Update on Emission Reduction Plan for Ports and Goods Movement in California

Air Resources Board Meeting
November 16, 2006
San Francisco

Air Resources Board

California Environmental Protection Agency

Overview

- Scope of goods movement
- Progress on plan strategies
- Local focus
- Updates to health analysis
- Funding mechanisms
- What’s next

Across California

On a typical day:

- **30,000 containers arrive/leave via ship**
- **250,000 big-rig trucks plus 380,000 diesel local delivery trucks on roads**
- **1,200 locomotives operating**

Supported by:

- **3,700 pieces diesel cargo equipment**
- **4,100 commercial harbor craft**

Key Source of Community Health Risk

<u>Near-source cancer risk (2000-2002)</u>

- **High traffic freeways: 300-1,700/million**
- **Port of LA/Long Beach: 10-500+/million**
- **Roseville Railyard: 10-500/million**

International Cargo Triples by 2020

California's Growth Adds to Demand

Population	Truck Travel	Rail Cargo
25%	50%	110%

ARB Goals for Goods Movement
(April 2006 Emission Reduction Plan)

Reverse growth in emissions

- **By 2010, reduce emissions as much as possible, at least to 2001 levels**

Reduce diesel PM risk

- **Rapid reduction in community risk**
- **By 2020, reduce statewide risk 85%**

Attain federal PM2.5 & ozone standards

Progress on Plan Strategies

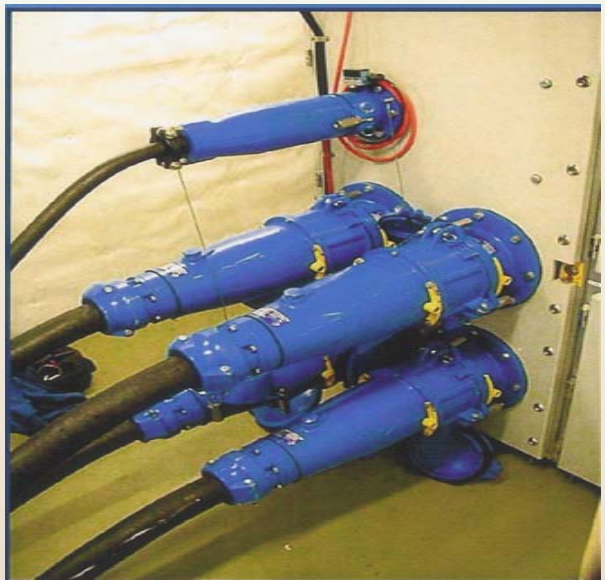
Ships
Accomplishments

- ✓ **Auxiliary ship engine fuel rule adopted**
- ✓ **Cruise ship incineration rule adopted**
- ✓ **Lower vessel speeds in S. California**
- ✓ **Retrofit demonstration in progress**

Ships
Upcoming through 2007

<u>California</u>

- **Main engine fuel rule** (late 2007)
- **Shore power rule** (late 2007)
- **Speed reduction rule** (mid-2007)



Ships
Upcoming through 2007

<u>National/international</u>

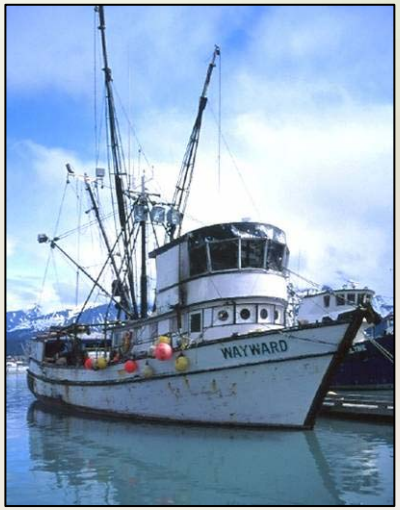
- **IMO review of ship and fuel standards**
- **SOx Emission Control Area (SECA) technical analysis for North America**
- **US EPA new main engine proposal**
- **US EPA new auxiliary engine standards**

Harbor Craft
Accomplishments

- ✓ **Low sulfur diesel used in South Coast**
- ✓ **Draft harbor craft rule released**
- ✓ **Engine replacement continues**

Harbor Craft
Upcoming through 2007

- **Harbor craft rule** (mid-2007)
- **US EPA new harbor craft engine standards**



Trucks
Accomplishments

- ✓ **In-use compliance rule adopted**
- ✓ **Border trucks rule adopted**
- ✓ **Low sulfur diesel fuel used**
- ✓ **Cleaner 2007 engines introduced**
- ✓ **Inspections in impacted communities**

Trucks
Upcoming through 2007

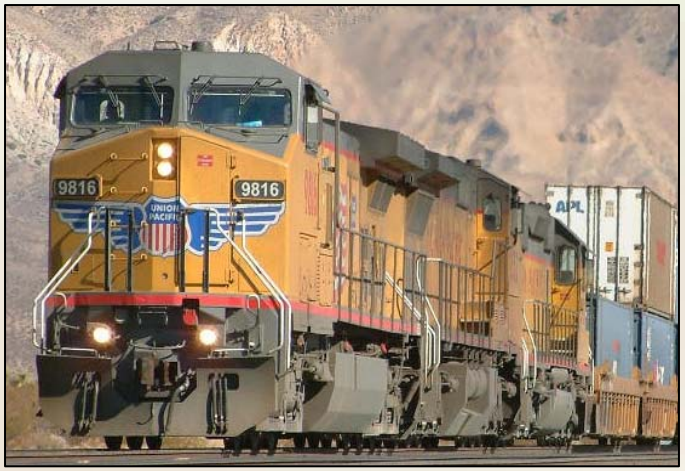
- **Private truck fleets rule** (mid-2007)
- **Port trucks rule** (late 2007)

