# House Transportation and Infrastructure Committee

## "Climate Change and Energy Independence: Transportation and Infrastructure Issues"

**May 16, 2007**

**Room 2167, Rayburn House Office Building**
**Washington, D.C.**

**Testimony of**


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**Before the**

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Good afternoon. My name is Linda Strout, and I am the Deputy Chief Executive Officer of the Port of Seattle. Today I am testifying on behalf of the U.S. members of the American Association of Port Authorities. AAPA represents all major public seaport agencies on the Pacific, Atlantic, Gulf and Great Lakes coasts. Thank you for the opportunity to testify today. Air emissions are an area of growing concern for U.S. public port authorities and the communities in which they operate, and reducing air emissions is a priority for the port industry.

The Port of Seattle and many AAPA members have been engaged in air quality improvement efforts related to seaports for several years; recently those efforts have grown to include greenhouse gases. Greenhouse gas emissions related to ports are primarily carbon dioxide formed whenever fuel is burned; efforts to reduce these emissions have therefore focused on increasing fuel use efficiency. Because of the prevalence of diesel engines in and around commercial seaports, port authorities are making efforts to reduce air emissions. Lowering the amount of diesel particulate matter, or DPM, and oxides of nitrogen, or NOx, and oxides of sulfur, or Sox, released into the air is of benefit to communities near ports, port workers and the sustainability of the natural resources needed to keep U.S. ports competitive in the midst of growing overseas trade.

Diesel engines power the yard equipment that handles containerized cargo, such as rubber-tired gantry cranes and yard hostlers, and they also power the trucks, rail engines and marine vessels used to bring cargo into and out of ports. While remarkably efficient and durable, these engines can be sources of air pollution.

Older engines are the biggest problems. While new on-road and off-road engines on land will be subject to more stringent regulations promulgated by EPA in the past six years, so-called "legacy engines" can operate for as many years as they are capable without meeting the stricter standards of the present. Replacing these engines is a costly proposition, as they often have many more years of useable life ahead of them. However, the air quality benefits are significant.

**Reducing Emissions from Legacy Engines at Commercial Seaports**

There are a number of ways to reduce emissions from diesel engines. One of the most popular approaches used by the port industry is that of refueling, or using a type of fuel other than conventional diesel. This may include the use of biodiesel, a biodiesel blend, ultra low sulfur diesel (ULSD), electricity or natural gas.

The Port of Seattle has recently opened a compressed natural gas station that fuels all port-owned natural gas vehicles and is open for ground transportation operators and others that make regular trips to the Sea-Tac Airport. All yard equipment at the port's two largest container terminals use ULSD or a biodiesel/ULSD blend of fuel. All of the port's diesel-powered vehicles are fueld by 99% biodiesel in ULSD. In addition, the Port has made biodiesel available at its Shilsole Bay Marina and all yard equipment at the port's two largest container terminals use biodiesel fuel. The other major container terminal operates its cargo handling equipment on ULSD. All of the port's diesel-powered vehicles are fueled by 99% biodiesel in ULSD.

Most of the diesel equipment used at the Port of Tacoma is also operated on ULSD. The Port of Tacoma and one of this major operators use biodiesel in all of their diesel equipment.

The Port of Long Beach is testing three liquefied natural gas (LNG) yard hostlers, which the port estimates will produce a 60 percent reduction in NOx and an 80 percent reduction in PM over conventional Tier II diesel engines.

Another type of repowering is that of using electricity in places where diesel had been used for fuel. The Port of Los Angeles has instituted Alternative Maritime Power, or AMP, for its China Shipping Terminal and plans to make all terminals AMP-ready as part of its joint San Pedro Bay Ports Clean Air Action Plan with the Port of Long Beach. At the Port of Seattle, Princess Cruises and Holland America ships now use shoreside power when they are in port. When ships use shoreside power, so-called "hotelling" emissions are drastically reduced. At most major seaports, including the Port of Seattle, the large cranes used to transfer containers between ships and terminals are all electric and ports usually provide plugs on terminals for powering refrigerated containers instead of using diesel engines.

However, shoreside power for ships is not a one-size-fits-all solution. It requires substantial infrastructure on the landside and retrofitting ships on the water side. It is not a cost-effective solution for ports where the same vessels do no call frequently throughout the year. There are other things that ships and ports can do to significantly reduce ship emissions besides AMP.

Using cleaner fuels is just one way that port authorities are reducing air emissions within their facilities. Repowering equipment that uses older, legacy engines has proven to be an effective strategy as well.

