



Australian Road Transport Suppliers Association (ARTSA)

Response to:

Review of Emissions Standards (Euro VI) for Heavy Vehicles – Discussion Paper, issued October 25, 2012.

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Response:

The Australian Road Transport Suppliers Association (ARTSA) represents suppliers of parts and services to the Australian commercial vehicle industry. We have three OEM truck manufacturers in our membership.

ARTSA recommends that:

1. Australian Design Rule 30/01 be deleted.
2. Adoption of Euro VI (ADR 80/04) emission standards be delayed indefinitely.

The justification for recommendation 1 is that ADR 30/01 (Smoke Opacity) is now redundant and has been overtaken by other regulations. Existing rule ADR 80/03 (Gaseous Emissions) regulates particulates in the exhaust and smoke opacity. Tables 1 & 2 in Section 6.2.1 of Appendix A of 2005/55/EC (Appendix 1 of ADR 80/03) is applicable in Australia.

ADR 30/01 also regulates smoke opacity. It is based upon ECE Regulation 24 /03. The limit values are in the Table in Annex 7. This regulation is now old and out of step with European, Japanese and USA emissions rules. The particulate and smoke opacity limits are now an integral part of all tier 1 national rules (US EPA, Euro V, JIS).

A significant problem arises for manufacturers who have engines accredited to the 'Euro series' emission standards. The test procedures and test speeds for smoke that are in EU Directive 2005/55/EC are different to those in ECE R24. Therefore an EU certificate cannot be used on an ADR 30/01 submission without prior negotiation with VSS. The ADR 30/01 submission is often in the form of a submission that the engine complies with Euro V and it should be accepted as complying with ADR 30/01. There will be no detriment to the Australian community if ADR 30/01 is dropped because it is a redundant regulation.

Recommendation 2 concerns the delaying of the implementation of Euro VI. The justification for this is that Euro VI will result in a reduction in fuel economy (i.e. an increase in CO₂ emissions) for minimal improvement of air quality.

There is now ample evidence that the ADR 80/03 level emissions limits result in the engines becoming less fuel efficient. This occurs because of the use of Exhaust Gas Reinjection (EGR) technology; use of Selective Catalytic Reactors (SCR) in the exhaust which increase the backpressure; and changes to engine injection settings. Understandably, engine manufacturers design engines to comply with the gaseous emissions limits and there is no direct benefit for the engine owner.

The international context should be considered. The USA has recently introduced a fuel efficiency rule that will obviously spur diesel engine technology changes over the next five years. The Europeans have been investigating a fuel economy rule but have not yet legislated one. Australia has set greenhouse gas reduction targets. The world is at the end of the gaseous emissions stage and is moving into the 'greenhouse gas reduction stage'. Because the current gaseous emissions rule (ADR 80/03) delivers essentially clean engine emissions, there is little improvement in air quality to be achieved.

The 'black-smoke reduction phase' started in California with stringent (for then) Californian smoke emission requirements. This spurred the application of electronic controls to diesel engines. The result was a 15 year period of development that was a 'win-win' for all participants. The community benefited from cleaner truck exhausts. The operators benefited from better fuel economy, engine shutdown protection, higher power levels and torque shaping.... Consumers benefited from a more efficient transport sector.

The 'Nitrous oxide reduction phase' started in the early 2000s. There was no benefit for operators in this phase. Engine technology became more complex but there was no improvement in fuel economy. Engine efficiency reduced with the Euro IV and V rules because of the need to use EGR and SCR technology. In

this phase there have been Community benefits from improved air quality in cities. Most of these benefits were achieved at the Euro III & IV stages. The world is at the end of the 'Nitrous Oxide reduction phase'.

Australia should not proceed with ADR 80/04 (EURO VI) because it will be detrimental to Australia entering the next stage; the 'greenhouse gas reduction phase'. This phase has started in the USA and is likely to start in Europe and Japan in the next two years. Because the engine changes that will be needed to achieve greenhouse gas reduction are not yet clear, it would be unwise to mandate ADR 80/04 level emission standards. These are likely to be reduce fuel economy and hence increase CO₂ emissions..

Furthermore, the added complexity of engine technology needed to achieve the extremely low emission levels of Euro VI will result in higher engine costs and increased complexity. Introduction of Euro IV emissions levels in Australia was a considerable burden. EGR technology was necessary; which resulted in higher engine operating temperatures and greater cooling requirements. The cooling system development that was needed to meet the Euro VI requirements was out of proportion to the gains that may have been achieved. The discussion paper does not adequately consider the development effort that is needed in Australia. Engine suppliers require engines to operate at higher peak ambient temperatures in Australia than in either North America, Europe or Japan. Even though engines exist that comply with Euro VI level emissions in these other tier 1 locations, it does not follow that adoption of these technologies in Australia will be without cost or operating trade-offs.

The potential community benefits from lower gaseous emissions are now minor because the current standards are historically low. There is little benefit to be achieved on most Australian roads. In contrast, there are significant benefits to the community, operators and consumers to be achieved on all roads from reduced greenhouse gas production. Australia should allow engine and vehicle manufacturers flexibility to concentrate on fuel economy improvement.