TRUCK INDUSTRY COUNCIL
SAFER GREENER ESSENTIAL

31 May 2013

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Standards & International and Research | Vehicle Safety Standards
Department of Infrastructure & Transport
CANBERRA ACT

Via email: Steven.Hoy@infrastructure.gov.au

Cc: Mr A. J McMullan, Truck Industry Council

Dear Steven,

Subject: TIC Position for NHVBS Phase 1, including ADRs 35/04 and 38/04 and RIS

The Truck Industry Council (TIC) is the peak industry body representing manufacturers and distributors of heavy commercial vehicles (that is, with Gross Vehicle Mass above 3,500 kg) in Australia.

This letter contains the TIC response to the drafts for both ADR35/04 and 38/04, as well as the Regulation Impact Statement (RIS) Ref No. 14546 dated February 2013. TIC has consulted its member companies widely, who have in turn consulted their overseas parent companies where applicable. This response incorporates all issues raised in meetings and in writing from TIC members.

TIC supports the development and release of a Heavy Vehicle Combination Advisory Code, to be released in conjunction with ADRs 35/04 and 38/04, however wishes to re-affirm that TIC's position is that ABS should be the minimum standard for all heavy trailers. Special case exemptions to mandatory ABS (a very small portion of the market) could be catered for with individual permits and be applicable to specified regional locations.

A. The RIS

A1. TIC supports the two-phase approach in adoption of the National Heavy Vehicle Braking Strategy, and also its fastest possible introduction. Accordingly, TIC supports Option 2 – amend ADRs 35 and 38 to require ABS. While TIC is sympathetic to the complexity and compromise that may evolve from a two-phase NHVBS, members believe that setting the minimum

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standard at ABS as soon as is practical will ensure that a minimum safety level is met for new heavy vehicles on the road. TIC will work with the Department on Phase 2 of the NHVBS, but considers that the adaptation of overseas regulations for Australian conditions relating to advanced braking systems on heavy vehicles may take a few years to finalise, and we cannot afford to delay the relatively simple introduction of ABS for this length of time.

A2. **Applicability.** TIC notes the comments in the RIS the comment "For the purpose of this RIS, heavy commercial vehicles are new vehicles greater than 4.5 tonnes Gross Vehicle Mass (GVM)…", yet the table of costs for ABS rightly considered costs for all light trucks, starting at 3.501 tonnes GVM. *NOTE: There is a typographical error in the table "Light Duty trucks (3.401-8t GVM)", which should read "3.**5**01-8t GVM".* Further, the revised ADR is clearly applicable to NB1 category vehicles (3.501-4.5t GVM). This contradiction means that the average cost of ABS is biased towards the lower end of the truck market (approximately 13,000 units p.a. in the NB1 category), when the RIS excludes these from its purposes.

A3. **Costs of implementing the ADR.** Notwithstanding the comment in A2 above, TIC notes that the RIS assumes an incremental cost will apply to a high proportion of new trucks as a result of ADR35/04 and ADR38/04. However, it is recognised that market forces have driven Australian truck (and some trailer) suppliers to include ABS as standard with the vast majority of heavy vehicles on sale in 2013. Therefore, the true national incremental cost of applying the proposed ADRs is much less than stated in the RIS. There is a relatively small number of heavy prime movers and off-road (i.e. all-wheel-drive) vehicles on sale in 2013 that are not already fitted with ABS. With the exception of some locally-manufactured "custom build" vehicles, it is not possible to delete the ABS feature prior to first sale. Further, where ABS appears on the option list from locally manufactured vehicles, the customer take-up rate for ABS (or a higher level system such as ESC or roll stability control) is now very high. The RIS assumes that the current ABS fitment rate to trucks and trailers is 36 per cent, which according to TIC data is an order of magnitude too low; at least for trucks above 4.5 tonnes voluntary fitment rate is above 90 per cent. It is therefore not unreasonable to consider that the incremental cost of ADR35/04 would be applying the cost of fitting ABS to 10% (conservatively high figure) of new trucks sold. The average cost may have to be revised in this case to above $3,000 per unit, however it would be applied to a much smaller portion of the total sales.

A4. **Technical Considerations: ABS off switch for off-road or road train (Para 5.3.1.2).** TIC supports the optional fitment of an "ABS off" switch for genuine off-road vehicles, in line with the provisions in UN ECE R13. Further, TIC supports the type of switch specified in UN ECE R13 which defaults to "on" at next key-on event. However, as stated in the RIS, further discussion with industry is required to provide an Australian definition of "off-road". As previously advised, TIC considers that the EU definition of "off-road" for NC category vehicles (as provided in the separate RE3 document) is such that it could be applied to almost every 6x4 prime mover or heavy rigid truck sold in Australia, and this would be an unacceptable compromise if qualification as "off-road" provided exemption from fitment of ABS. However, the draft ADR has been written such that "off road" qualification provides for the ability to fit an "ABS off" switch; that is, the truck must still be fitted with ABS, which would be active in most conditions.

