

**PORT OF SEATTLE**  
**MEMORANDUM**

**COMMISSION AGENDA**

	Item No. <u>7b</u>
	Date of Meeting <u>August 28, 2007</u>

**DATE:** August 22, 2007

**TO:** Tay Yoshitani, Chief Executive Officer

**FROM:** *SCS* Stephanie Jones, Senior Manager, Seaport Environmental Programs

*BC* Barbara Cole, Senior Environmental Program Manager

**SUBJECT:** Resolution No. 3585, Second Reading and Final Passage, A Resolution of the Port Commission of the Port of Seattle Endorsing the United States Proposal to the International Maritime Organization (IMO) Seeking More Stringent Air Emissions Standards for Ocean Going Vessels

**BACKGROUND**

The Port of Seattle is committed to responsible environmental stewardship and has taken leadership role on a number of important air quality and other environmental issues by managing Port facilities and operations in a manner that protects human health and the environment while providing economic benefits to the region. The Port and many Seaport customers and tenants are doing the same by buying new equipment with cleaner engines, switching to alternative less polluting fuels, retrofitting older equipment with advanced pollution control devices and investing in infrastructure, technologies and operating practices that increase efficiency and reduce emissions of air pollution and greenhouse gases.

**Liner Shipping Industry and Puget Sound Clean Air Agency Support**

The shipping industry has expressed strong support for provisions to require cleaner standards for ocean going vessels but asserts that it must be done on a global basis for legal and practical reasons. The World Shipping Council (WSC) and Pacific Merchant Shipping Association (PMSA) have endorsed the US proposal to the International Maritime Organization (IMO) seeking more stringent air emissions standards for ocean-going vessels. The WSC announcement of support notes includes the following statement, "The WSC and our members have reviewed the U.S. government's IMO proposal and concluded that it is technically sound and represents an effective environmental solution to the issue of air pollution from ships. It is by far the most comprehensive, detailed and environmentally effective proposal dealing with this issue that has been proposed by any government at the IMO. As a result, the liner shipping industry has determined to publicly endorse and actively support the initiative." John McLaurin, the President of PMSA said, "The U.S. EPA initiative to set international emissions standards for ocean going vessels is a welcome step for all who are working to reduce worldwide maritime emissions." The Puget Sound Clean Air Agency also supports the U.S. IMO proposal.

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### **Importance of Diesel Emission Reductions**

The Port of Seattle has implemented a slate of air pollution prevention projects and programs, and is participating in several collaborative projects, to further reduce emissions from maritime sources. The Port is a recognized leader in seaport air pollution prevention nationwide, especially development of effective voluntary collaborative approaches.

Diesel emissions are a growing concern for public health and reduction of diesel emissions is a top priority of the Port of Seattle and other major seaports in the region, the Puget Sound Clean Air Agency, the Washington Department of Ecology, the United States Environmental Protection Agency (EPA), the American Lung Association and other organizations. Diesel engines are also significant sources of greenhouse gases and pollutants that reduce regional visibility, contribute to acid deposition and harm ecosystems and crops. Ocean going vessels operating in King, Pierce, Kitsap and Snohomish Counties in 2005 emitted:

- 8% of the total diesel particulate matter (DPM) emitted in the area and 29% of the total DPM emitted by maritime-related sources in the area;
- 0.26% of the total oxides of nitrogen (NO<sub>x</sub>) emitted in the area and 23% of the total of NO<sub>x</sub> emitted by maritime-related sources in the area; and
- 28% of the total sulfur dioxide (SO<sub>2</sub>) emitted in the area and 84% of the SO<sub>2</sub> emitted by maritime-related sources in the area.

In addition to the Port's commitment to prevent air pollution to be a good neighbor and protect human health and the environment, there are good business reasons to do so. The attainment status of the Puget Sound region has resulted in a competitive advantage to the Port of Seattle. Most other major seaports in the United States operate in areas with air pollution at levels that fail to comply with ambient air quality standards. Noncompliance results in expanded regulatory requirements that can delay project schedules and increase costs for seaport operations. Related health concerns can also result in legal challenges.

