

Summary of Proceedings
Clean Ships: Advanced Technology for Clean Air
San Diego, California
February 7 - 9, 2007

I. Background

The Clean Ships: Advanced Technology for Clean Air Conference was held in San Diego, California, on February 7 - 9, 2007. The main organizers of the conference were the U.S. Environmental Protection Agency (EPA) and the Pacific Merchant Shipping Association (PMSA), with planning support from the U.S. Maritime Administration (MARAD), California and Washington ports, in particular the Unified Port of San Diego, the California Air Resources Board, and California Air Districts.

The following organizations and agencies provided substantial financial support for the conference: Advanced Cleanup Technologies, Inc. (ACTI), BP Shipping, California Air Resources Board, EPA's CleanPorts USA, Pacific Merchant Shipping Association, Port of Long Beach, Port of Los Angeles, Port of Oakland, Port of San Diego, U.S. DOT MARAD, APL, AP Moller Shipping Line, Bay Area Air Quality Management District, Evergreen Shipping Line, International Council on Clean Transportation, Matson Shipping Line, Port of Seattle, Port of Tacoma, Puget Sound Clean Air Agency, South Coast Air Quality Management District, Starcrest Consulting, California Association of Port Authorities, and Santa Barbara County Air Pollution Control District.

II. Topics

The major topics that the conference addressed were:

- National and International Regulations;
- Marine Port Air Quality Programs;
- Engine Technologies;
- Incentive Programs and Perspectives;
- Fuels and Alternatives;
- Air Emission Inventories; and
- Shore-Side Electrification.

The panels addressing these topics were drawn from all sectors of the shipping industry and regulatory agencies, including shippers, operators, port officials, and representatives of international, national, and regional shipping and air quality agencies. In their presentations and resulting discussion, panelists and moderators from all of these sectors expressed a consensus on the need to reduce air emissions from ships. Presentations are on the website as links from the agenda: <http://cleanshipsconference.com>.

III. Objectives

The primary objective of the conference was to encourage dialogue among maritime industry executives and professionals and government entities about new technological strategies to meet clean air goals. The conference was an opportunity for key decision-makers to understand what emissions control requirements they are likely to face, to consider the technological options available, and to learn what industry leaders have already done to meet the challenge of reducing ship emissions.

IV. Discussion

Ships are an efficient form of goods movement per container, but they are also the most polluting per ton of fuel used. With the substantial increase in the movement of goods (and forecasts of ever-increasing levels of trade), in the number of ships visiting U.S. ports, and in the increase of pollution at these ports, there is growing demand for uniform and consistent national and international regulations for ships rather than a patchwork of local requirements.

Conference participants generally agreed on the need for flexibility in approaches to addressing clean ship regulations. Among the possible approaches to reducing air pollution would be to reduce the sulfur in fuels; to improve technology in the main and auxiliary engines of ships; the application of SCR catalyst technology to substantially reduce NO_x emissions, the application of seawater scrubbing technology to reduce SO_x emissions, and to employ other strategies such as shore power at ports, reduced speed programs, and differentiated port fees or other incentives.

One notable approach offered at this conference was the restatement by Intertanko, the International Association of Tanker Owners, of its proposal for ships to switch to distillate fuel by 2010. In animated discussion, fuel industry representatives expressed disagreement with the proposal, citing, among other concerns, the impacts on global marine fuel supply and demand, and the increased production of CO₂. In responding to these comments, Intertanko reiterated its position and indicated that more work needs to be done on this issue by the International Maritime Organization.

V. Outcomes

General consensus was expressed by participants on the need for the following:

- Uniform, consistent and meaningful international and national regulations;
- Avoidance of patchwork of local requirements;
- Establishing goals without prescribing strategies to meet it;
- Development of ship emission inventories;
- U.S. ratification of IMO Annex VI; and
- Continuing dialogue among all sectors through future international conferences.