Proposed Amendments to the Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards Regulation

Air Resources Board

Public Hearing

Sacramento, California

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California Environmental Protection Agency

Air Resources Board

Overview

- Mobile Cargo Handling Equipment Regulation
- Proposed Amendments
- Impacts
- Proposed 15-Day Changes
- Future Activities
- Summary and Recommendations

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Mobile Cargo Handling Equipment Regulation

Rubber-tired Gantry Crane

CHE Regulation Requirements

- Applies to cargo handling equipment (CHE) operating at California's ports and intermodal rail yards
- Establishes best available control technology (BACT) for new and in-use CHE
- Includes recordkeeping and reporting requirements

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New and In-Use Equipment Requirements

- New yard trucks must be equipped with:
  - on-road engines meeting current on-road or Tier 4 final off-road standards (available 2014 – 2015)
- New non-yard truck CHE must be equipped with:
  - on-road or off-road engines meeting current emissions standards or
  - if not Tier 4, must be retrofit with highest level verified diesel emissions control strategy (VDECS)
- In-use CHE equipment must:
  - accelerate turnover of yard trucks to on-road engines, or Tier 4 final off-road standards
  - retrofit or replace non-yard truck equipment

CHE Regulation Benefits

- Reduce statewide diesel PM emissions from CHE by 85 percent and NO_x by 75 percent by 2020
- Proposed amendments maintain original rule goals
  - controlled diesel PM and NO_x emissions for 2012 – 2020 below levels anticipated with original rule analysis

Implementation Proceeding

- Use of cleaner technologies:
  - retrofits, repowers, and alternative fuels
  - demonstration – hybrid rubber-tired gantry crane
  - development – electric, H_2 fuel-cell hybrid electric, and hybrid yard trucks
- Significant emissions reductions
- Identified opportunities to improve regulation

Proposed Amendments

Yard Truck

Purpose of Proposed Amendments

- Based on implementation experience:
  - provide additional compliance flexibility
  - maintain anticipated emissions reductions
  - clarify language

Fork Lift

Implementation Issues

- VDECS not available for some equipment
- Some specialty equipment used infrequently
- Tier 4 Family Emission Limits not sufficiently stringent
- Encourage best maintenance practices
- Request for rural, low-use port exemption

Provide Additional Flexibility

- Specialty and “No VDECS Available” Equipment
  - provide limited low-use compliance extension
  - provide further extensions if “No VDECS Available”
  - allow limited non-yard truck equipment transfers
- Cleaner technologies
  - allow demonstration of emission equivalency for alternative technologies
  - allow experimental extensions to generate data for verification

Maintain Anticipated Emissions Reductions

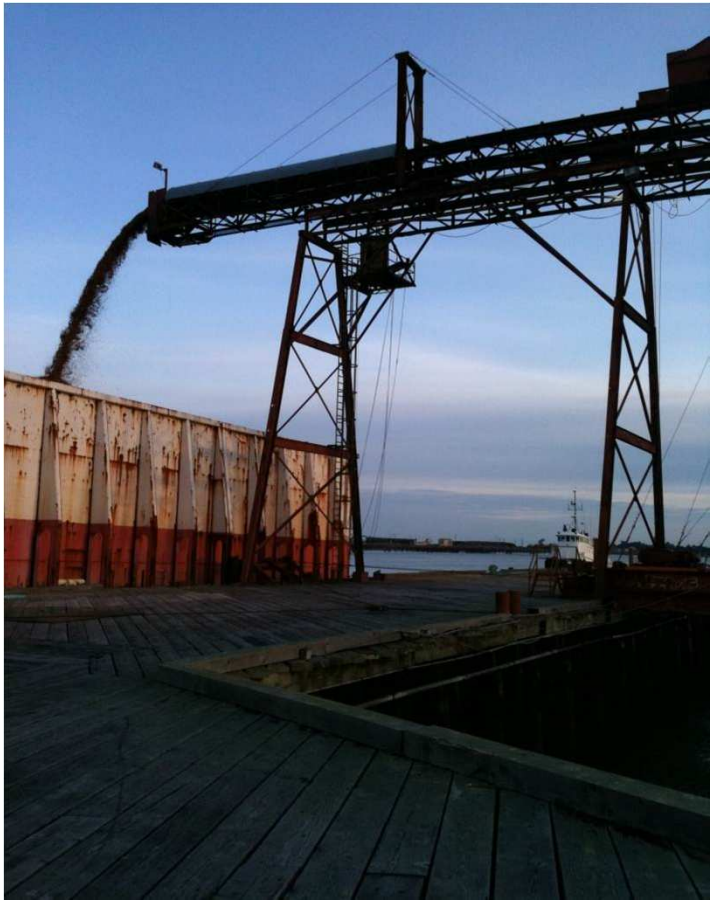
- Require retrofit of Tier 4 engines certified to Family Emission Limits (FEL) Alternate PM emissions standards
- Initiate CHE opacity-based monitoring program

Opacity-Based Monitoring Program

- Similar to ARB's heavy-duty diesel vehicle smoke inspection program
- Phase-in annual opacity testing of engine-out exhaust
- Opacity limits
  - based on ARB empirical correlation
  - retrofitted engines: as required by retrofit manufacturers
- Retrofitted equipment
  - schedule when VDECS removed for cleaning or inspection

Rural Small Port Exemption

- Port of Humboldt Bay only port eligible
  - low annual throughputs - receives one to two chip or log barges per month
  - less than 20 pieces of equipment total
  - surrounded by low population density
  - requested by local air district



Clarify Language

- Definitions
  - Modify existing definitions to clarify intent
  - Add new definitions to support other amendments
- Clarifying language

Impacts

Loader

Environmental Impacts

- Benefits of regulation maintained
  - 5 percent more reductions in diesel PM emissions
  - slight (2 percent) change in NO_x benefits
- Monitor emissions impacts:
  - reporting/recordkeeping
  - off-road model

Economic Impacts

- Amendments result in both costs and savings
- Statewide net savings of $1 – 2 million
- Cost-effectiveness of the regulation remains unchanged

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Proposed 15-Day Changes

- Incentivize purchase of electric and hybrid equipment
  - allow yard trucks (including hybrid and electric) in Alternative Compliance Plans
  - allow 3rd or 4th year of "No VDECS Available" extension if agree to replace with electric or hybrid, if feasible
- Restrict dirtiest engines from receiving 3rd or 4th year of "No VDECS Available" extension
  - engines without VDECS due to high opacity not eligible
- Require all other eligible equipment compliant before low-use compliance extension allowed
- Exempt newer equipment from opacity monitoring

Future Activities

- Continue to monitor application of:
  - CHE retrofit technologies
  - on-road engines in yard trucks
- Hold periodic technical meetings
- Conduct assessment of ultra-clean technologies

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Summary

- Proposed amendments provide additional flexibility while maintaining emission benefits of original regulation
- Net economic impact is small cost savings

Recommendations

- Recommend the Board adopt the proposed amendments to the current CHE regulation with proposed 15-day changes
- Direct staff to continue to monitor use of clean technologies