



San Pedro Bay Ports Ballast Water Treatment Initiative

**Environmental Management Division
Port of Los Angeles**

**AAPA
January 2009**

Program Background

- **Aquatic invasive species “exotics” can cause significant ecological and economic damage**
- **There are 46 exotic marine species in Los Angeles Harbor**
- **Ballast water from ships is a source of exotic species**

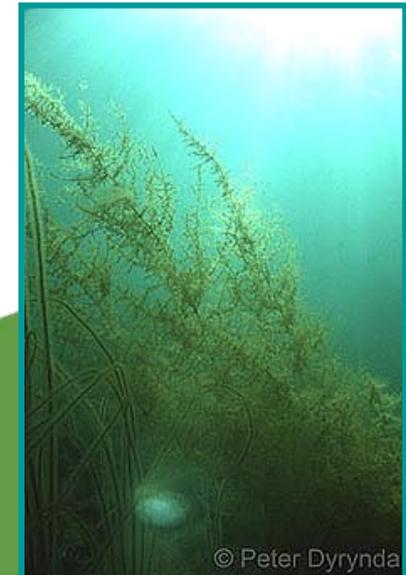


• **State and Federal Regulations require ballast water exchange at sea prior to discharge in port**

• **New developing on-board treatment systems may eliminate the need for open ocean ballast water exchange and may be more effective**

Ballast Water Treatment Initiative

- **The Ports of Los Angeles and Long Beach partnered with the California State Lands Commission and APL to fund a technology advancement initiative**
- **The goal is to support the development and testing of a viable on board ballast water treatment system**
- **A grant from NOAA was also available to support biological testing and evaluation**



Program financing

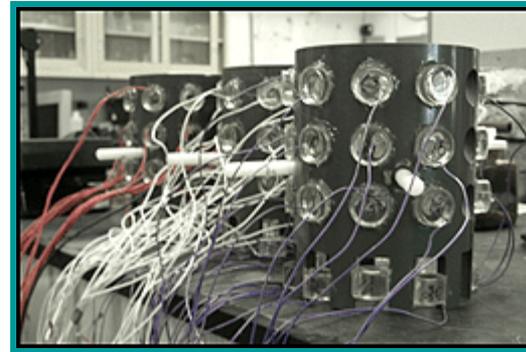
- **NOAA - Grant (testing) \$400,000**
- **State Lands Commission \$100,000**
- **Port of Los Angeles \$250,000**
- **Port of Long Beach \$250,000**
- **APL Engineering in-kind, additional dollars as necessary**



*Moving Business
Forward*

System to be Tested

- APL selected a system that strips the oxygen from the water using injection of an inert gas (Venturi Oxygen Stripping™)

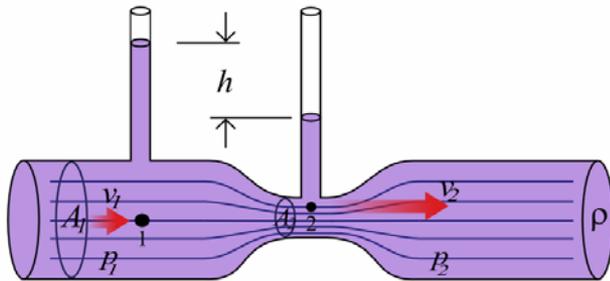


- The *M/V APL England* (5500 TEU), operating the trans-pacific route, was selected as the vessel to be fitted with the system



Features of VOS System developed by NEI Treatment Systems

- **Combustion gas used**
- **Cavitation mixing of inert gas with ballast water**
- **95% Reduction in Dissolved Oxygen kills organisms**
- **pH lowered to 6.0**



Progress

- **The multi-party agreement was executed in May, 2008**
- **The system vendor, NEI Treatment Systems, was contracted in August, 2008**
- **Installation began in October, 2008**



Prior pilot installation

Progress, continued



APL England being retrofitted to accommodate VOS system



Components being manufactured at Mitsubishi plant in Japan

Progress, continued



Next Steps

- **Complete installation tasks**
- **Crew training/safety procedures/system start up**
- **Enroll system in Coast Guard STEP program/
obtain necessary exemptions for operation
(concurrent)**
- **Operate system on trans-Pacific voyages and
conduct biological testing of efficacy**





Thank you