Within the facilities of the Port Authority of New York and New Jersey, APM Terminals has achieved significant reductions in emissions by using on-road engines in off-road equipment used for cargo handling. At the Port of Los Angles, APM terminals achieved significant reduction in emissions by equipment turnover and emissions reduction strategies including the

use of on-road engines on yard tractors, as well as the use of ultra low sulfur diesel for diesel equipment. It is estimated that despite a 13% increase in the number of pieces of equipment in the fleet and a 31% increase in cargo throughput from 2002 to 2005, cargo handling equipment emissions decreased between 77 and 84%. Much of this was due to use of on-road tractors. While on-road engines will not work in all applications, they provide significant emissions reductions when they are appropriate for off-road applications.

Another popular emissions reduction strategy in use at port authority facilities is that of retrofitting older diesel engines with a piece of after-treatment technology, such as diesel particulate filters, selective catalytic reduction systems or diesel oxidation catalysts. For example, the Port Authority of New York and New Jersey has retrofitted one of the Staten Island ferries with two types of retrofit technology to achieve a more than 70 percent reduction in NOx. The Port of Seattle has installed diesel oxidation catalytic converters on all eligible yard equipment at our container terminals. I want to thank the federal government for providing grant monies that have allowed us to retrofit this equipment. The project was funded by a combination of public private investment from the Port of Seattle, the US EPA, the Puget Sound Clean Air Agency and the private terminal operators.

## Addressing Emissions Outside Port Fencelines

Ocean going vessel owners and operators are taking steps that lower emissions too. Some like Westwood Shipping Lines have chosen engines that are certified to cleaner standards. The cruise industry in Seattle has agreed to use lower sulfur fuels in their main engines while in port. Many cargo lines, such as APM and APL at the Port of Seattle have also switched to much cleaner fuels.

Manufacturers of emissions control technology are also finding applications of after-treatment technology for vessel engines. A promising type of retrofit technology is the seawater scrubber, which significantly reduces sulfur and PM from vessel emissions. The Port of Seattle and the Vancouver Port Authority are currently working with Holland America Line and with US EPA, Environment Canada, the Puget Sound Clean Air Agency and others on a seawater scrubber demonstration project.

While port authorities are taking more proactive steps to reduce their emissions and in many cases are working with their tenants to achieve emissions reductions, these gains are happening primarily on the land sides of ports and harbors, within marine terminals. However, air emissions within port areas also come from sources outside port gates.

Truck and rail emissions, while not under the control of port authorities, can contribute to poor air quality in a port area. While new truck engines must comply with the EPA's on-road standards, older legacy engines can contribute a disproportionate amount of air emissions. While port authorities do not own the trucks that service their terminals and therefore cannot mandate when older engines are retired or whether they are retrofitted, many port authorities have taken steps to reduce idling at their gates. Another barrier to addressing truck emissions is the

prevalence of independent owner-operators, who often do not have the capital to upgrade their vehicles before the engines have become useless.

The Georgia Ports Authority has created an online WebAccess system that allows truck drivers to alert the terminal prior to their arrival and submit much of their gate transaction data ahead of their arrival. This system has reduced truck turn times by 30 percent and has realized a significant reduction in truck idling at the gate. The Port Authority estimates that their gate system saves a ton of NOx and 33 tons of carbon dioxide on a peak day.

In California, the Ports of Los Angeles and Long Beach recently unveiled a San Pedro Bay Ports Clean Air Action Plan, which has a significant component aimed at reduction emissions from independent trucks that call on the ports. Under the Clean Trucks Program, the ports will use their tariff authority to only allow operators using "clean trucks" to enter port terminals without having to pay a new Truck Impact Fee at the gate. The port will waive the fee for trucks that use EPA-standard 2007, or newer trucks, retrofitted trucks manufactured in 1994, or newer, or trucks that have been replaced through the Gateway Cities Truck Modernization Program.

This program will build on the successful PierPASS program, which uses a congestion pricing model that charges truck operators a fee to access the ports during peak hours. Since its operation in July 2005, the program estimates it has saved more than 5 million truck trips during daytime hours in Los Angeles and Long Beach. Slightly more than one third of all truck trips in and out of the two ports now occur during off-peak hours.

Addressing vessel emissions also remains a high priority for public port authorities. Because the majority of vessels calling on U.S. port facilities are foreign-flagged, they are not regulated by the EPA. The International Maritime Organization (IMO) sets standards for these vessels.

