Update on Efforts to Reduce Emissions and Risks at High Risk Railyards

February 25, 2010

California Environmental Protection Agency

Air Resources Board
September 2009 Board Meeting

- Presented general recommendations to further reduce emissions and risks from locomotives and at railyards

- Discussed emerging locomotive technologies that can further reduce emissions

- Highlighted the benefits of existing ARB and U.S. EPA actions
ARB and U.S. EPA Actions

Already Reducing Emissions and Risks

- **ARB Regulations**
  - Drayage trucks
  - Transport refrigeration units
  - Cargo handling equipment
  - Clean fuels for intrastate locomotives

- **ARB/Railroad Agreements**
  - South Coast locomotive fleet average
  - Idle reduction devices on intrastate locomotives
  - Clean fuels for all locomotives

- **U.S. EPA Locomotive Standards**

- **Federal and State Incentive Funding**
  - Carl Moyer Incentive Funds
  - Proposition 1B Bond Funds
  - ARRA-DERA Incentive Funds
Significant Diesel PM Emission Reductions Already Occurring at the 18 Major Railyards *

* Based on existing U.S. EPA and ARB regulations and agreements.
September 2009 Board Direction

- Develop approach for railroads to prepare and implement risk reduction plans for high-risk railyards
- Use San Bernardino railyard as a template
- Investigate potential enforcement provision that would trigger ARB regulatory action
- Coordinate with stakeholders
- Report back to Board with recommendations
Actions Taken Since September

- Discussed possible approaches with key stakeholders

- Collected technical information on railyards
  - Diesel PM emissions assessment
  - Potential cancer risks
  - Projected changes in growth
  - Potential applicable control measures

- Solicited input from stakeholders on a possible enforceable provision
Summary of Proposal

- Obtain commitment from railroads to reduce emissions/risks from high risk railyards

- Work with interested stakeholders to establish specific provisions for the railroad commitment

- Implement through exchange of letters between ARB and the railroads after public consultation process
## Locomotive Emission Reduction Measures

<table>
<thead>
<tr>
<th>Measures</th>
<th>Timeframe</th>
<th>Emission Reductions</th>
<th>PM</th>
<th>NOx</th>
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</thead>
<tbody>
<tr>
<td>Switcher Locomotives</td>
<td>2010-2012</td>
<td>90%</td>
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<td>90%</td>
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<td>(Pre-Tier 0 to Tier 3)</td>
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<tr>
<td>Med HP Locomotives</td>
<td>2012-2014</td>
<td>80%</td>
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<td>80%</td>
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<td>(Pre-Tier 0 to Tier 3)</td>
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<tr>
<td>Interstate Locomotives</td>
<td>2012-2020</td>
<td>50%</td>
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<td>N/A</td>
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<td>(Tier 2 to Tier 2+/Tier 3)</td>
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Additional Measures

- Operational measures (e.g. gate relocations)
- Accelerated turnover of cargo handling equipment, drayage trucks, transport refrigeration units, etc.
- Alternative fuel/electrification of equipment
- Stationary collection systems for locomotive maintenance ("Hood Technology")
Summary of Key Provisions

- Identify high-risk railyards
- Establish railyard-specific targets for reductions over time
- Routinely assess and report emissions, risks, and compliance with targets
- Include public participation and outreach
- Establish enforceable provisions that “keeps ARB’s feet to the fire!”
- Identify specific ARB actions to be taken if commitments not met
Possible ARB Actions
if Commitments Not Met

- Adopt the following regulations:
  - Control non-preempted locomotives
  - Impose risk reduction program, with periodic reporting

- Evaluate the following possible regulations:
  - Hood technology for locomotive maintenance
  - Electrification of cargo handling equipment, TRUs, or other equipment

- Pursue greater authority from new federal legislation and regulations
Next Steps

- Discuss specific provisions of the commitment letters with stakeholders
- Release draft commitment letters for public comment
- Revise commitment letters as appropriate
- Present final commitment letters to Board for concurrence
- Railroads release detailed railyard-specific plans for meeting commitments
<table>
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<tr>
<th>Proposed Timing</th>
<th>Description</th>
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<tr>
<td>March/April</td>
<td>Prepare draft letters and hold public workshops</td>
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<td>April/May</td>
<td>Present letters to the Board</td>
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<td>May/June</td>
<td>Exchange signed letters</td>
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<tr>
<td>July</td>
<td>Railroads release details of how commitments to be met</td>
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<tr>
<td>August/September</td>
<td>Hold community meetings</td>
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Benefits of the Proposal

- Achieves greater emission reductions than existing measures
- Covers both preempted and non-preempted locomotives
- Quick implementation schedule
- Facilitates dialogue between the railroads and the local communities
Staff Recommendations

- Pursue commitment with railroads to reduce emissions and risk at high risk railyards

- Direct staff to:
  - Initiate detailed discussions of key provisions with interested stakeholders and to conduct public meetings
  - Return to the Board in April/May with final commitment letters