Regulation for Drayage Trucks

Board Hearing

December 7, 2007

California Environmental Protection Agency

Air Resources Board

Overview

- Background/Inventory
- Proposed regulation
- Benefits
- Costs/Funding
- Proposed 15-day change
- Public comments
- Summary and recommendation

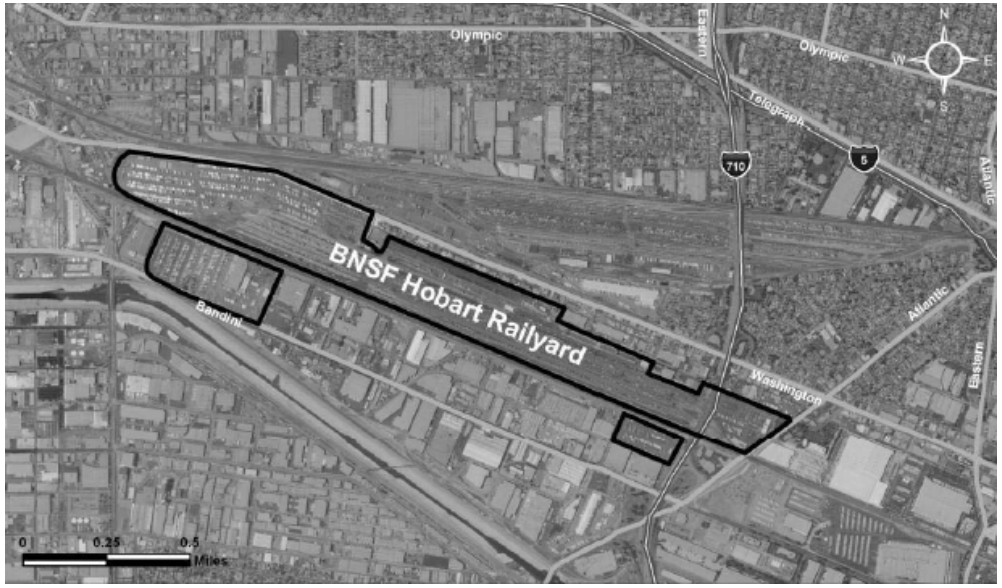
Background

Ports

- Serviced by ocean going vessels
- Typically have terminals used for loading or unloading of water borne commerce
- Serviced by drayage trucks

Intermodal Rail Yards

- Intermodal - serviced by drayage trucks
- Largest Rail Freight Operators (Class 1 - Revenues of $250 million or more)
- Within 80 miles of an affected port

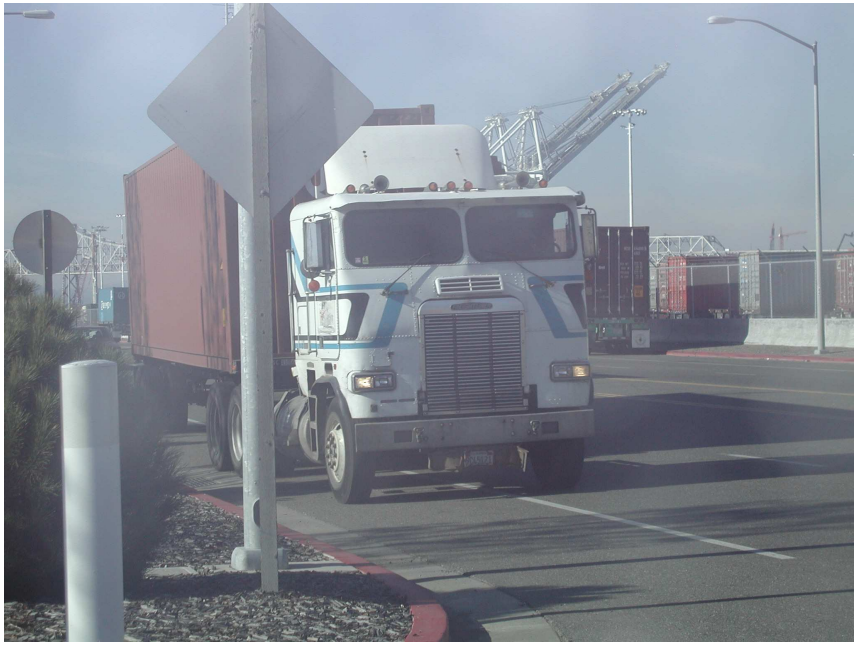


Which Ports and Intermodal Rail Yards?

