

# 2010 & Beyond

## *The Real Emission Story*

2010 Engine 'Standards' Workshop  
CDPHE & RAQC  
August, 2009

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## Discussion Items

- 2007 Emissions Rule
- Average, Banking & Trading [ABT]
- Navistar 2010 Technology
- 2010+ Issues
  - Possible Impact from CARB Retrofits
  - Navistar challenge to EPA on SCR-urea

## 2007 Emissions Rule

- Required 0.20g NOX starting in 2007
- Allowed flexible phase-in period 2007-2009
  - Up to 50% of production to ‘old’ 2.5g standard and 50% to ‘new’ 0.20g standard
    - Effectively created an ‘average’ standard of 1.3g 2007-2009
- *Only* way to meet 2007-2009 emissions is through ABT
  - EPA specifically allowed special provisions to promote ABT during this period. See 40 CFR 86.007-11.
  - ALL manufacturers have been participating in ABT during since 2007
- 2010+ requires ALL engines to be at or below 0.50g
  - If no ABT credits, then the engine **MUST** be at 0.20g or below
    - Navistar and some other manufacturers will be using credits 2010+, but most manufacturers just met the requirements 2007-2009 and did not create credits

# Average Banking & Trading [ABT]

– *from the start*

- ABT is almost 20 years old
  - EPA adopted first rules in 1990 (55 FR 30584, 7/26/1990)
    - “Trading and banking are innovative, voluntary programs that allow manufacturers of heavy-duty engines who reduce emissions below regulatory requirements [in one] model year to offset these reductions against emissions in a later model year ...”
    - “A number of restrictions have been included to ensure that there will be **no increase in emissions or other adverse environmental effects.**”
    - “All trading and banking credits are subject to a **20% discount** as an added assurance that the incentives created by the program will not only have **no adverse environmental impact** but also **provide an environmental benefit.**”
    - “Furthermore, trading and banking can **provide environmental benefits** that **would not be available without the existence of such programs.**”
    - .”

## ABT Today

- USEPA reiterates its support for ABT in 2007
  - “(EPA is) continuing this ABT program because ...that it will provide ... significant compliance flexibility. This compliance flexibility could be a significant factor in the manufacturers’ ability to comply with the standards in 2007 and will help to allow implementation of the new, more stringent standards as soon as permissible under the CAA.” (66 FR 5109, 1/18/2001)
- ABT Programs continue to reduce emissions, faster than otherwise possible
  - “EPA builds a great deal of flexibility into its emissions and fuel economy regulations. These flexibilities benefit the environment by ...introduc[ing] new technologies faster than would otherwise be possible under a “one-size-fits-all” standard.” EPA 2007 Progress Report (EPA-420-R-08-011, 10/2008, p 37)

## Navistar's 2010 Plans

- Navistar will use ABT to evolve today's technology for tomorrow
  - ABT credits will be used 2010+ since they were created by being *below* (ie, *cleaner than*) the required emission levels
    - Navistar has been significantly below (ie *cleaner*) the required emission level from 2006 to today
- Navistar's technology is based upon evolutionary development of current technology – Advanced EGR
  - Improved electronics and controls, advanced fuel injection, advanced combustion, and air management
  - No new training or supply requirements

## Navistar's 2010 Plans *(continued)*

- Hybrids



Hydraulic Hybrid Vehicles



Hybrid Delivery Trucks  
*Trucks save 30%-40% fuel costs while reducing CO2 emissions*

- Electric Vehicle



President Obama at Navistar/Monaco unveiling of electric delivery truck

## 2010+ Issues

### *Possible Impact From CARB Retrofit Programs*

- CARB requiring retrofits on ALL diesels in California
  - PM retrofits as early as 2010
  - NOX retrofits as early as 2013
- While PM retrofits are generally available, no NOX retrofits meeting requirements are currently approved
  - Retrofit approval process can take months/years
- Possibly comply, in California, by moving older vehicles out of and newer vehicles in to California
  - Where do older vehicles go?

## 2010+ Issues

### *Navistar's Challenge to EPA's SCR-urea Guidance*

- Navistar agreed with EPA's review of SCR-urea systems and chose a non-SCR-urea path because of compliance issues with SCR-urea systems
  - In 2001, EPA's 2007 rule questioned viability of SCR-urea because the system could not guarantee 100% emissions control
  - EPA's 2007 guidance required SCR-urea to always operate to ensure emissions control
- However, EPA's 2009 guidance specifically allows SCR-urea to 'run dry', ie **NO EMISSIONS CONTROL**, for up to 1,000 miles with no affect on driveability
  - By not legally using urea, SCR-urea fails to achieve emissions benefits and creates an unfair competitive advantage