

Haagen-Smit Symposium  
Ships, Trains, and the Future of Goods Transport  
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Session 6 - Policy Levers for Reducing  
Emissions from Goods Transport

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# Overview

What Policy Levers Are Ports Facing that Trigger Air Quality Issues?

Overview Look at How Some Ports are Responding



# Overview

What Starts in California Typically Moves East & North



# Policy Levers

## Typical Policy Levers that Raise Air Quality Issues that Ports have to Address (Cont'd)

- Located in California
  - ✓ State Implementation Plans
    - Future Growth
    - Proposed Rules
  - ✓ Diesel Particulate as an Air Toxic
  - ✓ New Projects Going Through Environmental Impact Reviews
  - ✓ Risk Assessments
  - ✓ Community Concerns
  - ✓ Law Suits
  - ✓ General Conformity for Federal Expansion Projects

## Policy Levers

- State Implementation Plans – NOx (Early 1990's)
- Diesel Exhaust as Toxic – DPM (Late 1990's)
- MATES2 Diesel Health Risk Assessment Study Results - DPM
- Rising Community Concerns - DPM

## Port Strategies

- Started Working on Issues in Early 1990's as Part of SIP Consultative Process & Through MATES2
- Air Quality Improvement Program (Formalized in 2003)
  - ✓ Alternative Fuels, Clean Diesel, & Retrofits
    - \$2M POLB/ARB Cargo Handling Equipment Alt-Fuel & Retrofits
    - Pilot Projects Demonstrating New Technologies





## Port Strategies (Cont'd)

- Air Quality Improvement Program (Formalized in 2003)
  - ✓ Operational Improvements
    - Completed 2002 Baseline Emissions Inventory
    - Performed Traffic Studies to Evaluate Reducing Future Traffic Issues
    - Evaluated Emission Metrics & Forecasting
    - Attempted Tariff Approach Which is Non-Prescriptive (Port Does Not Have Authority to Implement)
    - Increase On-Dock Rail
  - ✓ Vessel Emissions
    - Completed a Cold-Ironing Evaluation
    - Signed Agreement w/BP for Shore-Side Power for Tankers
    - 2004 Board Resolution Calling for SECA



THE PORT OF  
LONG BEACH

## Policy Levers

- State Implementation Plans - NOx (1998)
- General Conformity – New Container Terminal (NOx)

## Port Strategies

- Engaged the 2000 SIP Development Process
  - ✓ Formed Broad-Based Maritime Air Quality Working Group
  - ✓ Completed 1997 Activity-Based Baseline HGA Marine Inventory
  - ✓ Completed 2001 Update to Marine Inventory
  - ✓ Developed Control Measures
  - ✓ Evaluated & Demonstrated New Technologies
  - ✓ Help Develop & Participated in Texas Emission Reduction Program (TERP)
  - ✓ Strong Participation in Local & State Emission Reduction Efforts
  - ✓ Tenant Training & Education



## Port Strategies (Cont'd)

- Bayport Expansion
  - ✓ General Conformity Requirements Met
  - ✓ Introduced Air Quality Requirements in Construction Contracts
  - ✓ EMS Commitment for New Terminal & Equipment Requirements
  - ✓ Equipment Standards
- 1<sup>st</sup> ISO14001 EMS Facilities
  - ✓ PHA Turning Basin & Barbours Cut Certified
- Expanding EMS to Other Terminals
- Fugitive Dust (PM) Study & Mitigation Projects
- Green House Gases
  - ✓ Completed 2004 Marine GHG Inventory





## Policy Levers

- General Conformity – 50' Harbor Deepening Project (2001)
- State Implementation Plan (NOx & PM)

