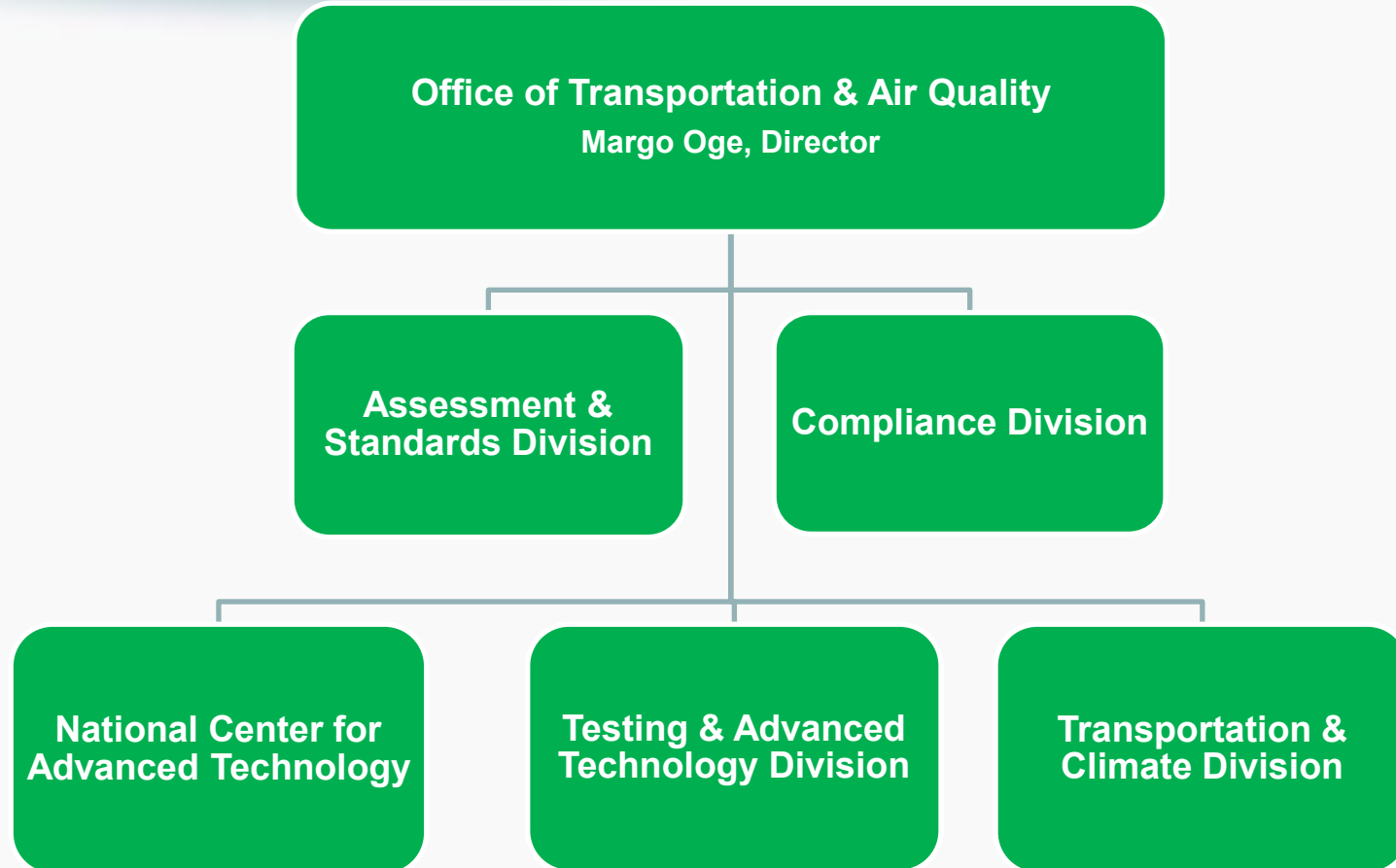
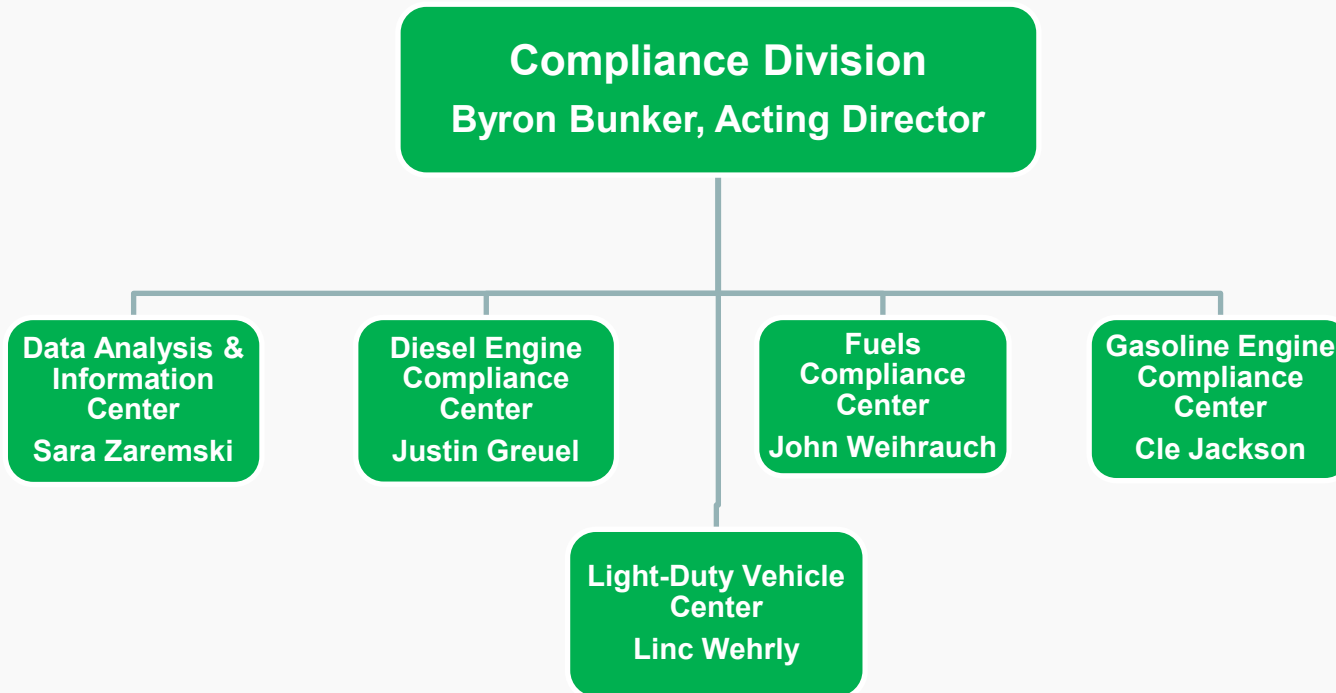


