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
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
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
- 1st 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 – Known as the Regional Air Team (RAT)
  - 1st 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
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: NOx → 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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