The relevant clauses from the latest version of the UN ECE "RE3" document are provided at Appendix 1. TIC's concerns were in relation to the relative ease with which many existing 4x2, 6x4 and 8x4 NC category truck models available in Australia, fitted with at least one differential lock could easily qualify as "off road" without further modification, simply by selecting four of the six requirements listed.

At Appendix 2 to this response, TIC has provided a suggested Appendix to ADR 35/04 which revises the definition of "off-road" such that the "easy option" could not be selected in Australian configurations and conditions. **This revised definition should be considered only if the final version of ADR35/04 allows some vehicles to be exempt from having ABS components fitted.**

If the draft ADR moves to the final version such that an "off road" vehicle qualifies for an "ABS Off" switch only, then the existing UN ECE RE3 definition of "off road" is acceptable, and should be included as an Appendix to ADR35/04. This suggestion has a precedent in that the "off-road" vehicle definition from "RE3" is already supplied as an Appendix to ADR84/00.

B. The draft ADR 35/04.

B1. **Applicability and Implementation Timing.** In paragraph 2.1, the implementation timing is stated as 1 January 2014 on all new model vehicles. This is accepted by TIC, providing that the ADRs are finalized before end of June 2013. There is no phased in timing advised for existing model vehicles. TIC has previously advised that it supports a faster than usual implementation timing in this case, given that more than 90 per cent of existing trucks sold are already fitted with ABS. However, since the draft ADR permits only fitment of an "ABS Off" switch for defined "off-road" vehicles (rather than a full exemption from ABS equipment), some existing models offered to the Australian market will require components to be re-designed. Affected TIC members advise that the usual 1-year phased-in approach will be sufficient to allow these existing models to be upgraded to include ABS (and an off switch if applicable). Therefore, TIC requests that a **1 Jan 2015** implementation date be applied to all existing model vehicles.

B2. **Road Train Release Times.** In clause 7.12.6.2, road train release times are specified. TIC considers that for prime movers registered as Road Trains with ABS fitted, this release time clause can be removed. By comparison, prime movers registered to operate as a B-Triple are not required to comply with this clause, even though they can operate at a high Gross Combined Mass (GCM) and with more trailers than a Double Road Train (A-Double).

B3. **Alternative Standards.** In paragraphs 8.1 and 8.4, the draft ADR states that only UN ECE R13 incorporating the 11 series of amendments shall be deemed to be equivalent to the ADR. Several TIC members advise that they have existing models on sale in the Australian market which were tested to ECE R13 series as far back as the 5th series of amendments, with ABS fitted. ADR 35/03 permitted these test results to be satisfactory evidence for compliance (by allowing ADR35/02 . TIC requests that UN ECE R13 compliance (provided ABS was fitted) should continue to be acceptable for existing model new trucks, even if tested to prior series of the R13 standard or ADR35 (e.g. 35/02 or 35/03 with ABS). If this cannot be changed, several

existing models with brake systems which already have ABS would require re-testing to the later version of UN ECE R13, at considerable unnecessary expense. Further, the ability of the truck supplier to modify and re-test all models to the later standard in the required time (even by 1 Jan 2015) would be doubtful.

B4. **Appendix 1, Annex 1.** TIC considers that the contents of this "Annex to the Appendix" can be easily incorporated into the Appendix, or perhaps moved to ADR38/04.

B5. **Brake Lamp Activation when driveline retarders in Operation.** TIC notes that UN ECE R13 has a clause specifying a level of retardation that must be reached before the brake lamps are activated, when using auxiliary brake systems such as hydraulic or electromagnetic retarders. TIC also notes that UN ECE R13 specifically prohibits brake lamp activation when an engine-driven brake is applied. However, requirements in the USA and Japan are not so clear, leaving driveline retarder suppliers and OEMs to base their installation upon customer preference. European trucks with driveline retarders meet the UN ECE requirement to only activate the brake lamps when a specific retardation rate is exceeded. However, systems from other source countries, or those fitted in the aftermarket may not be able to detect the retardation threshold. Therefore, TIC suggests that ADR35/04 should include a clause clearly specifying events under which the brake lamp circuit is activated by auxiliary brake systems. Suggested wording is as follows:

> *The brake lamp circuit is to be activated when a driveline retarder is:*
> *a) in operation at any level, or*
> *b) operating at a retardation rate of 1.3 m/sec^2 or greater*
> *(NOTE: this rate is used in UN ECE R13).*
>
> *The brake lamp circuit is not to be activated when retardation of any form is being provided solely by the engine (for example by engine brake or exhaust brake).*

C. The Draft ADR38/04.

TIC does not represent trailer manufacturers, therefore simply provides a few specific comment on the contents of ADR38/04.

C1. **ABS or Load Proportioning System.** TIC recognises that when all new trucks will be fitted with at least ABS, compatibility and overall vehicle combination stability is best achieved if the trailer(s) are also fitted with ABS. To re-state the opening comments, TIC's position is that ADR38/04 should require trailer ABS as the minimum standard.

