Green Port Policy

- Protect community from harmful impacts of port operations
- Use best technology
- Promote sustainability
- Environmental leadership
- Engage the community
Green Port Projects

- Green Flag Ship Incentives
- Green Port Leases
- Clean Diesel Locomotives
- Yard Tractor Retrofit
- Testing Hybrid Yard Tractors
Green Leases

- International Transportation Service/"K" Line
- SSA/Matson
- Others
Green Port Policy: Air

- **Air Program Goal:**
  - Reduce air emissions from port activities

- **Metric:**
  - Reduce emissions per ton of cargo handled

- **Implementation Mechanism:**
  - Clean Air Action Plan
Clean Air Action Plan

- Defines measures and programs for reducing emissions and health risk from port operations over the next 5 years

- Adopted at a joint Board meeting in November 2006
CAAP Implementation

• Outreach efforts
  - www.cleanairactionplan.org

• Developed CAAP Stakeholder Group

• Developed Technology Advancement Program

• Developed CAAP Recognition Program
CAAP Implementation

- Activated truck retrofit program
- Selected awardees for LNG fueled trucks and fueling infrastructure
- Implementing fleet of clean switcher locomotives
- Developing shore power infrastructure
- Developing Clean Trucks Program
Zero Emissions Container Mover System (ZECMS)

- Ports commissioned a study to evaluate various systems
  - Evaluate for possible applications in the Ports of Los Angeles and Long Beach and region
  - Identify Technologies That Are Market Ready and Technically Appropriate for possible near-mid-long term implementation (short and/or long haul)
- System to be evaluated as part of I-710 EIR/EIS
Green Flag Program

Green Flag Incentive Program Performance
January 2005 - August 2007
Air Monitoring Program

POLB Air Quality

Ozone (8-hr) Daily Observations

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Averaging Period</th>
<th>Current Value</th>
<th>Units</th>
<th>State Standard</th>
<th>Federal Standard</th>
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<tbody>
<tr>
<td>O₃</td>
<td>1-hr</td>
<td>0.030</td>
<td>ppm</td>
<td>0.09</td>
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<td>O₃</td>
<td>8-hr</td>
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<td>ppm</td>
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<td>PM₁₀</td>
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<td>150</td>
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<td>PM₂.₅</td>
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<td>47.6</td>
<td>μg/m³</td>
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<td>65</td>
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<td>NO₂</td>
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<td>CO</td>
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<td>SO₂</td>
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<td>ppm</td>
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<td>Wind Speed</td>
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<td>5.7</td>
<td>mph</td>
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<td>Wind Direction</td>
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<td>SE direction</td>
<td>-</td>
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<td>Temperature</td>
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<td>70.5</td>
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<tr>
<td>Relative Humidity</td>
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<td>37.5</td>
<td>%</td>
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<td>Rain</td>
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<td>0.00</td>
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Emissions Inventory

% Change 2005 vs Adjusted 2002

- PM10: 9%
- PM2.5: 9%
- DPM: 11%
- NO\textsubscript{x}: 15%
- SO\textsubscript{x}: 2%
- CO: 15%
- TOG: 19%
- TEU: 48%
Green Port Air Quality Metric

Tons of Emissions/10,000 TEUs

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>2002</th>
<th>2005</th>
<th>Percent Change</th>
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<tr>
<td>PM$_{10}$</td>
<td>1.3</td>
<td>1</td>
<td>23% decrease</td>
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<td>NO$_x$</td>
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<td>16.6</td>
<td>20% decrease</td>
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<tr>
<td>SO$_x$</td>
<td>6.6</td>
<td>4.9</td>
<td>26% decrease</td>
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CAAP Implementation

- Monitoring and Reporting
  - Quarterly Reports
  - CAAP Website
- CAAP Updates