosh (EPA) asked if NY and NJ have gotten credit for the port's reductions. Joe Monaco indicated that the ferry retrofits and tugboat re-powering were credited as an offset against the dredging emissions. However, aside from this, the other measures are strictly voluntary. Mitch Greenberg indicated that there may be other opportunities for credit, specifically with the use of automatic idling shut-down features included in on-highway engines.

Barbara Cole stated that there is a need to look at ways of credit banking, since these programs are getting some of the less expensive emission reductions. Thus, only the more expensive options will be available if the port needs to achieve emission reductions at a later date.

Paul Bubbosh indicated that under SIPs, ports will not be penalized for reducing emissions early. They can still get credit for voluntary reductions.

MARAD

Daniel Yuska (DOT Maritime Administration) discussed the projects that the U.S. DOT Maritime Administration (MARAD) will be working on during 2005. MARAD currently checking into developing an economic incentives program for ship transportation. This could be modeled after the Carl Moyer program in California. The idea was conceived in 2004, with the expectation that financing could become available in 2005. It is yet to be determined whether federal funds from MARAD could be used.

MARAD is also looking at emissions reduction possibilities with short-sea transportation; e.g., from truck carriers to container ships. They are also discussing installing an emissions reduction technology on a container ship. The technology is a water emulsification system for diesel fuel. There have been some problems, but they are hoping for a test in summer.

Wayne Pighin expressed interest in installing emissions reduction technology on a container ship. He commented that ships waiting in line to dock are still polluting. There is a need for improved fuel and on-board technology for these scenarios.

Barbara Cole asked if MARAD was considering international programs like SECA. Mr. Yuska replied that in general, MARAD supports international programs, but there are none on the table that address port emissions at this time.

Port of Los Angeles

In Los Angeles, surrounding communities are concerned about pollution from the ports, since operations are expected to increase dramatically in the future. The mayor of Los Angeles has put in place a policy of "no net increase" in port emissions despite the projected growth. This policy is implemented by a "no net increase" task force for port operations. The task force will identify operations that, if controlled, will decrease emissions from all port operations. The task

force has put together a report, and has received comment from Environmental Defense. The proposal will also be submitted to this subgroup.

Paul Kerkhoven (Natural Gas Vehicle Coalition) commented that the Voluntary Airport Low Emissions (VALE) program could be used as a model for voluntary emission reductions programs for seaports. The program started as a \$20 million demonstration program, and airports became interested because they were running into conformity problems. It has now been expanded to a \$300 million noise and air pollution program.

Discussion on the Incentives Report

Kathleen Bailey (EPA) discussed the report entitled "Emission Reduction Incentives for Off-Road Diesel Equipment Used in the Port and Construction Sectors" produced by ICF Consulting. The report identifies and evaluates different incentive programs that can be used to encourage voluntary emission reduction measures in the port and construction sectors. One reason that the two sectors have been combined is that the double digit growth of port operations also entails some construction. The report is available for review at www.epa.gov/sectors/ports/index.html. Port stakeholders are encouraged to submit comments by the end of March.

Ms. Bailey explained that this subgroup wanted a report outlining practical suggestions that could be implemented by ports and their tenants. APM Terminals provided feedback that helped her understand the win-win situations that could arise by making decisions that would benefit the environment and their business. Mr. Monaco commented that business risk analyses are needed if the report's goals are to be reached.

Ms. Bailey commented that many respondents support grant programs more than tax incentives. Gay MacGregor (EPA) indicated that EPA is interested in input on the potential structure of tax incentives. Ms. MacGregor commented that she is surprised at the level of support for grant programs, due to the high administrative overhead that comes with implementing such programs. Funding is also often a problem with grant programs. She indicated that there will be a call for funding sources other than from EPA if grant programs are implemented.

It was noted that California Assemblyman Alan Lowenthal has proposed a 5-point Clean Ports Bill (AB 2042), which includes giving preference to ships that use ULSD, and supports a "no net increase in emissions" approach. However, last year this bill was not supported by Governor Schwarzenegger because among other reasons it did not include incentives and how they would be paid for. There are another set of bills in California that try to address these issues.

Wayne Pighin cautioned that the increased price of fuel will complicate and possibly slow down efforts to encourage voluntary emission reduction measures. With the increased fuel prices, capital funds will be less available. In addition, the increased prices will also cause profits to erode, which will make the companies more cautious. He added that this is an industry-wide problem, affecting more sectors than just ports. Joe Monaco agreed, giving an example of a 50% federal subsidy that was offered to promote the purchase of electric ancillary equipment for airports in place of diesel equipment. The subsidy was made available just prior to 9/11, but after the shock of 9/11, airports have not had available matching funds due to increased security costs. Therefore, the subsidy has not been used.