Locomotives
Accomplishments

- ✓ **Low sulfur diesel fuel requirements**
- ✓ **Tier 2 locomotive use increasing**
- ✓ **Cleaner switchers being introduced**
- ✓ **Technology demonstrations underway**

Locomotives
Upcoming through 2007

- **Railyard risk assessments**
- **US EPA standards for new and existing locomotives**



Cargo Handling Equipment
Accomplishments

- ✓ **Diesel equipment rule adopted**
- ✓ **Gas forklift rule adopted**
- ✓ **Low sulfur diesel fuel used**
- ✓ **Port fleet upgrades continuing**

Local Focus

Localized Health Risk

- New risk assessments underway
  - Railyards & adjacent communities
  - Maritime Port of Oakland
  - Warehouse distribution center assessment study
- Wilmington community project

Railyard Risk Assessments

Phase I

BNSF

Commerce/Eastern

Hobart

Richmond

Stockton

Watson/Wilmington

UP

Commerce

LA Transportation Center

Mira Loma

Stockton

West Oakland Risk Assessments

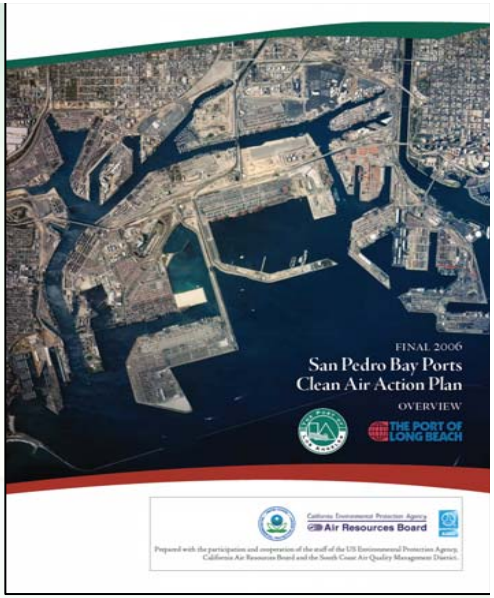
Wilmington Community Project

- Explore community concerns
- Develop new tools to assess community risk
- Associated Harbor Communities Air Monitoring Study

Southern California

- San Pedro Bay Ports Plan for Los Angeles and Long Beach
  - Joint hearing November 20
- LA Metro Transportation Authority Multi-County Goods Movement Action Plan

San Pedro Bay Ports Plan



<u>Changes since July briefing</u>

- **Ports: "fair share" targets**
- **New projects: ≤10 in million risk, cumulative effect within port targets**
- **Trucks: emblem for gate entry, prevailing wage concepts**
- **Locomotives: MOU for Tier 3 controls on port property and low sulfur fuel**
- **Funding: possible port tariffs**

Northern California

- Port of Oakland and Bay Area Air District
- Northern California Trade & Mobility Corridor

Updates to Health Analysis

Health Impacts
Background

- **Analysis in Emission Reduction Plan**
- **New PM studies on premature death**
- **Sulfate PM impacts to be assessed**
- **Board's charge -- reevaluate effect of new health studies and estimate impacts from sulfate PM**

Health Impacts
Status

- **Public process to update PM-premature death relationship on-going**
  - **New factor based on U.S. EPA's Expert Elicitation for PM**
  - **Draft ARB report late November, followed by public and peer review**
- **Sulfate impacts to be based on SOx Emission Control Area (SECA) analysis**

Funding Mechanisms

✓Proposition 1B

Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006

- **$1 billion to reduce emissions from freight movement in trade corridors**
- **Reductions not required by law or regulation**
- **$200 million for cleaner school buses**

Implementation

- Legislature sets conditions and criteria
- Legislature appropriates funds to ARB
- ARB staff employs public process to develop recommendations
- Board action on proposals
- Projects funded and implemented

Example Project Mix

<u>Potential cost-effectiveness: $3,000/ton</u>

- **20,000 port trucks – retrofit/replace**
- **20,000 other short haul trucks – retrofit**
- **600 harbor craft – replace engines**
- **200 switch locomotives – replace**
- **80 piers – electrify for shore power**

Moyer Funding for Goods Movement

- District funding
  - Over 800 engines upgraded since 1998
  - South Coast targeting $22 million/year
- 10% ARB set aside focuses on multi-district projects and goods movement
  - $13 million funded in 2004-2006
  - Locomotives (Bay Area, Roseville, SJV)
  - Ship retrofit/fuel (Bay Area, South Coast)
  - Tug boat (San Diego)

Other Funding

- Ports of Los Angeles and Long Beach - about $200 million each over 5 years
- Possible port tariffs to raise additional monies
- Minimal federal funding so far

What's Next

Transitioning to New SIPs

Focus on South Coast & SJ Valley

- **Goods movement is core of strategy**
- **PM2.5 (2014): Ships, trucks, and locomotives key to SOx/dPM/NOx cuts**
- **Ozone (2020+): Trucks, ships, and locomotives key to NOx cuts**
- **Both areas may need additional, targeted NOx reductions for trucks**

Goods Movement
ARB "To Do" List

- **Develop/enforce ARB rulemakings**
- **Implement $1 billion funding program**
- **Push federal/international standards**
- **Support local initiatives**
- **Conduct risk assessments**
- **Update health impacts analysis**