# EPA Certification Program Update

EMA Certification Workshop

April 17, 2012







## Diesel Engine Compliance Center

Justin Greuel, Director

### DC Office

Steven Debord  
Cliff Dean  
David Dickinson  
Jason Gumbs  
Joe Hresko  
Michelle Ibarra  
Kristien Knapp  
Larry Oeler  
Greg Orehowsky  
Nydia Reyes-Morales  
Melvis Strickland  
Carl Wick  
Richard Deadwyler\*

### AA Office

Jay Smith

\*Senior Environmental Employment  
Program Enrollee



## Gasoline Engine Compliance Center

Cleophas Jackson, Jr., Director

### AA Office

Phil Carlson  
Emily Chen  
Dan Cullen  
Julia Giuliano  
Trina Vallion  
Bill Johnson\*  
John LaCroix\*  
Bruce Sdunek

### DC Office

Nick Flores\*  
Mike Marko\*

\*Senior Environmental Employment  
Program Enrollee



# CI Assignments

## On-Highway\*

- Steven DeBord
- Jason Gumbs
- Greg Orehowsky
- Jay Smith

\*Includes HD GHG

## Nonroad

- Steven DeBord
- Jason Gumbs
- Joe Hresko
- Michelle Ibarra
- Greg Orehowsky
- Melvis Strickland
- Carl Wick

