Proposed In-Use Stationary Diesel Agricultural Engine Requirements

Public Workshop
Sacramento
July 27, 2006

California Environmental Protection Agency

Air Resources Board
Recap: April Public Workshop

- **Purpose**
  - Reduce diesel particulate matter (PM) exposure and risk

- **Regulatory Background**
  - Diesel Risk Management Plan
  - Airborne Toxic Control Measure for Stationary Compression Ignition Engines (ATCM)
  - District oxides of nitrogen (NOx) rules
Recap: April Public Workshop (continued)

- **Applicability**
  - Greater than 50 horsepower (hp) in-use stationary diesel ag. engines
  - Exceptions: ag. wind machines and ag. emergency standby generator sets
  - Expected to primarily affect ag. irrigation pump engines
    - 8,600 Statewide
    - diesel PM: 850 TPY
    - NOx: 12,800 TPY
Recap: April Public Workshop (continued)

- Proposed Requirements
  - Discussed relation of emission limits to Off-Road Compression Ignition Engine Certification Standards
  - Discussed engine replacement and other compliance options
  - Requested suggestions and discussed comments about reporting requirements
  - Also discussed: compliance deadlines, district implementation, residual risk concerns, emission inventory
Purpose of Today’s Public Workshop

• Discuss Revisions in Response to Comments
• Introduce and Discuss Proposed Reporting Requirements
  ▶ Integration of ATCM and AB 2588 “Hot Spots” Program requirements to address risk
• Next Steps
Revisions to the Proposal

• Moved Compliance Date for Noncertified ("Tier 0") 175 to 750 HP In-Use Ag. Engines
  ▸ From Dec. 31, 2009 to Dec. 31, 2010
  ▸ Keeps incentive funding opportunities open
# Proposed Noncertified In-Use Stationary Diesel Ag. Engine PM Emission Limits

<table>
<thead>
<tr>
<th>Non-certified (Tier 0) Engine HP</th>
<th>Off-Road Engine Cert. Standard</th>
<th>Proposed ATCM Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;50 - 99</td>
<td>Tier 3 or Interim 4</td>
<td>Dec. 31, 2011</td>
</tr>
<tr>
<td></td>
<td>Jan. 1, 2008</td>
<td></td>
</tr>
<tr>
<td>100 - 174</td>
<td>Tier 3</td>
<td>Dec. 31, 2010</td>
</tr>
<tr>
<td></td>
<td>Jan. 1, 2007</td>
<td></td>
</tr>
<tr>
<td>175 - 750</td>
<td>Tier 3</td>
<td>Revised to Dec. 31, 2010</td>
</tr>
<tr>
<td></td>
<td>Jan. 1, 2006</td>
<td></td>
</tr>
<tr>
<td>&gt;750</td>
<td>Tier 4</td>
<td>Dec. 31, 2014</td>
</tr>
<tr>
<td></td>
<td>Jan. 1, 2011</td>
<td></td>
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</tbody>
</table>
Revisions to the Proposal (continued)

• Clarified that Tier 1 and Tier 2 In-Use Ag. Engine Must Meet Both New and Future In-Use Provisions
  ▪ Avoids conflict with ATCM’s definition of “new” engine

• Clarified that “Date of Installation” Is Limited to the In-Use Ag. Engine Model Year Plus 1 Year
Proposed T1,T2-Certified In-Use Stationary Diesel Ag. Engine PM Emission Limits Unchanged

<table>
<thead>
<tr>
<th>Tier 1 or Tier 2 Certified Engine HP</th>
<th>Off-Road Engine Cert. Standard</th>
<th>Proposed ATCM Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥175</td>
<td>Tier 4 Jan. 1, 2011</td>
<td>Dec. 31, 2014*</td>
</tr>
</tbody>
</table>

* or 12 years after initial installation
More Stringent PM Emission Limits Near Residential Areas

• Tier 3 Engines May Result in Unacceptable Cancer Risk for Engines Located Very Close to a Neighboring Residence or Residences (i.e., Off-Site Receptors)

• Compliance Alternatives:
  ▶ Electrify
  ▶ 0.01 g/bhp-hr PM Tier 4 engine
  ▶ Tier 3 engine plus DPF
  ▶ Spark-ignited engine
  ▶ Alternative fuels
  ▶ Relocate Engine
Proposed Reporting Requirements

• Purpose of Reporting:
  ‣ Outreach,
  ‣ Target Incentive Funding,
  ‣ Promote Equity

• No Reporting Required If District Already Has the Information
Proposed Reporting Requirements: Initial Notification Submittal