### **PREVIOUS COMMISSION ACTIONS**

- 1) The Commission authorized the Chief Executive to execute the MOA with other organizations and to conduct a category C selection process and award a Professional Service Agreement not to exceed \$500,000 for the Puget Sound Maritime Emissions Inventory Project. The Commission also authorized expenditures for air quality program development under the annual budgeting process, including funding for the air emissions inventory project and analysis as part of the Port's 2005, 2006 and 2007 operating budgets. Additional port funding is not being requested.

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- 2) On February 8, 2005 the Commission adopted Resolution No. 3534, Expressing Commitment to Maritime Air Quality.
- 3) Commission motions on February 16, 2007 affirmed the Commission's commitment to assuring the Port is developed and operated in a sustainable manner as the economic vitality of the region is enhanced by Port business growth. The Commission directed staff to continue to serve as a leader in environmental stewardship and remediation, particularly in the areas of marine air emissions reduction and the protection and enhancement of water quality and marine habitat. With regard to air quality the Commission specifically directed staff to complete current work with the Puget Sound Clean Air Agency and the Ports of Tacoma and Vancouver, B.C. to develop a joint action plan including goals and commitments for significant reductions in air emissions across transportation modes; including but not limited to ships, on-dock equipment and drayage trucks, by the end of 2007. They also commended staff for requiring the cruise industry to reduce air emissions by use of shore power or low sulfur fuel while in port and directed continued work with the cruise ship industry to develop cost-effective alternative methods of reducing ship air emissions even further.

### **Port of Seattle Ocean Going Vessel Air Pollution Prevention Actions and Projects to Date**

The Port of Seattle staff has worked collaboratively with local, state, federal and international agencies as well as our tenants and customers on the following voluntary collaborative projects and initiatives that have reduced emissions from ocean going vessels. Carriers with vessels calling in Seattle are also engaged in pilot air projects elsewhere that can be expanded for use in Seattle if the results are as positive as anticipated.

- *Northwest Ports Clean Air Strategy* - The Ports of Seattle, Tacoma and Vancouver, BC issued a draft joint strategy to further reduce emissions from port-related sources, including ocean going vessels that will be brought to the Commission for approval later this year. This strategy should be finalized by the end of 2007. The Port is also participating in the new Pacific Seaports Clean Air Collaborative. Maritime operations are expected to continue to grow through time. The on-going commitments by the Port of Seattle and other organizations with maritime operations to minimize pollution will be essential to assure clean air in the region.
- *Puget Sound Maritime Air Emissions Inventory* – The Port of Seattle initiated and served as the project manager for the Puget Sound Maritime Air Emissions Inventory which was developed by members of the Puget Sound Maritime Air Forum to provide a detailed baseline of maritime-related air emissions in the greater Puget Sound region. Effective focus of air pollution prevention resources requires a good understanding of the nature, location, and magnitude of emissions from maritime-related operations including ocean-going vessels, harbor vessels, trucks, buses, locomotives, light-duty vehicles and cargo

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handling equipment. The purpose of this emissions inventory is to provide scientifically valid data to aid in the planning and prioritization of pollution prevention investments in the region. The Emissions Inventory was the first major collaborative project of the Puget Sound Maritime Air Forum which was established and is being led by the Port of Seattle.