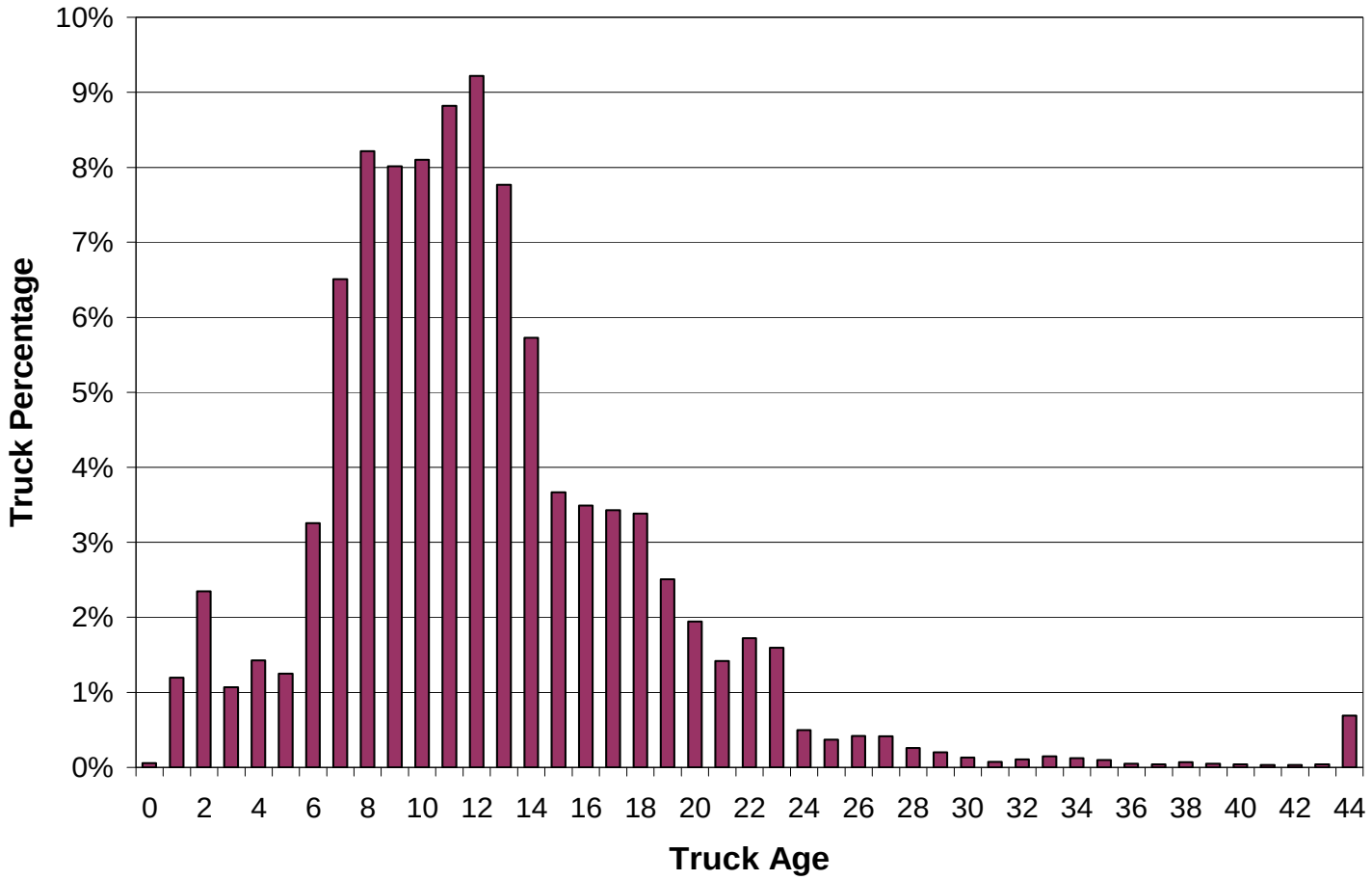
CA Ports: 14-total	Benicia, Crockett, Hueneme, Humboldt Bay, Long Beach, Los Angeles, Oakland, Pittsburgh, Redwood City, Richmond, Sacramento, San Diego, San Francisco, and Stockton
Intermodal Rail yards: 11-total	Burlington, BNSF Oakland, Commerce Eastern BNSF, Commerce UP, ICTF UP, LATC Union Pacific, Lathrop Intermodal UP, Northern Santa Fe (BNSF) Hobart, Richmond BNSF, San Bernardino, Stockton Intermodal BNSF, and Union Pacific (UP) Oakland