## Marine\*

- Melvis Strickland
- Carl Wick

\*Includes IMO

## Locomotive

- Michelle Ibarra
- Larry Oeler

# SI Assignments

## On-Highway

- Jay Smith

## Nonroad\*

- Phil Carlson
- Dan Cullen
- Julia Giuliano
- Trina Vallion

\*Includes Small & Large SI

## Marine

- Dan Cullen

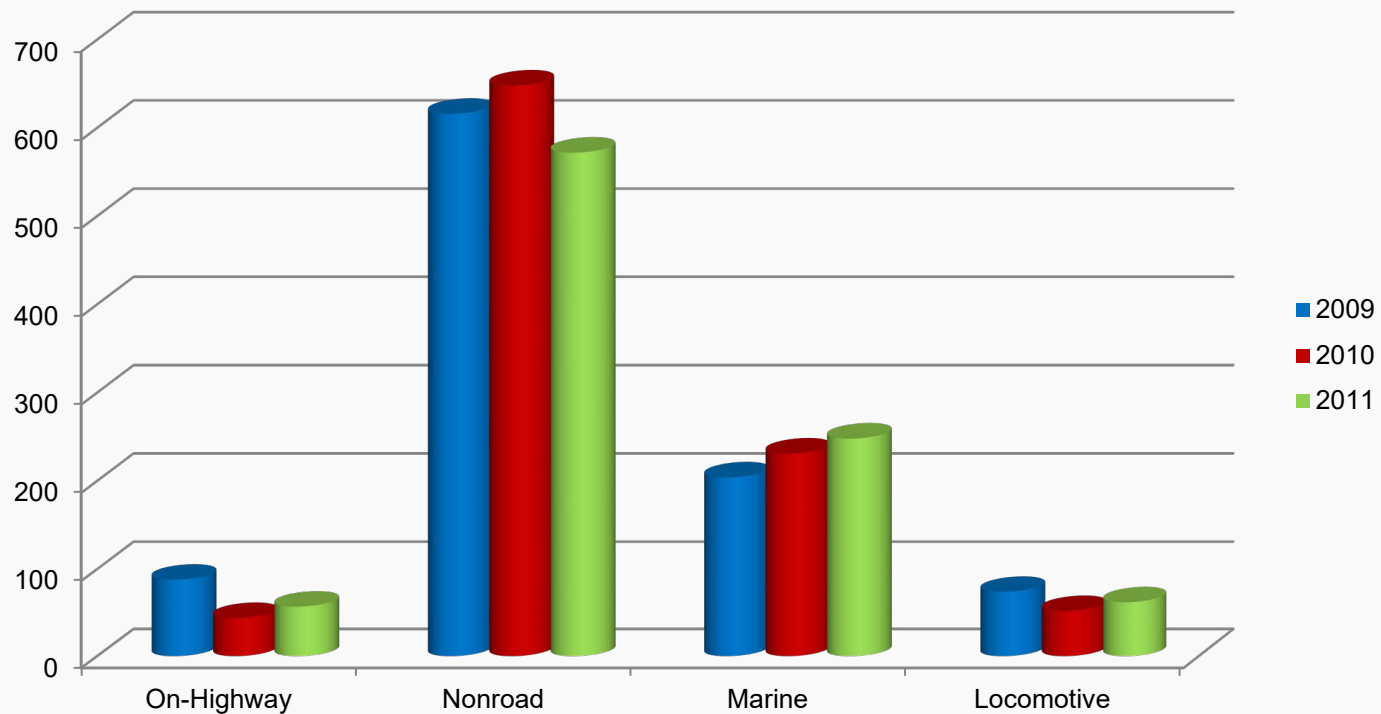
## Motorcycles / Recreational Vehicles

- Emily Chen



# Certificate Issuance by MY

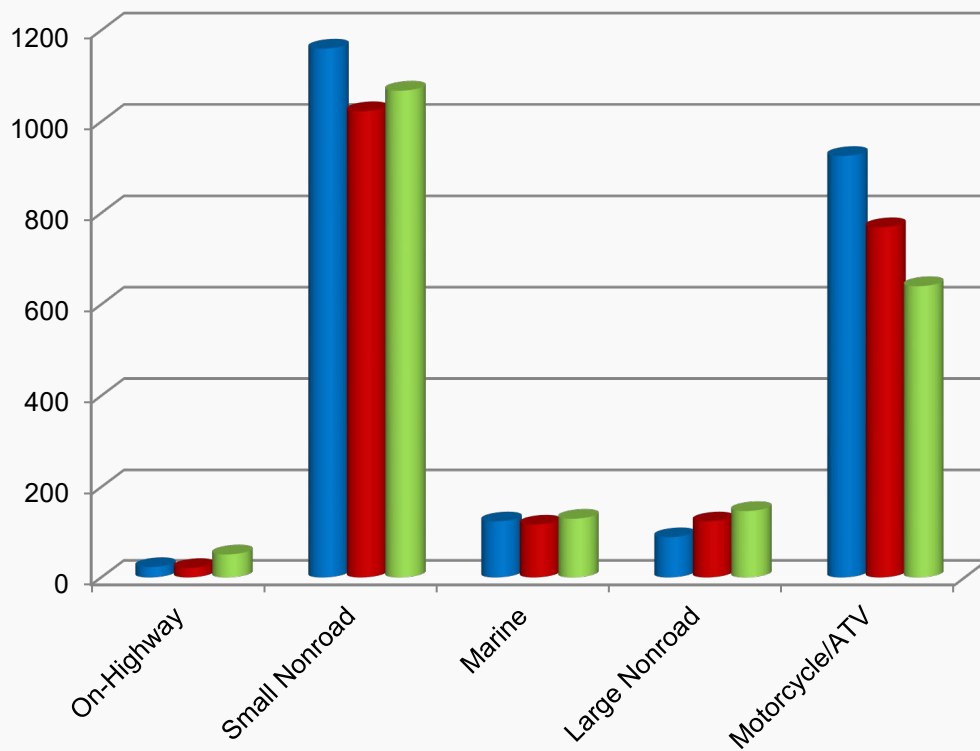
## Compression-Ignition



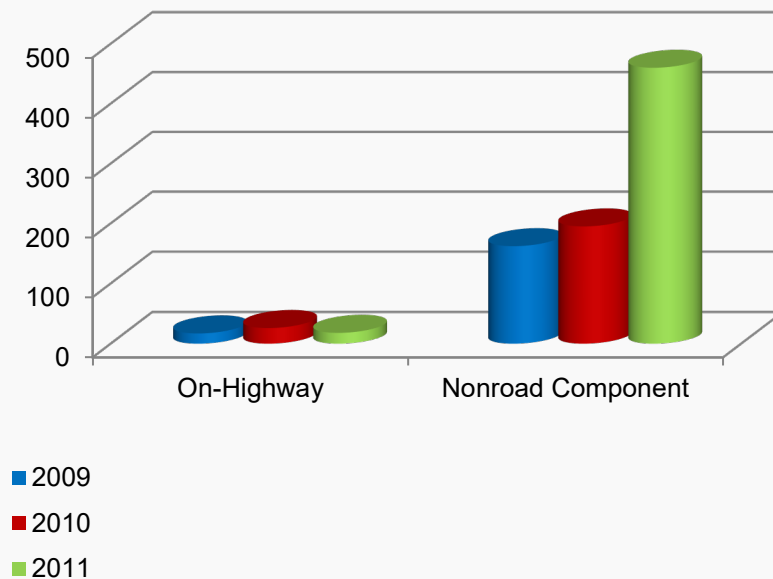


# Certificate Issuance by MY

## Spark-Ignition



## Evaporative







# Certification Workload

- Experiencing significant workload reviewing applications for NRCI Tier 4 rollout
  - New technology (EGR, DPFs, early SCR)
  - Deterioration factor development
  - AECD reviews
- Significant focus on implementing new HD GHG regulation
  - Development of certification templates and database
  - Transferring knowledge base (vehicle aerodynamics, tire evaluations)
  - Early model year certification



