Commercial Harbor Craft
Proposed Regulation
Maritime Air Quality Technical
Working Group

September 12, 2006

California Environmental Protection Agency
Air Resources Board

Background

- Reduce emissions mainly through the use of engine repowers and retrofits.
- First priority – Near shore impacts
- Adopt programs starting 2008
- Fulfill Goods Movement Goals and make progress on Diesel Risk Reduction Plan commitment
Commercial Harbor Craft
Vessel Types

- Includes many types of vessels including:
  - Tug/Tow
  - Ferries
  - Fishing Vessels
    - Commercial Fishing
    - Passenger Fishing
  - Crew, Supply, Pilot, Work, and Other Vessels

Marine Engine Standards

- Tier 0 Engines are unregulated
- U.S. EPA has established Tiered Standards
- Tier I and Tier II
  - Vary by engine displacement and model year
- Tier III / IV(?) are not yet promulgated
Commercial Harbor Craft
Statewide Inventory

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
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<tbody>
<tr>
<td>PM</td>
<td>3.9 tpd</td>
</tr>
<tr>
<td>NOx</td>
<td>92.6 tpd</td>
</tr>
<tr>
<td>ROG</td>
<td>10.5 tpd</td>
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</tbody>
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Projected inventory is current focus for ARB staff

Commercial Harbor Craft
Goods Movement Emission Reduction Plan Goals

- 2010 -25%
- 2015 -30%
- 2020 -40%

Both PM and NOx reductions
Commercial Harbor Craft Proposed Regulation Overview

♦ Separated Non-fishing and Fishing Vessels
♦ Focus on Engine Repower or Retrofit
♦ Option of an Alternative Compliance Plan
♦ Targeting Old, High Use Engines First
♦ On-going Engine Emission Testing To Support Regulation
♦ Scheduled for Board Consideration Feb. ‘07

Non-Fishing Vessel Overview

♦ Current Population mainly Tier 0 engines
♦ Proposed Compliance Dates (2008-2014)
  – Repower with Current Certified Engine or,
  – Documented Equivalent Emissions or,
  – Alternative Compliance Plan
Fishing Vessel Overview

- Typically Tier 0 Engines
- Proposed Compliance Dates (2011-2018)
- Targeting a 25% PM Reduction fleet wide
- Potential Compliance Options
  - Minimum Level 1 Emission Control or,
  - Certified Engine
- Retain opportunity for Carl Moyer funds
  - Additional PM, NOx, and other emission reductions

Potential Issues

- Economic Impacts
- Stringency and timing of new U.S. EPA engine standards
- Limited Strategies Available
- Technical Feasibility
Outstanding Items

♦ Compliance Timelines
♦ Sell Through Provisions
♦ Low Use Exemptions
♦ Applicability with other ATCM / Regulations
♦ Tech Assessment
♦ Additional Requirements for Higher Use Vessels

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