Drayage Trucks

- Class 8 - heavy-duty:
  - GVWR > 33,000 lbs
- On-road
- Diesel-fueled
- Typically:
  - Older
  - Recycled from long-haul fleets



Drayage Truck Age Distribution



Drayage Truck Population

- Pre-regulation:
  - 20,000 trucks frequently visit the ports and rail yards
- Post-regulation:
  - Frequent fleet could grow to ~30,000 trucks
  - Non-frequent fleet expected to switch to other trucking sectors

2007 Emissions Inventory

- Developed models to estimate drayage truck travel activity and emissions
- Models based upon:
  - Published reports/studies
  - Data provided to ARB by ports and rail yards
  - ARB surveys
- Port of Oakland emissions scaled to smaller ports

Emissions from Drayage Trucks

Location	2007 Pollutant Emissions, Tons/Year	
	PM	NOx
South Coast	630	12,000
Bay Area	50	1,800
San Joaquin Valley	90	2,000
San Diego	15	400
Other Air Basins	65	1,300
Statewide	**850**	**17,600**

All numbers rounded

Cancer Risk Without Regulation

Distance from I-710 Edge (m)	Without Regulation (Cases / Million)
100	600
400	200
1,000	90
5,000	10

Health Impacts (Without the Regulation)

- Cumulative impacts:
  - 2,100 Premature deaths
  - 60,000 Cases of asthma-related and lower respiratory symptoms
  - 360,000 Work loss days
  - 2,100,000 Minor restricted activity days

Proposed Regulation

California Environmental Protection Agency
AIR RESOURCES BOARD

STAFF REPORT:
INITIAL STATEMENT OF REASONS FOR
PROPOSED Rulemaking

PROPOSED REGULATION FOR DRAYAGE TRUCKS

Stationary Source Division
Project Assessment Branch

October 2007

Goals

- Near-term:
  - Reduce PM emission exposure to nearby neighborhoods
  - Meet 2010 and 2020 DRRP reduction goals
- SIP commitments:
  - Reduce NOx emissions to meet PM2.5 and Ozone SIP commitments
  - South Coast
  - San Joaquin Valley

Applicability

- Applies to all drayage trucks at California's:
  - Ports
  - Intermodal rail yards within 80 miles of ports

Exemptions

- Emergency vehicles
- Military tactical support vehicles
- Regulation would not affect dedicated use trucks of uni-body design

Compliance Schedule

Phase 1: By December 31, 2009 and through 2013, all drayage trucks must be equipped with:

(A) 1994 - 2003 model year engine certified to California and federal emission standards and a level 3 VDECS;

or,

(B) 2004 - 2006 model year engine certified to California and federal emission standards;

or,

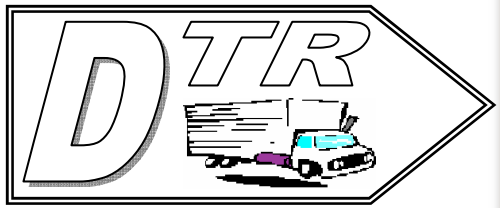
(C) 1994 or newer model year engine that meets or exceeds 2007 California and federal emission standards.