# Certification Process

- In advance of submitting an application
  - Provide notice of certification plans
  - Begin discussions early with certification representative on:
    - any new engine design or emission controls
    - DF development plans
    - AECD descriptions
    - NTE deficiencies or LTRs
    - any alternative/special procedure or exemption



# Certification Process

- When submitting an application
  - Ensure application is complete and accurate
    - Specify correct engine family name
    - Include all models and parts
  - Be sure application fee is paid
  - Notify cert rep of application submittal (not needed for Verify applications)
  - Be sure statement of compliance is submitted (not needed for Verify applications)
- Carryover applications
  - Ensure test data has not changed from prior model year
  - Include running changes (make sure they don't change carryover status)



## DF Requirements

- Manufacturers should approach certification representatives well in advance of submitting application to discuss DF development plans
  - Selection of DF engines
  - Carry across of DFs to other engine families
  - Amount of planned service accumulation
  - Service accumulation duty cycle
- Presently coordinating with CARB to provide feedback on EMA cooperative DF program



# Auxiliary Emission Control Devices

- Manufacturers should approach certification representatives in advance of submitting application to discuss AECDs
- Manufacturers expected to still utilize reporting template outlined in CCD-04-12
  - Provide clear description of need for AECDs, sensed and controlled parameters, and how they function
  - For those active off-cycle, need justification that they are the minimum strategy necessary
  - Verify modules will accommodate slightly revised format for reporting AECDs – expectations on substance, however, remain unchanged



## Flow Through Filters (FTFs)

- Receive occasional inquiries about use of FTFs for nonroad applications
- Always discuss technology plans well in advance of submitting certification application
  - EPA has previously voiced concerns
  - Challenges publicly documented
    - Particulate Oxidation Catalysts – A. Majewski - DieselNet



# Certification Fees

- Fees change annually
  - Fees are recalculated each year according to a formula in the fees regulation
  - The formula accounts for changes in the number of certificates issued each year and for effects of inflation on cost of labor
  - New fees are announced via guidance letter each February or March for the upcoming calendar year
    - Guidance letters can be found at [www.epa.gov/otaq/fees.htm](http://www.epa.gov/otaq/fees.htm)
- Important to remember
  - Manufacturers should pay the fee corresponding to the calendar year in which the application is submitted
  - Be sure to submit a fee filing form
    - Fillable PDF version can be found at [www.epa.gov/otaq/fees.htm](http://www.epa.gov/otaq/fees.htm)
  - Applications cannot be processed until the certification fee is paid



# Status of Electronic Certification

- Information Management System (IMS)
  - EPA's historical engine certification and compliance system
  - FileMaker Pro database software
  - Mfrs submit applications via e-mail using template files
    - Templates can be found at [www.epa.gov/otaq/certdat2.htm](http://www.epa.gov/otaq/certdat2.htm)
  - IMS still utilized for on-highway CI, marine CI, and on-highway SI (including evaporative) sectors
  - IMS recently updated for processing of HD GHG cert applications





# Status of Electronic Certification

- **Verify**
  - EPA's engine and vehicle compliance information system (<http://epa.gov/otaq/verify/>)
  - Web-based system consisting of two elements
    - Public interface – consists of web screens and programs that collect and process manufacturer data
    - EPA-only database – gathers and processes data, issues certificates, and supports compliance functions (access limited to EPA staff)
  - Will aid in streamlining certification processing
- **Engine Module Development**
  - Locomotive
    - Deployed late 2006
    - Does not include non-OEM component certification or AESS systems
  - Nonroad SI
    - Deployed August 2010
    - Covers multiple sectors: small nonroad, large nonroad, marine, and nonroad evaporative component
  - Nonroad CI
    - Deployed August 2010 (mandatory use began February 1, 2011)