## Port Strategy

- 50' Harbor Deepening Project – Largest General Conformity Project
  - ✓ Formed Collaborative Working Group w/USACE, EPA R2, NYSDEC, NJDEP, & NYCDOT – Know as the Regional Air Team (RAT)
  - ✓ 1<sup>st</sup> Conditional Statement of Conformity
  - ✓ Diesel Emission Reduction Findings Study
  - ✓ Completed 2000 NYNJLINACMVEI (Activity-Based Marine Baseline Inventory) & 2000 NYNJLINACHEEI (A-B Baseline)
  - ✓ Working w/NYCDOT to Install SCRs on the Staten Island Ferry Fleet
  - ✓ Repower of Tugboats
  - ✓ Working w/USACE & NYCDOT on Offset Strategies
  - ✓ Continued Support & Participation of RAT



## Port Strategy (Cont'd)

- Port Inland Distribution Network Study & Implementation
  - ✓ Container Barge Service from New Jersey to Albany
- Updated Completed 2004 Update to the CHE EI
- Education Outreach to Tenants & Ferries
- Green Ports Initiatives
- World Trade Center Rebuild



THE PORT AUTHORITY  
OF NEW YORK & NEW JERSEY



## Policy Levers

- Maintain Attainment Status
- Concern Over Green House Gases
- “Green” Culture



## Port Strategy

- Started Working on Air Quality Issues in Late 2003
- Formed a Broad-Based Maritime Air Quality Working Group Including Port of Tacoma, Port of Everett, Local/State/Federal Regulators, Washington State Ferries, PMSA, WSPA, American Lung Association, etc.
  - ✓ Developing a Comprehensive Emissions Inventory Project for Entire Puget Sound
  - ✓ Information Exchange
  - ✓ Joint Application for Grants to Support Initiatives

## Port Strategy (Cont'd)

- Reduction Initiatives
  - ✓ Princess Shore Power Project
  - ✓ Cargo Handling Equipment Emission Reduction Project
  - ✓ Port of Seattle-Tacoma International Airport Alternative Fuels Program
  - ✓ Marina Biodiesel B20
  - ✓ ULSD for Port Diesel Equipment
  - ✓ Terminal Efficiency Improvements (On-Dock Rail, Gate Improvements, Grade Separations, More Efficient Cranes, etc)
- Involved in West Coast Diesel Collaborative
- Involved in the EPA FACA Process
- Green House Gases
- Commission Passed Resolution In Support of a SECA



## Policy Levers

- State Implementation Plans – NOx (Early 1990's)
- Diesel Exhaust as Toxic – DPM (Late 1990's)
- MATES2 Diesel Health Risk Assessment Study Results - DPM
- Community Concerns – DPM
- China Shipping Law Suit
- Mayor's No Net Increase Policy

## Port Strategies

- Started Working on Issues in Early 1990's as Part of SIP Consultative Process & Through MATES2
- Tugboat Repower Projects & Carl Moyer Program
- Cargo Handling Equipment Retrofit & Emulsions
- Performed Traffic Studies to Evaluate Reducing Future Traffic Issues
- Alternative Maritime Power (AMP)





## Port Strategies (Cont'd)

- Alternative Fuel Cargo Handling Equipment
- Port Community Advisory Committee
- Completed 2001 Activity-Based Emissions Inventory
- \$20 Million Approved by Board of Harbor Commissioners for Near Term Emission Reduction Program
- Emissions Monitoring Network
- Extensive Evaluation of Emission Reduction Technology
- Vessel Speed Reduction Program



## Port Strategies (Cont'd)

- No Net Increase (NNI) Task Force
  - ✓ Broad-Based Task Force – Ground Breaking Effort
    - Technical Working Group – POLA, ARB, SCAQMD, PCAC Consultants
      - Emission Reduction Strategy Development
      - Emissions Forecasting
      - Emission Reduction Strategy Control Factors
    - Financial Working Group
      - Control Strategy Costing
      - Health Impact Estimates
    - Legal Working Group
      - Legal Authorities
  - ✓ Developed Over 60 Control Measures
  - ✓ Plan Still in Development



# Summary

Pollutant Progression: NO<sub>x</sub>  PM & GHGs

Several Ports are Proactively Working on Strategies to Reduce Emissions from Related Operations

Ports Have Responded to Policy Levers

Ports Communicate With Each Other on Successful & Unsuccessful Emission Reduction Strategies

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