In 1997, the IMO adopted Annex VI of the International Convention for the Prevention of Pollution from Ships, or MARPOL. This treaty, which entered into force in May 2005, sets more stringent oxides of sulfur, or SOx, and NOx standards for oceangoing vessels. It also allows for the creation of Sulfur Emissions Control Areas, following the petition of individual countries or groups of countries and the approval of the agency. The US has recently proposed strengthening these requirements.

AAPA supports legislation to implement the MARPOL Annex VI treaty as quickly as possible. We applaud this Committee's leadership in the swift passage of H.R. 802 this Congress, and we urge the Senate to address the issue expeditiously as well. It is critical that the United States become party to this treaty, which is the necessary regulatory mechanism to mandate lower ship emissions. Implementation of MARPOL Annex VI is supported by the shipping industry as well as the port industry.

## Federal Support for Voluntary Efforts to Reduce Emissions

In order to more effectively reduce emissions on the landside of port operations, AAPA encourages Congress to fully fund the Diesel Emissions Reduction Act, or DERA. This

legislation, which was enacted as part of the Energy Policy Act of 2005, would allow for up to $200 million annually for the EPA to fund voluntary emissions reduction projects at ports, in construction equipment, in school bus fleets and in the movement of freight.

To date, EPA has funded 11 port-related projects with $1.9 million in federal funds and $2.5 million in matching funds. Some of the projects have included installing diesel oxidation catalysts on cargo-handling equipment at the ports of Philadelphia, Seattle, Houston, Tacoma and the Massachusetts Port Authority, as well as buying low sulfur fuel for cruise ships in San Francisco. US EPA grant funding also supported the landmark regional maritime emissions inventory for the Puget Sound region that was recently completed by a collaborative group of air agencies, industry, ports, and advocacy groups, which was led by Port of Seattle.

DERA funding addresses an important issue in the voluntary reduction of emissions: the high cost of replacing, retrofitting, refueling or repowering equipment that still has a foreseeable long life with its existing diesel engine. In most cases, because port authorities, terminal operators and other equipment owners are wary to incur a significant cost associated with lower emissions from equipment that is still useable for the immediate future, they are not as likely to undertake an emissions reduction project that will result in a net financial loss. However, grant funding through DERA makes an emissions reduction project less costly and therefore more attractive.

Another way the federal government can help reduce port-related air emissions is to pass legislation that would encourage short sea shipping by eliminating the double collection of the Harbor Maintenance Tax on domestic movements. Getting rid of a financial barrier to the coastwise movement of cargo will encourage shippers to move more goods by America's 'water highways,' thereby taking trucks off the interstates and reducing air pollution. AAPA wishes to commend Chairman Oberstar and Subcommittee Chair Cummings for their leadership in introducing H.R. 1499. We urge the Ways and Means Committee to act quickly on this bill.

## Port Industry Steps to Improve Environmental Performance

In addition to work being done at individual ports to reduce air emissions, the U.S. port industry is taking steps to help its members be more environmentally pro-active. Led by the Port of Seattle, AAPA adopted a resolution last fall in support of alternative fuels. Citing the recognition that alternative fuels can increase energy security and that diesel engines are generators of air pollutants and greenhouse gases, the Association resolved to "encourage member ports to use alternative and substantially cleaner conventional fuels, equipment with advanced pollution control technologies, efficiency improvements, and other strategies to increase energy independence, reduce air pollution, and contribute to domestic economic vitality where feasible and practicable."

The port industry is also taking steps to define and implement sustainability. Recognizing that ports need to ensure the natural resources, human capital and financial means for the future, AAPA has formed a Port Sustainability Task Force to define the issue for the industry and develop a plan to help ports enact sustainability policies and practices that protect the coastal

environment, their relationships with the communities in which they operate and their financial health.

## Conclusion

AAPA and its member ports recognize that the movement of cargo by water, while more energy- and cost-efficient than by air or by land, has an environmental impact on port communities while bringing with it tremendous economic benefits. But U.S. ports are taking steps, collectively and individually along with their tenants and customers, to reduce air emissions for the benefit of their communities, workers and regions. The federal government can help the port industry by enacting legislation to implement MARPOL Annex VI, which will address emissions from oceangoing vessels, and by fully funding the Diesel Emission Reduction Act, which will help port authorities voluntarily reduce emissions from legacy diesel engines on the landside of operations.

I want to add a Port of Seattle request before I close. The older trucks coming into our terminals are one of the biggest barriers to even more emissions reductions. I would like to work with the committee on a program that would allow these older, more polluting trucks to obtain retrofit assistance. The Port of Seattle intends to work with AAPA on creating a formal legislative proposal.

Thank you for the opportunity to testify today, and I look forward to answering any questions you may have.