# Status of Electronic Certification

- NRSI and NRCI Verify Modules
  - Implementation has been successful
  - No major issues reported by manufacturers
  - Improvements being made as time and resources allow
- What's next
  - Updating locomotive module for component and AESS certification
  - Marine CI module planned for deployment during FY13
  - HD on-highway module (criteria and GHG certification) to follow
  - Development schedule contingent upon budget and resource availability



## Availability of Certificates / Data

- Posting of certificates on website
  - Historically, have not posted certificates
  - Not frequently requested by public
  - Viewed as having small utility relative to posting non-CBI certification data
- Posting of certification data on website
  - IMS data posted a minimum of every 6 months at [www.epa.gov/otaq/certdata.htm](http://www.epa.gov/otaq/certdata.htm)
  - Plan for posting of Verify data will be developed later this year after completion of CBI class determination



# CBI – Certification and Compliance Data

- Currently trying to harmonize data treated as CBI among various regulated sectors
  - Will accomplish through class determination for information with common characteristics
  - Currently only have class determination for light-duty (issued 1977)
  - Will provide predictability to businesses and reduce burden on EPA of making repetitive CBI determinations
- Undertaking effort so that we can continue to publish same general certification data as in past
- General categories being considered as CBI
  - Small SI bond information
  - Projected sales
  - Production dates
  - Aftertreatment device details
  - AECD names/details
  - Engine technical descriptions
  - Engine family comments
- No current plan to publish compliance data (credit balances, etc.), but will follow up with manufacturers if this changes
- Will share draft with industry once we have completed internal reviews – timing TBD
- Plan to publish FR notice later this year with final determination



# Electronic Data Reporting

- Verify also used to collect data from manufacturer-run in-use program
  - System deployed early 2006
  - Covers only on-highway sector
  - Recently revised data reporting requirements to add processing capabilities for PM test results
  - Changes planned for production environment in mid-May
- Supporting information can be found at [www.epa.gov/otaq/verify/publications.htm#hd](http://www.epa.gov/otaq/verify/publications.htm#hd)



# HD Defects, Voluntary Recalls, and Progress Reports

- New electronic reporting system (EDIR/VERR System) for only HD on-highway
  - Replaces hardcopy reporting process
  - Announced for heavy-duty June 30, 2011
    - Webinar conducted August 2, 2011
    - System officially opened August 30, 2011
    - Some manufacturers began submitting early
    - Same system as utilized for light-duty
  - Increasing use of internal defect database for nonroad review
    - Planning to include nonroad reporting in Verify for the future
  - Guidance documents can be found at [www.epa.gov/otaq/verify/publications.htm#edir](http://www.epa.gov/otaq/verify/publications.htm#edir)



# Manufacturer Compliance Reports

- EPA has developed MS Excel-based templates for reporting of other manufacturer compliance data and a Compliance Database to manage reports
- Manufacturers may submit reports via e-mail (next slide)
  - Alternately, may submit electronic copy (CD, etc.) via postal service
  - Regardless of submission method, please always provide an electronic copy – hard copies are not effective
  - Submit questions / comments about templates to appropriate e-mail addresses
  - Submit questions about compliance programs and regulations to your EPA certification representative
- EPA is working to develop capability for manufacturers to submit compliance reports through Verify
  - Do not submit reports through Verify yet – they are extremely difficult to retrieve
  - Plan to have capability developed this Fall



# Manufacturer Compliance Reports

- Templates can be found at [www.epa.gov/otaq/certdat2.htm](http://www.epa.gov/otaq/certdat2.htm)
  - Annual production volume
    - Available for all industries
    - Submit reports to [prod\\_data@epa.gov](mailto:prod_data@epa.gov)
  - Averaging, banking, & trading (AB&T)
    - Available for on-highway CI & SI, nonroad CI (Part 89), small nonroad SI (Part 90 & 1054), marine SI (Part 1045), locomotive (Part 92 & 1033)
    - Submit reports to [abt\\_engine@epa.gov](mailto:abt_engine@epa.gov)
  - Production-line testing (PLT)
    - Available for small & large nonroad SI (Part 90, 1054, & 1048), marine SI (Part 1045), locomotive (Part 92 & 1033)
    - Submit reports to [plt@epa.gov](mailto:plt@epa.gov)
  - In-Use testing
    - Available for small & large nonroad SI (Part 90 & 1048), marine SI (Part 91)
    - Submit reports to [in\\_use@epa.gov](mailto:in_use@epa.gov)
  - Other templates under construction