Compliance Schedule - Cont.

Phase 2: After December 31, 2013, all drayage trucks must be equipped with an engine that meets or exceeds 2007 model year California and federal emission standards.

Drayage Truck Registry (DTR)

- Drayage Truck Registry (DTR)
- Types of information collected:
  - Truck owner name, address, and contact info
  - Engine make, model, and year and VIN
  - Vehicle license number and state of issuance
  - Compliance information (e.g. diesel particulate filter)
- Starting January 1, 2010, drayage trucks cannot legally operate on port or intermodal rail yard property without a DTR label.



Motor Carrier

- Motor carrier responsibilities:
  - Provide copy of regulation to truck owner
  - Ensure trucks are in compliance with regulation before dispatching to the port or rail yard
  - Ensure truck operator has motor carrier contact information
  - Keep drayage truck dispatch records and be subject to audits

Truck Owner/Operator

- Truck owner responsibilities:
  - Meet Phase 1 and 2 requirements
  - Register with the DTR
  - Affix compliance label on truck
  - Maintain emission control device and keep maintenance log
  - Ensure truck operator has motor carrier contact information
- Truck operator responsibilities:
  - Provide motor carrier contact information and maintenance log upon request by enforcement personnel

Marine Terminals, Rail Yards and Authorities

- Marine terminals and rail yards:
  - Collect and report data on all trucks entering facility without valid DTR label
- Port and rail authorities:
  - Collect non-compliant truck data from terminals and rail yards and report to ARB enforcement

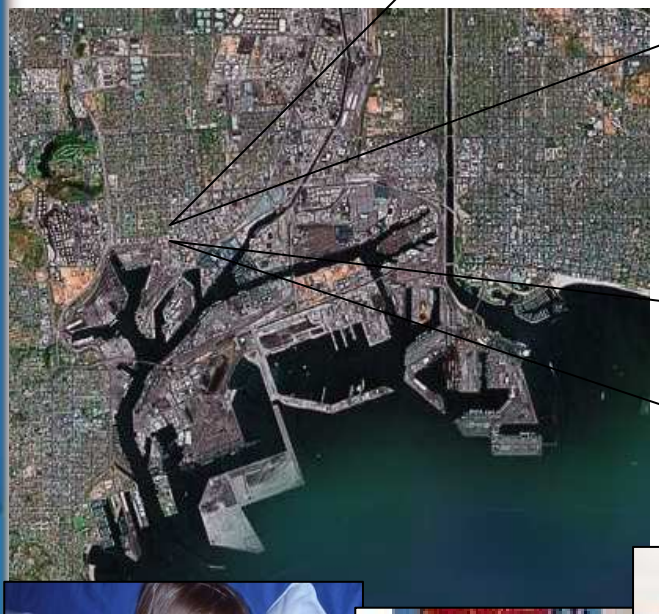
Enforcement

- Enforcement entities:
  - Air Resources Board (primary)
  - Law enforcement and local Air Districts
- Field inspections:
  - Compliance with regulation
  - Proper installation and operation of emission control devices
  - Emission control device maintenance records
- Terminal and motor carrier audits

