Shore Power (Cold-Ironing) Regulation

Maritime Air Quality Technical Working Group Meeting
September 12, 2006

California Environmental Protection Agency
Air Resources Board

Topics

♦ Introduction
♦ Shore Power (Cold-Ironing) Feasibility Report
♦ Regulatory Process
Introduction

♦ Who we are
♦ What we are working on
♦ Why a shore power regulation
♦ What’s the timetable

Why Shore Power Regulation

Goods Movement Emission Reduction Plan
♦ Approved by Board April 2006
♦ Identifies strategies to reduce emissions
♦ Goals of shore-based electrical power measure
  – Shore power for 20% of visits by 2010
  – Shore power for 60% of visits by 2015
  – Shore power for 80% of visits by 2020
Timetable

♦ Present Regulation to Board for consideration in November 2007
  – Workshop late summer 2007
  – Proposed regulation and staff report released late September 2007

Topics

♦ Introduction

➢ Shore Power (Cold-Ironing) Feasibility Report

♦ Regulatory Process
Overview

♦ Analyzed cost-effectiveness, by ship category and port
♦ Draft released March 2006
♦ 30-day comment period

Conclusions

♦ Most cost-effective for container, passenger, and refrigerated cargo ships
♦ Prime candidate ports: LA, Long Beach, Oakland, San Diego, SF, and Hueneme
♦ 2/3 of capital costs & benefits at LA/Long Beach
Conclusions (Continued)

♦ Not cost-effective for ships with irregular or infrequent visits to California

♦ Will require significant infrastructure investments

NOx Emission Benefits from Shore Power

* Based on 20%, 60%, and 80% shore power targets
PM Emission Benefits from Shore Power

* Based on 20%, 60%, and 80% shore power targets

Comments Received

- Alternative approaches should be considered
- Use of generic infrastructure costs are not representative
- Cost-effectiveness needs to better reflect future growth
Comments Received (Continued)

- Need to include public health impacts/benefits
- Comments on various assumptions
  - Hotelling time
  - Electrical costs

Topics

- Introduction
- Shore Power (Cold-Ironing) Feasibility Report
  - Regulatory Process
Public Outreach

- Public workgroup meetings
  - Periodically thru summer 2007
  - ARB staff will present key information for stakeholder review

- Stakeholders
  - Districts and CAPCOA
  - Ports
  - Utilities
  - Local community groups
  - Ship owners and operators

Ship Categories Considered

- Container ships
- Passenger ships
- Refrigerated cargo ships
- Potentially some bulk ships
Ports Being Considered

- Port of Hueneme
- Port of Long Beach
- Port of Los Angeles
- Port of Oakland
- Port of San Diego
- Port of San Francisco

Alternatives to Shore Power

- Non-shore-power reductions for 2015 and 2020
- Consider alternatives that can provide equivalent reductions as compared to shore power
Current Activities

- Gathering and analyzing data
  - Berthing times for 2003-2005
  - Shore-side infrastructure costs
  - Developing criteria for equivalency to shore power reductions

Next Steps

- Staff will contact stakeholders for input and information
- Shore power workgroup meeting scheduled for January 2007
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♦ Webpages:
  Shore Power:
  www.arb.ca.gov/ports/shorepower/shorepower.htm
  Goods Movement Emission Reduction Plan:
  www.arb.ca.gov/planning/gmerp/gmerp.htm