

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

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Overview

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

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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

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Key Source of Community Health Risk

Near-source cancer risk (2000-2002)

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



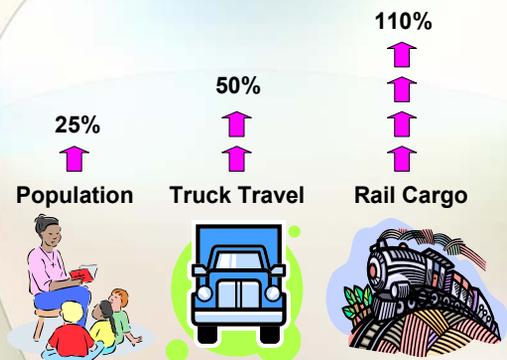
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International Cargo Triples by 2020



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California's Growth Adds to Demand



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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

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Progress on Plan Strategies

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Ships

Accomplishments

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



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Ships

Upcoming through 2007

California

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



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Ships

Upcoming through 2007

National/international

- 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



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Harbor Craft

Accomplishments

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



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Harbor Craft

Upcoming through 2007

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



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Trucks

Accomplishments

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



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Trucks

Upcoming through 2007

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



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Locomotives

Accomplishments

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

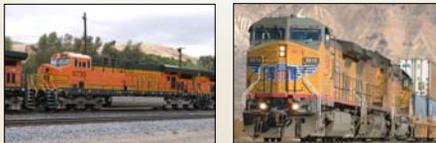


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Locomotives

Upcoming through 2007

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



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Cargo Handling Equipment

Accomplishments

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



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Local Focus

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Localized Health Risk

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

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Railyard Risk Assessments

Phase I

BNSF

Commerce/Eastern

Hobart

Richmond

Stockton

Watson/Wilmington

UP

Commerce

LA Transportation
Center

Mira Loma

Stockton



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West Oakland Risk Assessments



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Wilmington Community Project

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



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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



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San Pedro Bay Ports Plan



Changes since July briefing

- 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

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Northern California

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



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Updates to Health Analysis

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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

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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 SO_x Emission Control Area (SECA) analysis

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Funding Mechanisms

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✓ 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

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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

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Example Project Mix

Potential cost-effectiveness: \$3,000/ton

- 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

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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)

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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

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What's Next

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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 SO_x/dPM/NO_x cuts**
- **Ozone (2020+): Trucks, ships, and locomotives key to NO_x cuts**
- **Both areas may need additional, targeted NO_x reductions for trucks**

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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**

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