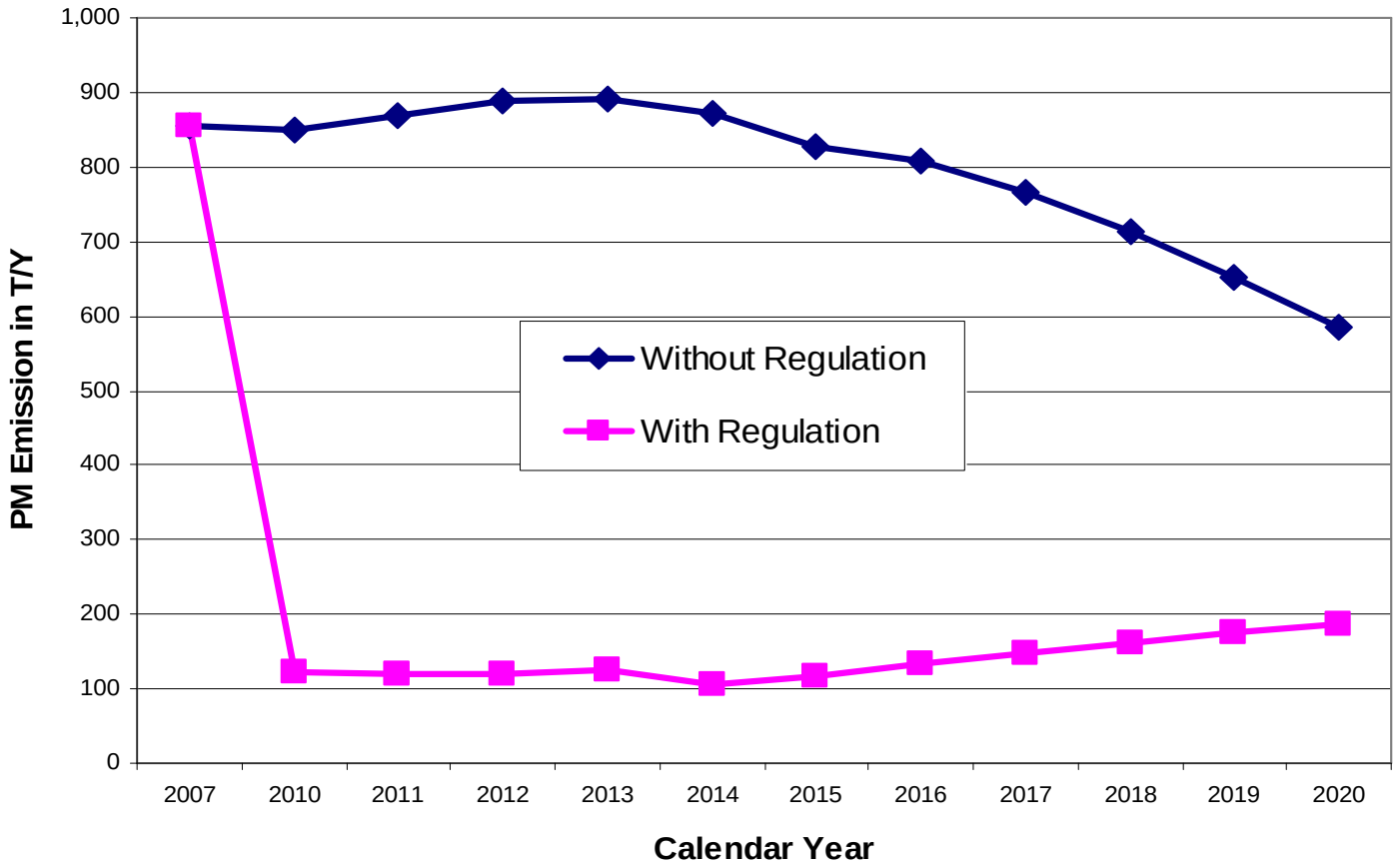
Methods to Reduce Emissions

- Truck replacement
- Retrofit technologies:
  - Must be ARB verified
  - Diesel particulate filters (DPF)
    - Level 3 (85% reduction)
- Repower

