

Developments in US Truck Emissions Standards

Summary for ARTSA Meeting
Simon Humphries, Chief Technical Officer

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Meetings held in USA Oct-Nov 2011

- NC2 / Navistar / CAT: Jeff Russell & Michael Ralsky
- NADA: David Regan
- US DoT Federal Highway Administration: Various
- USA DoT NHTSA: Chris Bonanti, Administrator for Rulemaking
- Cummins Inc:
Bob Jorgensen, Steve Charlton, Jackie Yeager & Brian Mormino.
- UMTRI: Peter Sweatman
- US EPA: Byron Bunker, (Rulemaker) & Matt Spears
- TEMA: Jed Mandel & Tim Blubaugh,
- Westport Innovations Inc: Scott Winton

TEMA Office, 333 West Wacker Drive, Chicago



- TEMA has similar role to TIC
- Until ~3 years ago, was TMA & EMA, now merged
 - Engine manufacturers had greater need for one voice
- TEMA claim responsibility for National GHG / Fuel Economy Rule for trucks
- Agreed to exchange information with TIC on regular basis
 - e.g. Noise, ESC, Under-run protections, stopping distances



US Heavy Vehicle Emissions standards

- Sales of heavy trucks in US are currently quite strong
 - Navistar and Peterbilt plants visited running at near-capacity
- US EPA 2010 with 2013 OBD is last heavy vehicle noxious emissions rule for foreseeable future
- US EPA 2010 limit levels not changing, but most manufacturers running out of “banking & trading” credits
- 2013 MY brings tough On-Board Diagnostic (OBD) standards to ensure SCR-equipped trucks maintain levels in service



New Fuel Economy & GHG Rule

- US EPA & NHTSA GHG / Fuel Economy Rule for MD & HD trucks:
Historic Joint Rule = “Direct Action” rather than carbon tax
- All Truck & Engine OEMs now clearly focussed on engine efficiency, aerodynamics, weight etc
- Possibly some nationally funded **incentives** that complement the EPA/NHTSA Joint GHG / Fuel economy rule
 - Still under development
 - Early adopters of savings can use them as credits towards 2015 targets
 - Hybrid technology
 - Alternative fuel technologies



New Fuel Economy & GHG Rule

- Rule developed over 12 months, jointly by US EPA and NHTSA
- Rule itself is >900 pages
- Complex system, with fuel usage targets set depending on vehicle type and application
- OEMs and Fleets can use an on-line calculator to obtain estimate
- Targets for fuel use applies to BOTH engines and complete vehicles, but NOT trailers
- Projected targets mean GHG / fuel reductions (averaged over corporate sales) of between 5% and 23%, depending on vehicle type
 - Savings based on 2010 model year actual results by type

Targets for 2017

Table 1: MY 2017 Combination Tractor Standards

	EPA Emissions Standards (g CO ₂ /ton-mile)			NHTSA Fuel Consumption Standards (gal/1,000 ton-mile)		
	Low Roof	Mid Roof	High Roof	Low Roof	Mid Roof	High Roof
Day Cab Class 7	104	115	120	10.2	11.3	11.8
Day Cab Class 8	80	86	89	7.8	8.4	8.7
Sleeper Cab Class 8	66	73	72	6.5	7.2	7.1

Table 2: MY 2017 Vocational Vehicle Standards

	EPA Full Useful Life Emissions Standards (g CO ₂ /ton-mile)	NHTSA Fuel Consumption Standards (gal/1,000 ton-mile)
Light Heavy Class 2b-5	373	36.7
Medium Heavy Class 6-7	225	22.1
Heavy Heavy Class 8	222	21.8



Fuel Economy & GHG Rule

- Applicable from 2014 Model Year (Voluntary), 2015 (all)
- Credits can be banked from 2012 model year
- For more details and US presentations, visit the following link:

<http://www.epa.gov/otaq/climate/regulations.htm#1-2>

- Something in it for the customer: not just cleaner, but guaranteed to be greener and lower operating costs



What does this mean for Australian trucks?

- We are at ADR 80/03 now (since 1 Jan 2011)
 - Euro 5, US EPA 2007 & Japan NLT 05 standards
- ADR 80/04 will be developed in 2012, likely to allow:
 - Euro 6, US EPA 2010 with 2013 OBD & Japan Post-NLT 2009 with OBD
 - Mandatory from around 2016-2017 (TIC Estimate)
- EU developing heavy vehicle fuel economy standards, but could be as much as 5 years away
- Australia tends to follow EU by ~3 years
- We **may** have a truck fuel economy ADR by 2020+
- BUT, US engine makers may bring more efficient engines here early: something to attract the customers

Peterbilt factory-produced US EPA 2010 LNG





Questions