# Manufacturer Compliance Reports

- Dear Manufacturer Letter (CISD-10-17) sent out September 2010
  - Reminder to manufacturers of reporting obligations by industry sector
  - Noted inconsistent reporting rates
  - Instructed manufacturers to begin using templates for reporting and to submit past due reports
- EPA will integrate the Compliance Database with Verify to link reports to certified engine families and carryover applications
- Failure to report may result in:
  - Referral of violation to OECA
  - Revocation, suspension, or voiding of existing certificates
  - Withholding of new certificates



# EPA Compliance Testing

- Compliance testing program continues with goal to:
  - Ensure benefits stated in rulemakings are reflected in real world operation
  - Address level playing field issues for all market participants
  - Address compliance issues for new and in-use engines

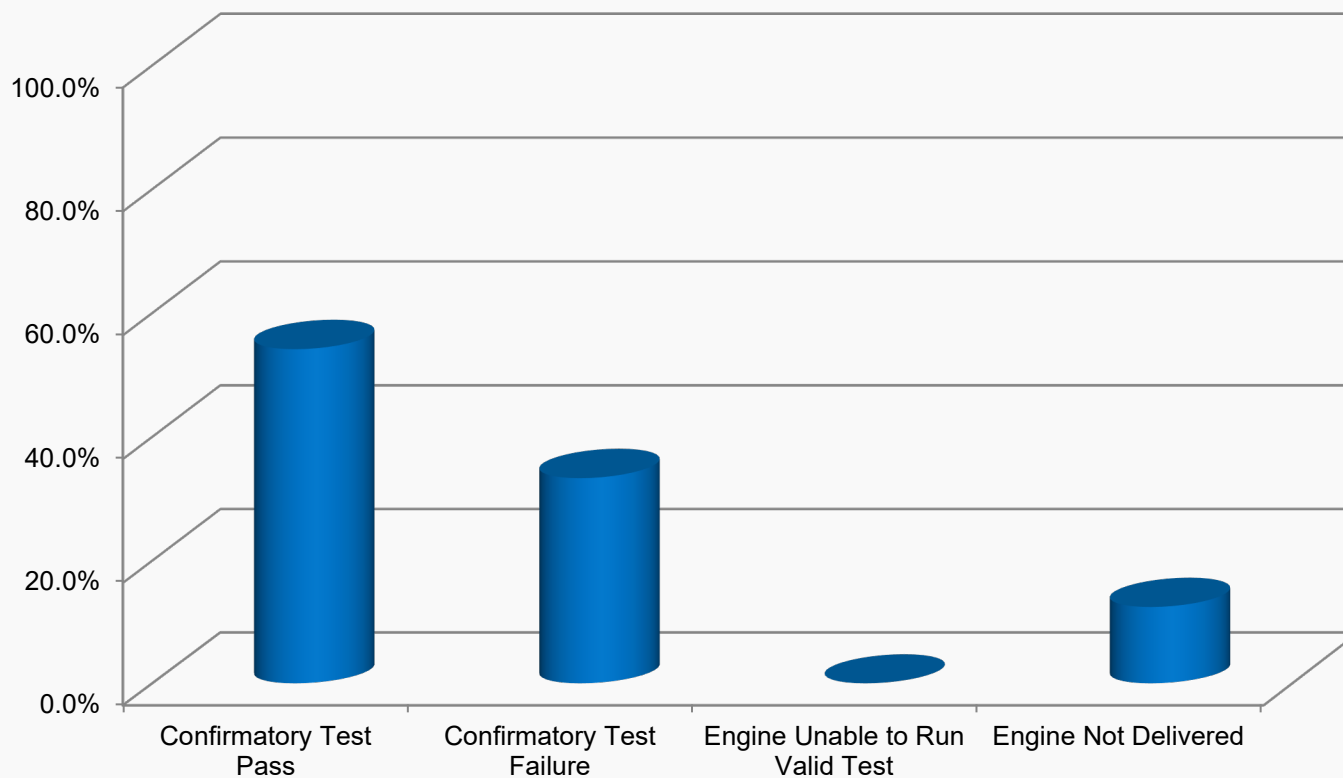


# EPA Compliance Testing

- Over past year, have conducted in-house confirmatory testing, contract lab confirmatory testing, on-site SEA, and in-use testing
- Multiple sectors are included in the testing
  - Initial focus on nonroad CI has been expanded to small nonroad SI (handheld and non-handheld) and on-highway CI
  - Expect to continue with compliance testing for nonroad CI and small SI, and expand to marine SI, large SI, and beyond



# Confirmatory Testing in 2011





## In-Use Testing at NVFEL

- Previous programs focused on 2004 and 2007-level technology
- Current program is evaluating 2010-level engines from multiple manufacturers
- Looking at a variety of metrics
  - NTE emissions performance (using Subpart T procedures)
  - Overall emission levels (impacts of idling, transient operation, etc.)
  - Inducement strategies for SCR (if SCR equipped)
- Plan is to test between 20 and 30 vehicles in 2012



# EPA Compliance Testing

- Compliance testing and analysis will utilize all of the available tools, including:
  - Confirmatory tests
  - Selective enforcement audits
  - General laboratory and records audits
  - In-use data evaluation from manufacturer and EPA test programs
  - Informal site visits