Emission Reductions and Health Benefits



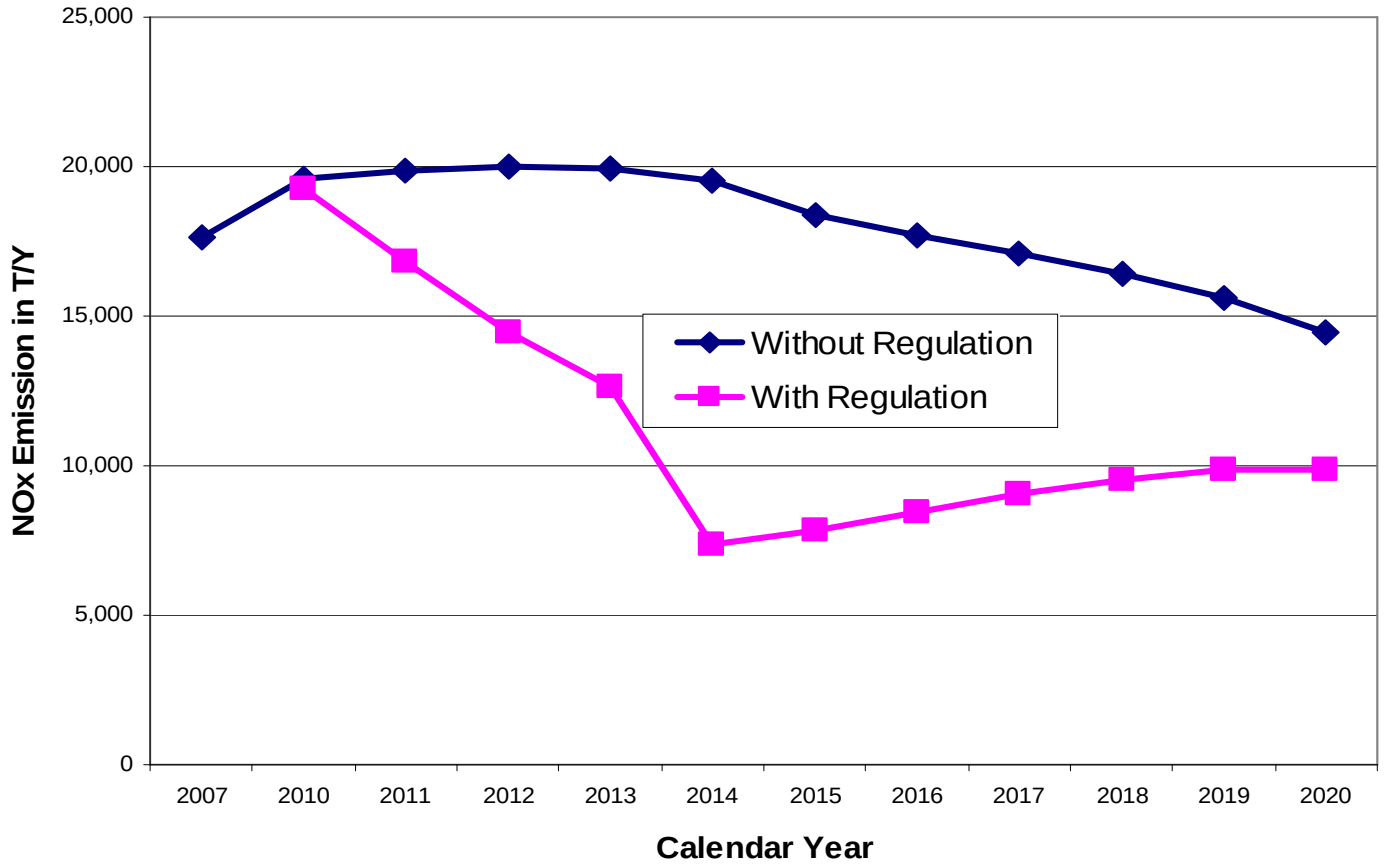
Projected Statewide PM Reductions



Diesel PM Reductions Compared to Other Regulations

Regulation or Airborne Toxic Control Measure	Diesel PM Reductions tons/day, 2010
On-Road Heavy-Duty Diesel Engine Standards (2001)	3.0
Solid Waste Collection Vehicles (2003)	0.3
Ship Auxiliary Engine Fuel (2005)	3.7
Diesel Truck Idling (2005)	0.4
Stationary Ag Engines (2006)	0.3
Off-Road Equipment (2006)	2.3
Drayage Trucks	**2.6**