• General Reporting Requirements
  ‣ Owner/Operator contact information
  ‣ Engine make, model, serial number, size
  ‣ General description of engine location
  ‣ Estimated engine operating hours and fuel use (if non-diesel fuel is used)

• Reporting for Engines Near Receptors
  ‣ Estimated distance and direction from engine to receptor
  ‣ Specific engine and/or receptor location
Draft ATCM Concept for Addressing Residual Risk for Engines Located Near Off-Site Receptors

- Designed to Address AB 2588 “Hot Spots” Program
- District Conducts Risk Screen for Tier 0 and Tier 3 Engines
- If Estimated Risk Exceeds 10 in a Million, a Tier 3 Engine May Not Be Sufficiently Health Protective
- Engine Owner/Operator May Contract for Independent Health Risk Assessment to Verify Risk Screen Results
Next Steps

- Sept. 2006 - Staff Report, 45-Day Public Review and Comment
- Oct. 19, 2006 - Board Hearing
Further Information

- Webpage: http://www.arb.ca.gov/diesel/ag/inuseag.htm
- List Serve: http://www.arb.ca.gov/listserv/inuseag.htm
- Richard Boyd, Manager, Process Evaluation Section, (916) 322-8285 or rboyd@arb.ca.gov; or
- Barbara Cook, (916) 323-0440 or bcook@arb.ca.gov
Sacramento Webcast Audience
Questions and Comments

• E-mail Address:

auditorium@calepa.ca.gov
Other Proposed Amendments
Proposed Amendments

• The proposed amendments are intended to resolve specific implementation issues.
Rolling Blackout Reduction
Program Changes

• Amend definition of a Rolling Blackout Reduction Program (RBRP).
  ‣ Remove specific numeric references in the definition that are subject to change by the PUC.
    – Add new reference to PUC Tariffs.
Fuel Reporting Requirements

• Reporting Requirements for Emergency Standby Engines
  ▸ Allow compliance through maintaining adequate purchase records of complying fuel.
  ▸ Require preparation of monthly reports.
Maintenance and Testing

- Propose amendments to the definition of Maintenance and Testing
  - New subsection for additional operations resulting from testing engines that have experienced equipment breakdown or failure during scheduled or routine maintenance as emergency use.
    - District approval required
CARB Diesel

• Propose amendments to the “Alternative Diesel Fuel” and “CARB Diesel Fuel” definitions.
  ▸ Modify alternative diesel fuel definition to exclude biodiesel blends that meet CARB diesel fuel requirements.
  ▸ Redefine CARB diesel fuel to be consistent with the existing CARB diesel fuel regulations.
Sell-Through Provision

- Allow distributors and dealers a sell-through period for CI engines <175 bhp
  - Greater flexibility to reduce existing engine inventory.
    - Applicable if engine is delivered or ordered 3 months prior to and delivered no more than three months after the effective date of the new engine standard.
    - District approval required
Clarify 0.01 g/bhp-hr PM Standard

• Clarify technologies acceptable to achieve the 0.01 g/bhp-hr Diesel PM emission standard.
  ▸ Consider the diesel PM emission standard met
    – Engine certified to meet the 0.15 g/bhp-hr PM emission standard plus a
    – Level 3 verified control strategy
Launch Tracking at Vandenberg AFB’s CT Sites

- Clarify “Initial Launch” to mean any pre launch system checks and post launch tracking operations at CT sites that occur on the day-of-launch only.
  - Each emergency standby engine will be limited to a maximum of 100 hours per year for maintenance and testing.
  - Emergency standby CI engines at CT sites will be given until December 31, 2009 to meet the 0.01 g/bhp-hr PM emissions standard.
Test Engine Exemption

- New “test engine” exemption for stationary engines located at “research and development (R&D) facilities.
  - District approval required
Non-Substantive Changes

- Clarify the ATCM does not apply to:
  - Portable CI engines that provide the motive power to on-road engines
  - CI engines used for propulsion of marine vessels or auxiliary engines used on marine vessels
  - Agricultural wind machines.

- Move the exemptions in the ATCM for portable, marine, and agricultural wind machines to a new “Applicability section.

- Other minor changes
Additional Information

• Contacts to discuss issues and/or suggest changes to non-agricultural changes to the ATCM.
  ‣ Erik White, Manager, Technical Analysis Section
    – (916) 327-7213
    – ewhite@arb.ca.gov
  ‣ Ron Hand, staff lead
    – (916) 327-6683
    – rhand@arb.ca.gov