





Presentation by Thomas Jelenić **Environmental Specialist** April 24, 2006





#### Framework for Board Environmental Policies



#### **Adopted Policies**





Distinguish Port as Leader in Environmental Stewardship and Compliance



**Promote Sustainability** 





 Engage and Educate the Community







#### **Environmental Policies**

- Protect the community from harmful side effects of Port operations
- Distinguish Port as leader in environmental stewardship and compliance
- Promote sustainability
- Employ best available technology to minimize environmental impacts
- Engage and educate the community







**Programs** 











**Programs** 

### AIR





Metric: Emissions per ton of cargo handled

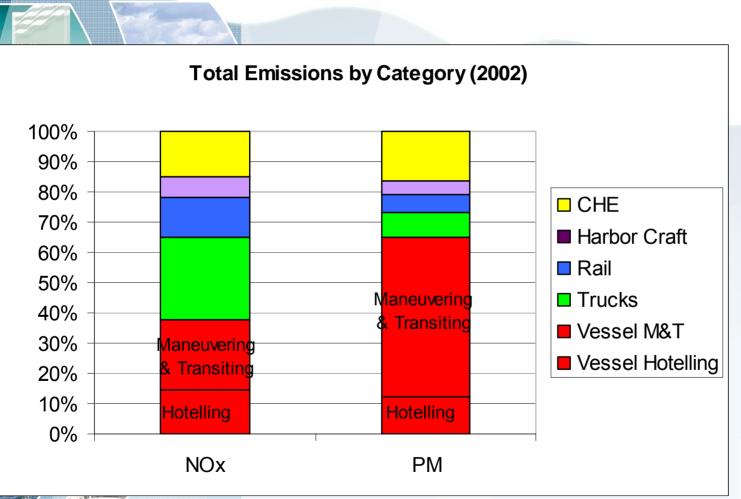
#### **Programs:**

- Cold Ironing/Shore side Electrification
- Smoke Stack Emission Control Program
- Vessel Speed Reduction
- Green Flag
- Vessel Retrofit Program
- Clean Cargo Handling Equipment
- Locomotive Replacement
- Truck Fleet Modernization
- Infrastructure and other strategies





#### Scope of the Problem











#### **Policy Implementation**



Leasing Policy Modifications







Reporting to Board and City Council on Regular Basis





#### **POLB Shore Side Electrical Power**

- Aimed at Hotelling emissions
- Voluntary program
- POLB shore side improvements
- BP retrofit vessels
- Minimum of 120 calls over 10 years
- BP responsible for all Operational costs





# Shore Side Power Challenges

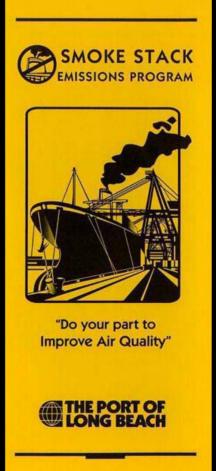
- Power Availability
- ElectricalInfrastructure
- WharfImprovements
- Vessel Retrofits
- Existing Leases





# Smoke Stack Emission Reduction Program

- Particulates from smoke stack blows when engine started up
- Complaints/Damage from fallout
- Education/Outreach to vessel masters
- Training security personnel and AQMD reporting







#### Vessel Speed Reduction Program

- Goal reduce NOx from transiting vessels
- Voluntary-MOU with Ports, Regulatory, MAREX, PMSA, SASC
- Currently ~65% participation
- ~1.2 ton/day current reduction
- Incentives to Encourage





#### PORTS OF LOS ANGELES AND LONG BEACH NAVIGATIONAL ALERT

Effective May 1, 2001 a Voluntary Commorcial Cargo (Sh) Speed Reduction Fragues will be or effect for ships extract goal leaving the Parts & Lar Augstes and Lang Basish. The Principles of the Parts of the Association, the Marine Dochseg of Los Augstes and Long Bench Herber, Inc., see V.S. Perivoramental Proctor of pures, the Collegian and Passacrase Bench, and the Stock Coast Air Quality Management District, Parts ministry segred to implement as a "Aur Quality Campliana" And Coast of the Parts of the boundaries of the citing monstary Parts.

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Northbound coastwise traffic
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Southern Separation Scheme Northbound constrain 118" 04.20

Southbound constraine traffic 33° 23.60° N

118, 00'00, M.

"There is an Air Quality Compliance Zone, between the Procusionary Area and a 20-

am radius from Point Ferman. You are requested to monitain a speec of no greater mini-12-knots while navigating within this zone."

a cooperation in making this measure a success will again in meeting the air qual

You cooperation in making this measure a success will aspite in meeting the air quality enquirements of the region and decourants that willisposes of the matritine industrys to respectable attraction of the environment. Failure to attain a high level of complicates we probably result in articer regulatory regionments. Should use have any question argueding the totale please exential Capitals Richard McKerna, Deputy Executive Director of the Marte Exchange, art (10) 570-5126.

Sincerely,

RICHARD D. STEINKE
Executive Director





### Vessel Retrofit Demonstration Project

- Retrofit demonstration project on existing vessel
- Maritime Working Group-CARB, EPA, Ports, Vessel operator
- Goal-NOx and PM reduction
- Fuel emulsification prior to injection





## DOC installation on Cargo Handling Equipment & use of Alternative Fuel



### **LNG Demonstration Project**

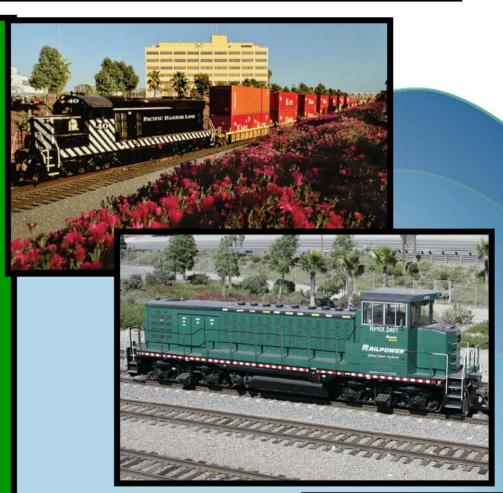
- Cargo Handling Equipment alternative fuel evaluation
- Joint POLB, EPA, LBCT and SES funding
- Cutting edge for terminal application





### Locomotive Fleet Replacement

- PHL operates locomotives in Ports
- New Agreement replaces all old locomotives with cleaner Tier II engines
- Includes "Green Goat " (hybrid) and LNG engines as part of fleet
- Future engine purchases equal to/or cleaner (e.g. Tier III)
- Run emulsified diesel and DOCs





#### **Gateway Cities Fleet Modernization**

- POLB and Cities teamed up
- Incentives average \$25,000 per truck
- Owner pays about one third of total truck cost
- Old truck engine and chassis are <u>permanently</u> destroyed
- Trucker saves about \$1700 per year in fuel costs
- Typical replacement truck emits about 50% less NOx and 85% less PM





# Important Miscellaneous Air Related Efforts

- Emissions inventory of Port sources
- Grade separations (including Alameda Corridor) eliminate idling and reduce emissions
- On-dock railyard eliminates drayage trips
- Extended Gate Hours and Appointments
- Ratify Marpol Annex VI and request SECA



### Other Strategies in Place

- Container cranes electrified
- Many LPG forklifts
- O<sub>2</sub> Diesel being used in selected pieces of equipment
- Electric dredges or dredges using emulsified diesel
- ULSD in construction equipment