# Manufacturer In-Use Testing

- 2011 selections for on-highway industry sector
  - Reports due December 30<sup>th</sup>, 2012
  - Selections for 2012 coming in June
- Prior testing
  - 2008 – 12 engine families, 7 manufacturers
  - 2009 – 18 engine families, 8 manufacturers



# Manufacturer In-Use Testing

Preliminary Analysis of Pass Ratios for 2009

Vehicle Result	Number of Vehicles	Range in "Pass Ratio" by Pollutant			
		HC	NOx	HC+NOx	CO
Pass	24	100%	93 – 100%	-	100%
	41	-	-	93 – 100%	100%
Fail	1	-	87%	-	-
	6	-	-	0- 82%	-





## HD GHG Rule

- Final rule signed August 9, 2011
- Conducted industry workshop on November 3, 2011
  - Outreach / early questions
  - Workshop presentations and Q&A materials can be found at [www.epa.gov/otaq/climate/regulations.htm#1-2](http://www.epa.gov/otaq/climate/regulations.htm#1-2)
- Certification templates and database have been developed
  - Templates can be found at [www.epa.gov/otaq/certdat2.htm](http://www.epa.gov/otaq/certdat2.htm)
- Issued first certificates to Daimler Trucks North America on February 21, 2012



# Transition Program for Equipment Manufacturers (TPEM)

- EPA has developed MS Excel-based templates for nonroad CI and SI
  - Will be posted soon at [www.epa.gov/otaq/certdat2.htm](http://www.epa.gov/otaq/certdat2.htm)
  - Engine manufacturers
    - Annual TPEM production reporting (in addition to other production reporting)
  - Equipment manufacturers
    - Notice of participation
    - TPEM report (one-time under Part 89; annually under Part 1039)
    - Bond waiver calculation / request (may be used to calculate the value of the bond)
- Submit TPEM questions (Part 89 / 1039) and reports to [TPEM-CI@epa.gov](mailto:TPEM-CI@epa.gov)



# Compliance Report

- EPA produced compliance reports in 2007 and 2008
  - Reports present convenient reference for environmental data collected from manufacturers and generated in our test programs
  - Available at [www.epa.gov/oms/about/420r08011.pdf](http://www.epa.gov/oms/about/420r08011.pdf) and [www.epa.gov/oms/about/420r10022.pdf](http://www.epa.gov/oms/about/420r10022.pdf)
- Next report to cover 2009 and 2010 activities