- *Cruise Vessel Shore Power Project* - Most Princess Cruises and Holland America Line cruise vessels home ported in Seattle now turn off their engines and “plug in” while calling to the Terminal 30 Cruise Facility, effectively reducing emissions to zero while at the dock. Princess Cruises and Holland America Line have each built shore side electrical infrastructure on the terminal and retrofitted vessels to be shore power compatible. Juneau, Alaska is the only other cruise port in the world that offers shore power to cruise ships. Princess Cruises and Holland America Line partnered with the Port of Seattle, Puget Sound Clean Air Agency, EPA and Seattle City Light to implement these projects.
- *Shore Power Provided at Terminal 91* - At Port of Seattle’s Terminal 91, shore power is provided to the various vessel types that berth there. For example, the large commercial fishing vessels that process fish in Alaska and make return trips to the area use shore power while at Terminal 91.
- *Cruise Vessel Seawater Scrubber Study* - The Port of Seattle is a partner on a study to determine the feasibility of using seawater scrubbers to remove pollutants from cruise ship diesel emissions. The Holland America Line's *MS Zaandam*, which will home port in Vancouver, B.C. in 2007, will test the seawater scrubbing equipment. This study is made possible with the generous assistance of a grant from the EPA/West Coast Diesel Collaborative and contributions from the Puget Sound Clean Air Agency and the Port of Seattle. Other funding partners in the study include: BP, Environment Canada, B.C. Ministry of the Environment, B.C. Clean Air Research Fund, and the Vancouver-Fraser Port Authority (Canada).
- *NorthWest CruiseShip Association Use of Low Sulfur Fuel* - The members of the NorthWest CruiseShip Association (NWCA) have committed to procure and use low sulfur fuel while at berth in Seattle and at sea in Washington, British Columbia and in Alaska waters. In support of this study, NWCA has received reports on fuel purchases from all the lines operating out of Seattle and reviewed those reports. The results show that the average sulfur content of fuel procured in Seattle was approximately 1.6% for the 2005 season. NWCA will continue to procure and burn low sulfur fuel while operating in the Pacific North West.
- *American President Lines* – American President Lines has committed to burning lower sulfur fuels in their vessel’s auxiliary engines while at dock.

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### **US IMO Position**

Revision of the international IMO treaty provisions that regulate air emissions from ocean going vessels are currently being negotiated. The US proposal is the most stringent to date and includes the following major provisions:

- Stringent new emission limits for particulate matter (PM) and oxides of sulfur (SO<sub>x</sub>) that would apply beginning in 2011 and 2012 to all ships that operate in specific areas defined under the treaty.
- Tier 2 emission limits for oxides of nitrogen (NO<sub>x</sub>) for new Category 3 propulsion engines (cylinder displacement greater than 30 liters) beginning in 2011 that would achieve a 15 to 25 percent NO<sub>x</sub> reduction.
- Tier 3 NO<sub>x</sub> emissions limits for new Category 3 propulsion limits beginning in 2016 that would apply when ships are operating in the PM/SO<sub>x</sub> geographic areas and would require the use of high efficiency catalytic after-treatment emissions control technology capable of achieving NO<sub>x</sub> emissions reductions of more than 80 percent.
- NO<sub>x</sub> emissions limits for existing engines (those built before January 1, 2000) that would achieve a 20 percent NO<sub>x</sub> emissions reduction; these standards would phase-in beginning in 2010 and 2012

### **Staff Recommendations**

Staff recommends that the Commission endorse the US proposal to IMO seeking more stringent air emissions standards for ocean going vessels and encourage the earliest practical promulgation and implementation to expeditiously reduce air pollution and greenhouse gases and contribute to worldwide economic vitality. The proposed resolution project and related air pollution prevention projects support the Commission's commitment to responsible environmental stewardship in the development and operation of Seaport facilities and services.

### **FINANCIAL IMPLICATIONS**

According to the Puget Sound Clean Air Agency, EPA analysis has concluded that there are at least ten dollars of benefits for each dollar spent on diesel retrofits. For new diesel engine standards EPA calculates much higher benefits, anywhere from 17 to 1 to 75 to 1 depending on the type of diesel engine. The resolution could result in substantially increased costs to ocean going carriers, but those costs would be uniform across the industry and globally applied. They would be included in the cost of doing business and paid for by consumers of related goods and services. The Port may have to provide infrastructure related to the treaty provisions, but may be able to recoup the clean investments in lease and other agreements with tenants and customers.

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A global approach to regulating air emissions from ocean going vessels would avoid competitive disadvantages for the Port that could result in diverted business.

**REQUESTED ACTION**

Resolution No. 3585, Second Reading and Final Passage, A Resolution of the Port Commission of the Port of Seattle Endorsing the United States Proposal to the International Maritime Organization (IMO) Seeking More Stringent Air Emissions Standards for Ocean Going Vessels.