C2. **Electrical Connector.** TIC considers that all new heavy trailers built to ADR38/04 should be fitted with a multi-voltage or voltage-independent electrical systems and ABS connecter (with socket, plug, keyway and keys), to avoid lack of compatibility with either 12V or 24V towing vehicle systems. TIC is aware that some Australian heavy trailer manufacturers are currently providing a multi-voltage system as standard.

I trust that you find these position statements constructive. The strong relationship and open dialogue between your department and TIC is appreciated and I trust that it will continue.

Please contact the undersigned, on 0427 554 775 or shumphries@truck-industry-council.org for any questions about this position.

Yours sincerely,

Simon Humphries
Chief Technical Officer

Appendices:

1. Existing UN ECE RE3 document extract, describing 2.8 Category G- Off-Road Vehicles
2. Suggested Appendix for ADR35/04, with a modified definition of “off-road vehicles” (required if any vehicle category is eligible to be exempt from having ABS fitted)

Appendix 1 to TIC Response to NHVBS Phase 1 RIS & Draft ADRs 35/04 and 38/04

Current UN ECE RE3 extract from section 2.8 (Highlighted parts of concern for Australian conditions):

UN ECE/TRANS/WP.29/78/Rev.2

Consolidated Resolution on the Construction of Vehicles (R.E.3)

Revision 2

2.8. Category G - off-road vehicles

2.8.1. Definition.

Off-road vehicles are considered to be the vehicles of categories M and N satisfying the requirements of this paragraph, checked under the conditions indicated in paragraphs 2.8.2. and 2.8.3.

2.8.1.1. Vehicles in category N_1 with a maximum mass not exceeding 2 tonnes and vehicles in category M_1 are considered to be off-road vehicles if they have:

. (a) At least one front axle and at least one rear axle designed to be driven simultaneously including vehicles where the drive to one axle can be disengaged;

. (b) At least one differential locking mechanism or at least one mechanism having a similar effect and

. (c) If they can climb a 30 per cent gradient calculated for a solo vehicle.

. (d) In addition, they must satisfy a least five of the following six requirements:

. (i) The approach angle must be at least 25°;

. (ii) The departure angle must be at least 20°;

. (iii) The ramp angle must be at least 20°;

. (iv) The ground clearance under the front axle must be at least 180 mm;

. (v) The ground clearance under the rear axle must be at least 180 mm;

2.8.1.2.

(vi) The ground clearance between the axles must be at least 200 mm.

Vehicles in category N_1 with a maximum mass exceeding 2 tonnes or in category N_2, M_2 or M_3

with a maximum mass not exceeding 12 tonnes are considered to be off-road vehicles either if all their wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged, or if the following three requirements are satisfied:

. (a) At least one front axle and at least one rear axle are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged;

. (b) There is at least one differential locking mechanism or at least one mechanism having a similar effect;

. (c) They can climb a 25 per cent gradient calculated for a solo vehicle.

Vehicles in category M_3 with a maximum mass exceeding 12 tonnes or in category N_3 are considered to be off-road either if the wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged, or if the following requirements are satisfied:

. (a) At least half the wheels are driven;

. (b) There is at least one differential locking mechanism or at least one mechanism having a similar effect;

. (c) They can climb a 25 per cent gradient calculated for a solo vehicle;

. (d) at least four of the following six requirements are satisfied:

. (i) The approach angle must be at least 25°;

. (ii) The departure angle must be at least 25°;

. (iii) The ramp angle must be at least 25°;

. (iv) The ground clearance under the front axle must be at least 250 mm;

. (v) The ground clearance between the axles must be at least 300 mm;

. (vi) The ground clearance under the rear axle must be at least 250 mm.

Appendix 2 to TIC Response to NHVBS Phase 1 RIS & Draft ADRs 35/04 and 38/04

** TIC Suggested "Off-Road" Definition applicable to ADR35/04 **
NOTE: Only to be used IF final version of ADR35/04 allows some vehicles to be exempt from requiring ABS. (Not to be used if an "ABS Off" switch is the only concession).

2.8. Category G - off-road vehicles

2.8.1. Definition.

Off-road vehicles are considered to be the vehicles of categories M, NB and NC satisfying the requirements of this paragraph, checked under the conditions indicated in paragraphs 2.8.2. and 2.8.3 of UN ECE RE3.

Vehicles in category category N or M with a maximum mass above 3.5 tonnes but not exceeding 12 tonnes are considered to be off-road vehicles either if all their wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged, or if the following three requirements are satisfied:

. (a) At least one front axle and at least one rear axle are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged;

. (b) There is at least one differential locking mechanism or at least one mechanism having a similar effect;

. (c) They can climb a 25 per cent gradient calculated for a solo vehicle.

Vehicles in category ME with a maximum mass exceeding 12 tonnes or in category NC are considered to be off-road if the wheels are designed to be driven simultaneously, including vehicles where the drive to one axle can be disengaged.