On-Road Heavy-Duty Q/A and Update

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2006 EMA Certification Workshop
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Allowable Maintenance

- 40CFR Part 86.004-25 and 40CFR Part 86.007-25 (subject to the Board’s Approval)
- Intend to align with EPA maintenance requirement for critical emission related items
- Federal Register Notice (FRN) will allow 80,000 maintenance interval for select medium heavy duty vehicle types
  - Indicate shorter MI on new template
  - Ensure smaller DPFs are only installed on approved applications
  - Reasonable likelihood of maintenance being performed in use
- ARB Board item scheduled for later this year
Infrequent Regeneration

- ARB is working with EPA to best characterize various proposals from manufacturers and issue a guidance document.
- Upward Adjustment Factors (UAF) and Downward Adjustment Factors (DAF).
- Specific methods are approved individually (UAF and DAF calculations).
- May propose in-use data to model regeneration deterioration effects (must account for frequency and duration).
- Must account for device’s regeneration effects at end of useful-life (old aged / time & usage).
ARB
Deterioration Factors

- Additive / Multiplicative DFs for 2007 HDDE
  - use of additive DFs needs technical justification
- Carryover of DF to 2007 MY are approved on individual basis, NOT automatically approved
- Specific useful-life durability demonstration of after-treatment devices
- Required Maintenance Schedule
- Crankcase emissions need to be addressed
ARB
DF Considerations

Suggest ways to minimize DF work:

• establish stabilized engine out emissions
• may allow aging of after-treatment devices separately
• must have data to support

Dialog with Staff on 2007 DF --- NOW
Start 2010 discussion ASAP
EPA
Deterioration Factors

- Additive DFs allowed (same provisions as NRCI)
- Assigned DFs not available for large volume families
- Ongoing discussion with EMA regarding DF guidance for 2007
  - Carry-over
  - Carry-across
  - Durability of aftertreatment
- EMA/EPA/ARB must begin dialog on 2010 DF plans early
AECD

• Jointly reviewed by ARB and EPA
• Concurrent submittal of information
• Complete new AECD document for 2007
• Carryover of AECD not automatic
  – Changes to lower FEL and NTE
  – Addition of new technology
  – 4 months lead time for review
Averaging Calculations

- CI Averaging Calculation Guidance published March 2005
- No SI Averaging Calculation Guidance to be published
  - Individual manufacturer meetings
Changes to Filemaker Template

- Engine Control and Aftertreatment boxes updated for 2007-2010 Technology
- Maintenance Interval
- Adjustment Factors
- Averaging Calculations
- AECD Emissions Impact
- OBD Approval
- With abbreviated review process, new template will be available for 07 certification
Expediting Application Review

• Concurrent, **EARLY** discussion with BOTH agencies on AECD, EMD, DF plan, Warranty and maintenance schedule (minimum lead time = 6 months)
• Complete application speeds review
• Partial application delays review
• Use of new FileMaker Template
• Quick response to questions during review
ABT Template

- ABT template in Excel format
- Template should be used for 2005 and 2006 reports
- Template will be revised for 2007
- ABT templates for other industries currently being drafted/reviewed
Manufacturer In Use Testing

- Screening and Reporting guidance documents to be published by the end of the month
- Revised EF selection and reporting dates negotiated by EPA, ARB and EMA
- Small electronic submission pilot study in progress
ARB Emissions Warranty Reporting

- Proposed Changes
  - Reduce Reporting
  - Required Testing When Defect > 10%
- May 2, 2006 Workshop
- September 28, 2006 Board Hearing
- Specific Info At http://www.arb.ca.gov/msprog/mailouts/mouts_06.htm
EPA Defect Reporting

• Existing on hwy defect regs are out of date
• Evaluating update options. Harmonize with...
  – Nonroad regs
  – ARB regs
• Issues with current defect reports
  – Completeness
  – Blanket CBI claims
EPA Compliance Testing

- Lab Modernization efforts at NVFEL complete
- HD On Hwy round robin initiated
  - Good correlation at two labs
  - Scheduling additional labs (two engines available)
- Plans to begin nonroad round robin then compliance testing program
  - Details to be discussed at EMTC
2007 Hybrid Overview

Existing CARB Interim Procedure continues to apply, with changes

2007 Model-Year changes:
- One-party certification
- No 25% automatic reduction
- 435k-miles useful-life for UB
EPA Hybrid Project

- Voluntary quantification protocol for fuel economy and emissions benefits
  - Energy Policy Act Tax Credits
  - SIP Credits
  - Marketing
- Stakeholders Include: Universities, Municipalities, CARB, Hybrid Manufacturers
- Limited OEM participation
- Draft protocol by May 2006
- Next Steps: Verify Protocol, Draft SIP guidance
ARB

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Question and Answer
ARB Compliance Testing