Clean Air Action Plan

Update

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May 18, 2011
Presentation Outline

• CAAP Background
  • Accomplishments to Date

• Updates to the CAAP
  • San Pedro Bay Standards
  • Measures
  • Emissions Benefits
What is the Clean Air Action Plan?

- Joint plan for POLA & POLB

- To reduce air quality impacts from port-related mobile sources over the next five years

- Developed in cooperation with USEPA, CARB, AQMD
Clean Air Action Plan Principles

• Minimize health risk

• Contribute “fair share” reductions in mass emissions

• Set consistent standards

• Allow port development to continue
Accomplishments

• CAAP Adopted in November 2006

• Clean Truck Program (HDV1)
  • Established in 2007
  • Compliance schedule phase-in
  • Clean trucks: 77% POLB, 84% POLA (Feb 2010)

• LNG on-road truck fueling station constructed and operational since early 2009 (HDV2)
Accomplishments (cont.)

• Technology Advancement Program (TAP)
  • Established in March 2007
  • As of early-2010, ports have provided $5.4 million in funding
Accomplishments (cont.)

- **Vessel Speed Reduction (OGV1)**
  - Incentive programs expanded to 40nm from Point Fermin
  - 2010 Compliance:
    - POLB: 96% to 20 nm, 77% to 40 nm
    - POLA: 91% to 20 nm, 63% to 40 nm

- **Vessel Engine Fuels (OGV3 & 4)**
  - Port Fuel Incentive Program (7/08 – 6/09)
  - CARB vessel fuel rule effective 7/09
Vessel Speed Reduction

The image depicts a map of the South Coast Air Basin with various routes and distances marked. The map highlights areas such as the Northern Route, Eastern Route, Western Route, Precautionary Zone, and Fairway. Distances are measured in nautical miles: 20 nautical miles, 40 nautical miles, and the Over-water Boundary.
Accomplishments (cont.)

• Shorepower (OGV2)
  • POLA
    • 3 container berths completed
    • 2 cruise
    • 13 container berths to be completed by (January 1, 2014)

• POLB
  • 1 container berth completed
  • 1 liquid bulk berth completed
  • 1 dry bulk terminal completed

• Remaining Cruise & Containers Terminals by 2014
Accomplishments (cont.)

- Port switcher locomotives upgraded in 2008 to Tier 2 and Tier 3 gensets (RL1)

- Significant upgrades of harbor craft and cargo handling equipment (HC1, CHE1)
Progress Toward Achieving Original CAAP Goals

- **DPM**:
  - 2011 Goal: 47% DPM
  - 2007: 27%  
  - 2008: 30%

- **NOx**
  - 2011 Goal: 45% NOx
  - 2007: 11%  
  - 2008: 25%

- **SOx**
  - 2011 Goal: 52% SOx
  - 2008 Goal: 40%

Legend:
- 2007
- 2008
- 2008 Goal
2008 Port Contribution to the SCAB

**DPM**
- San Pedro Bay Ports: 17%
- Stationary & Area: 2%
- On-Road: 32%
- Other Mobile: 49%

**NOx**
- San Pedro Bay Ports: 9%
- Stationary & Area: 10%
- Other Mobile: 33%
- On-Road: 48%

**SOx**
- San Pedro Bay Ports: 54%
- Stationary & Area: 35%
- Other Mobile: 6%
- On-Road: 5%
Updates to the CAAP

• CAAP is a “living” document:
  • Review existing measures
  • Evaluate new measures and technologies
  • Incorporate new regulations
  • Incorporate new information
CAAP Update Highlights

- Development of San Pedro Bay Standards
  - Emissions Reduction Standards
  - Health Risk Reduction Standard

- Update measure implementation
San Pedro Bay Standards

- Provide long-term goals for cumulative port-related operations
  - Reduction in “fair-share” of emissions to enable the region to attain the 2014 and 2023 ambient air quality standards
  - Expeditious reduction in health risk from port-related mobile sources
Emissions Forecasting

• Developed an agreed upon methodology and results extensively reviewed with the TWG

• Utilized the ports’ latest cargo forecast (2007)

• Included port CAAP commitments and currently adopted regulations as of July 2008

• Forecasted emissions to 2014 and 2023 and compared to 2005 baseline
Emissions Forecasting Results

- 2014 reductions compared to 2005
  - 72% less DPM
  - 19% less NOx
  - 93% less Sox

- 2023 reductions compared to 2005
  - 75% less DPM
  - 18% less NOx
  - 92% less SOx
Health Risk Assessment

- Developed an agreed upon protocol with the TWG
  - Consistent with ARB Exposure Study Methodology completed for ports in 2006, with updates

- HRA based upon spatially allocated 2005 baseline and 2020 forecast DPM emissions

- Comparison of 2020 to 2005 baseline
Health Risk Assessment Results
Health Risk Assessment Results
Proposed San Pedro Bay Standards

- Emissions Reduction Standards

- By 2014, reduce emissions by:
  - 72% DPM
  - 22% NOx
  - 93% SOx

- By 2023, reduce emissions by:
  - 77% DPM
  - 59% NOx
  - 92% SOx
Proposed San Pedro Bay Standards

- Health Risk Reduction Standard
  - By 2020, reduce the population-weighted residential cancer risk of port-related DPM emissions by 85%, in highly-impacted communities located proximate to port sources and throughout the residential areas in the port region
San Pedro Bay Standards Implementation

• The Standards will be achieved through:
  • Implementation of the strategies in the CAAP

• In individual projects, all existing CAAP strategies and regulations will be included and any new and feasible measures beyond the CAAP

• In updates to the CAAP, the ports will include new and feasible measures

• Regulatory actions by the agencies to implement requirements to control specific source categories
New/Revised Measures in the CAAP

• Measure Enhancements
  • OGV5 – Cleaner OGV Engines
  • OGV6 – Vessel Technologies
  • RL2 – Class 1 Operations
  • RL3 – Near-dock Rail Yards

• All measures have been updated to reflect actual implementation & latest planning
Thank you

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