RESOLUTION NO. 3585

A RESOLUTION    Of the Port Commission of the Port of Seattle Endorsing the United States Proposal to the International Maritime Organization (IMO) Seeking More Stringent Air Emissions Standards for Ocean Going Vessels

**WHEREAS**, the Port of Seattle and many other maritime-related organizations are committed to responsible environmental stewardship and have already taken leadership roles on a number of important environmental issues by managing facilities and operations in a manner that protects human health and the environment while providing economic benefits to the region, and

**WHEREAS**, a number of owners and operators of ocean going vessels have pioneered use of cleaner engines, fuels, and operational strategies; and

**WHEREAS**, diesel emissions are a growing concern for public health and reduction of emissions is a top priority of the Puget Sound Clean Air Agency, Washington Department of Environmental Quality, the United States Environmental Protection Agency and other organizations, and

**WHEREAS**, the Seattle area is currently in compliance with all local, state, and national ambient air quality standards, and

**WHEREAS**, any solutions focused on ocean going vessels should be addressed industry-wide and involve international associations to promote broad compliance and equal application of regulations, and

**WHEREAS**, any solutions focused on ocean going vessels applicable in only the United States or Canada could divert the emissions and economic benefits of the related business to a different community rather than reducing air pollution, and

**WHEREAS**, the maritime community in the Northwest is a recognized leader in collaborative efforts to promote economic vitality with environmental protection, and

**Whereas**, the Puget Sound Clean Air Agency supports the US proposal to the International Maritime Organization (IMO) seeking more stringent air emissions standards for ocean going vessels, and

**WHEREAS**, the World Shipping Council and Pacific Merchant Shipping Association have also endorsed the US proposal to the International Maritime Organization (IMO) seeking more stringent air emissions standards for ocean going vessels, and

**WHEREAS**, the United States proposal consists of:

- Stringent new emission limits for particulate matter (PM) and oxides of sulfur (SO<sub>x</sub>) that would apply beginning in 2011 to all ships that operate in specific areas defined under the treaty.

- Tier 2 emission limits for oxides of nitrogen (NO<sub>x</sub>) for new Category 3 propulsion engines (cylinder displacement greater than 30 liters) beginning in 2011 that would achieve a 15 to 25 percent NO<sub>x</sub> reduction.
- Tier 3 NO<sub>x</sub> emissions limits for new Category 3 propulsion limits beginning in 2016 that would apply when ships are operating in the PM/SO<sub>x</sub> geographic areas and would require the use of high efficiency catalytic after-treatment emissions control technology capable of achieving NO<sub>x</sub> emissions reductions of more than 80 percent.
- NO<sub>x</sub> emissions limits for existing engines (those built before January 1, 2000) that would achieve a 20 percent NO<sub>x</sub> emissions reduction; these standards would phase-in beginning in 2010 and 2012.

**NOW, THEREFORE, BE IT RESOLVED** by the Port of Seattle that:

Section 1. The Port Commission of the Port of Seattle endorses the United States proposal to IMO seeking more stringent air emissions standards for ocean going vessels and encourages the earliest practical promulgation and implementation to expeditiously reduce air pollution and greenhouse gases and contribute to worldwide economic vitality.

Section 2. The Port of Seattle encourages owners and operators of ocean going vessels to develop and implement plans to prevent and reduce air emissions from their own operations and the seaport industry as a whole such as early implementation of the strategies proposed in the United States proposal to the IMO.

Section 3 The Port of Seattle will continue its policy of applying its best efforts to work with the broad maritime industry, advocacy groups and regulators to help protect public health and the environment and ensure that the Puget Sound region continues to meet local, state and national ambient air quality standards.

**Adopted** by the Port Commission of the Port of Seattle at a regular meeting thereof, held this \_\_\_\_\_ day of \_\_\_\_\_, 2007, and duly authenticated in open session by the signatures of the Commissioners voting in favor thereof and the seal of the Commission.

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Port Commission