Meredith Martino (AAPA) pointed out that mandatory security projects are taking up capital funds available for voluntary emission projects. However, some of these projects are expected to yield air quality benefits (e.g., gate improvements and idling time reductions). She emphasized the need to include air quality benefits in companies' analyses of improving operational efficiency and security.

Ms. MacGregor asked how important is the port staff time requirement to fill out grant forms or other paper work requirements. Ms. Martino indicated that the office staff time is not as important an issue as the shortage of money for funding projects. Barbara Cole and Wayne Pighin agreed. Ms. Martino indicated that having grant money earmarked only for air quality improvements would speed up these projects.

Ms. MacGregor indicated that although there appears to be a preference for grant money, EPA has found that it is not the most efficient way of making funds available for air quality projects. She noted that the burden for applying for the funds falls to people who aren't necessarily equipped to go through the application process. Although a cottage industry of grant writers is growing up, there is a question of whether this the most efficient way of selecting projects to fund. EPA is asking for input on other mechanisms; e.g., low-interest loan funds.

Tom Timbario (Emissions Advantage, LLC) stated that a hybrid compilation of funding options is sensible, perhaps allocable to airports or sea ports. He commented that in cities located in non-attainment areas with both air and sea ports, emission reductions at either port could mean the difference between attainment and non-attainment. He asked the group to consider a policy that could flexibly allocate funds to either port. There is not currently a mechanism for funding those types of projects.

Tom Jelenic stated that Los Angeles and Long Beach Ports have made great progress on cargo handling emissions, but the biggest remaining problems are ocean-going vessels and railroads. He asked where EPA is on the development of Tier III and IV standards for railroad equipment. Michael Block pointed out that the EPA regulations will not address the legacy fleet. That is the reason for the emphasis on voluntary measures for retrofit and repowering. Mr. Jelenic would like to see the next generation of technology for off-road equipment.

Mitch Greenberg asked about the possibility of bringing the importers (such as Wal-Mart, Target, etc.) into the funding loop. Tay Yoshitani (representing the National Association of Waterfront Employers) noted that although it may seem like the big importers account for half of the port traffic, they only account for less than 5% combined. He raised the possibility of a surcharge per container. But he also pointed out that the businesses in the cargo chain would not be happy about passing costs on to their shippers. Mr. Greenburg commented that it would be difficult to get even one company interested in port emission reduction programs. He suggested that a Port Municipal Bond may work better in garnering participation. He emphasized the need for creative ideas for funding.

Mr. Yoshitani applauded the efforts by Los Angeles and Long Beach, but indicated that these ports will probably be negatively impacted by the increase in costs. He commented that ports in general do not clear a large profit, and may be unable to invest in the infrastructure needed for some programs. He also said that ports are sensitive to the economy. For example, the 2003 longshoremen walkout shut the port down for 11 days, and negatively impacted Los Angeles and Long Beach.

Trish Koman asked what incentives exist for dreyage trucks. Mr. Yoshitani replied that trust fund money is available, but the window for applying for funds is small – once every 6 years – and often does not coincide with an operator's schedule for upgrading or replacing equipment.

Tom Jelenic stated that the "Gateway Cities" program has been an excellent program for upgrading old trucks.

Paul Bubbosh (EPA) asked whether a large shipper could use contract specifications that would require upgraded shipping equipment. Mr. Yoshitani stated this would be possible, since large shippers have a lot of clout and have a history of using it. For instance, Wal-Mart has recently mandated the use of Radio Frequency Identification (RFID) that verifies secure shipping.

There is a parallel in port security that provides green lanes for large shippers if they can verify that the cargo chain is secure. Mr. Yoshitani indicated that involving the large shippers in providing incentives is an idea worthy of discussion.

Tom Timbario and Wayne Pighin cautioned against tampering with the market, as there may be unforeseen problems with this type of approach. Universal specifications are needed that all stakeholders can agree to. Barbara Cole stated that competitiveness issues are critical and fragile. The longshore walkout caused ships to divert from California to Georgia very quickly, for example.

Leah Wood Pilconis from the Associated General Contractors of America (AGC) was asked to talk about the perspective of the construction industry on tax incentives. Ms. Pilconis indicated that the AGC has asked contractors what incentives are needed to retrofit equipment, and cost seems to be the most important factor. Oregon and Georgia have a tax credit for retrofit technology, but it has not had the desired effect. Industry representatives said that an “expensing” type system would be better. AGC, in conjunction with Kevin Brady of Texas, has drafted a proposed bill to allow immediate (1st year) write-offs of equipment retrofits. (This proposal will be discussed further in the construction breakout.) Retrofit technology would have to be verified by EPA and some specific emission reduction (e.g., 20%) would be required. (This analysis is summarized at www.constructionenvironment.org under “hot topics”).

Next Steps

Trish Koman indicated that there are a number of topics that the group will need need to talk through, so EPA will probably convene some conference calls over the next few months.