Projected Statewide NOx Reductions



Health Benefits

- Near-source cancer risk reductions

Distance from I-710 Edge (m)	Without Regulation (Cases/Million)	With Regulation (Cases/Million)
100	600	90
400	200	30
1,000	90	10
5,000	10	2

Health Benefits

(2010-2020)

- Non-cancer cumulative impacts:
  - 1,200 Premature deaths
  - 37,000 Cases of asthma-related and lower respiratory symptoms
  - 3,100 Cases of acute bronchitis
  - 220,000 Work loss days
  - 1,300,000 Minor restricted activity days
- $8.7 billion estimated non-cancer health benefits from proposed regulation

Projected Statewide Effect on CO_2 Emissions

- Phase 1: Estimated CO_2 reductions of 50,000 - 90,000 t/y (3-5%) due to replacement of pre-1994 trucks

- Phase 2: No change

Regulation Costs and Incentive Funding

Estimated Costs

- Phase 1: $360-$480 million
  - ~$21,000 used truck
  - ~$10,000 DPF
- Phase 2: $780-$1,050 million
  - ~$33,000 used truck
- Total cost: $1.1-$1.5 billion

*All costs in 2006 dollars

Summary of Cost-Effectiveness

Emissions	Cost-Effectiveness
Phase 1: All Costs Assigned to PM	
PM	$57-77/lb
Phase 2: All Costs Assigned to NOx	
NOx	$6-$8/lb

Diesel PM Cost-Effectiveness Compared to Other Regulations

Regulation or Airborne Toxic Control Measure	Diesel PM Cost-Effectiveness
	Dollars/Pound PM
Public Fleet Rule	$160
Drayage Trucks*	**$57-$77**
Diesel Off-Road Rule	$37-$43
Commercial Harbor Craft	$29
Cargo Handling Equipment	$41
Solid Waste Collection Vehicle Rule	$28
Stationary Diesel Engine ATCM	$4-$26
Transport Refrigeration Unit ATCM	$10-$20

* Phase 1 costs only

Potential Funding Source - 1B Bond

- ARB awards competitive grants to local agencies to fund cleaner equipment along CA trade corridors:
  - Total of one billion dollars over several years
  - Local agencies run competitive programs
  - Largest percentage proposed for drayage trucks
- $250 million budget appropriation for 07-08:
  - Priority for projects with quick implementation, such as upgrades and retrofits

Potential Funding Source - 1B Bond Cont.

- Option 1: Truck retrofit
  - $5,000/truck for a verified Level 3 soot filter to retrofit pre-model year 2007 diesel trucks
- Option 2: Truck replacement
  - $20,000-$50,000/truck to replace 2003 and older diesel trucks with trucks meeting MY 2007 emission levels or better.
- Other potential funding sources

POLA/POLB CAAP

- November 2007 - Clean Air Action Plan (CAAP) Clean Trucks Tariff approved
- Drayage truck rule and CAAP compliment each other

Proposed 15-Day Changes

Phase 1:

Add option (C) that states that drayage trucks (1994 and newer) that meet or exceed the 2007 emission standards are acceptable.

Phase 2:

Change the requirement to state that all drayage trucks must be equipped with an engine that meets or exceeds 2007 emission standards by December 31, 2013.

Proposed 15-Day Changes

Out-of-State Truck Labeling:

Provide labeling and recordkeeping flexibility by allowing EO approved alternatives.

Definitions:

Change 'Port' and 'Port Property' definitions to exclude areas not germane to drayage activities.

Other Changes:

- Update owner/operator responsibilities
- Align data reporting dates

Public Comments

- Affordability
- 2004 - 2006 MY engine PM retrofits

Summary

- Near-source emission reductions
- Health benefits
- Meets goods movement goals
- SIP reductions for South Coast
- Cost effective

Recommendation

- Staff recommends the Board adopt the proposed regulation, with the Staff's suggested modifications.