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National Transport Commission

Public submission – Vehicle Standards and Safety

Level 3, 600 Bourke Street,

Melbourne, VIC, 3000

Submissions to: [www.ntc.gov.au](http://www.ntc.gov.au)

**Subject: TIC submission to the National Transport Commission's – Vehicle Standards and Safety - Issues Paper, released July 2019**

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 3.5 tonne) or trucks in Australia. TIC members are responsible for producing, or importing and distributing 16 brands of truck for the Australian market, totalling more than 41,000 new heavy on-road vehicles sold in 2018. Of those vehicles, TIC members supplied to market over ninety-nine (99) per cent of trucks above 4.5 tonne Gross Vehicle Mass (GVM) last year. Additionally, TIC members also included two dedicated engine manufacturer's and two dedicated driveline manufacturers who supply major engine and driveline systems for both on highway and off highway truck applications.

In this submission TIC will respond, generally, to issues that relate to driver fatigue monitoring and management technologies and systems for heavy road transport vehicles and not on operational issues associated with heavy vehicle driver fatigue.

**General Items**

**Alignment with International Standards:**

**TIC comment:** Australia is a taker of technology and this also applies to trucks, in 2018 Australia represented just 0.8% of the global new heavy vehicle sales. In Australia last year only 23.4% of heavy trucks sold above 4.5t GVM, were manufactured locally. The primary source of trucks sold in Australia is from Japan, Europe and the USA with limited imports (less than 1%) of trucks sourced from China and South Korea. The Australian Design Rules (ADR's) regulate engine noxious emissions, safety and vehicle noise. The federal government's mandate is to align with international standards where possible/appropriate and primarily the UN ECE regulations. However, where other suitable alternative international standards exist (typically from Japan and USA) the ADR's allow their use. The ADR's do not cover all aspects of a vehicles design, that is not their intent. The truck Original Equipment Manufacturer (truck OEM) designs vehicles primarily to comply with their home/domestic market requirements/regulations and at times these overseas designs are in conflict with Australian regulations. In many cases this conflict is needless and immaterial. Often is the case, that Australian regulations have simply not kept pace with international changes/trends. A typical example of a non-aligned vehicle standard is maximum vehicle width. In Australia this is limited to 2.50m, while in the USA this is 2.60m and in Europe maximum vehicle width is 2.55m for general freight vehicles and 2.60m for refrigerated trucks and trailers. Aligning with international vehicle width



regulations would potentially allow a greater choice of trucks for Australian operators. The current HVNL reflects and aligns with the ADR's and must continue to do so. However, the HVNL must also align, where possible, with global regulations and in doing so would reduce the burden of redesigning trucks to suit unique Australian regulations.

**TIC recommendations:**

- *The HVNL should ensure all in-service requirements shall not impose undue costs or vehicle modification/adaptation that becomes a barrier to entry into the Australian market.*
- *The HVNL should ensure national consistency of heavy vehicle regulation and enforcement in all Australian States and Territories.*
- *The HVNL must continue to align with ADR's.*
- *Australian maximum vehicle width should be at least 2.55m, ideally 2.60m.*

**Diesel, Biodiesel and Diesel Exhaust Fluid (DEF - also known as AdBlue) quality:**

**TIC comment:** Diesel, Biodiesel and DEF quality is critical to maintaining compliance to ADR noxious emission standards. Additionally, the quality of these fluids is critical to the performance, reliability and life of a trucks engine and aftertreatment system. The supply and use of Diesel, Biodiesel and DEF fluids that do not comply with the required national standards will have a detrimental impact on engine life, servicing intervals and emission compliance. The supply of the correct quality DEF is an ongoing concern for TIC members and operators.

**TIC recommendation:** *The HVNL should make it an offence to promote, supply/sell, or use, Diesel, Biodiesel and DEF that does not meet Australia standards detailed in the ADR's, or by the Department of Environment and Energy.*

**Australia's aged truck fleet:**

**TIC comment:** Australia has a very old truck fleet by world standards. The average age of a truck above 4.5t GVM in Australia is 14.8 years, in major European countries the average age is 8 years, almost half the age of Australia trucks. Older trucks do not have the latest safety technologies, older trucks are more likely to have safety defects (NHVR Heavy Vehicle Roadworthiness Survey - 2017), older trucks are more polluting, releasing considerably more NOx and particulate matter pollution than new ADR80/03, or better, trucks. Older trucks are also less productive, many do not have Road Friendly Suspension and cannot be used in higher mass schemes.

**TIC recommendation:** *The HVNL review should recognise the safety, health and economic failings of Australia's old truck fleet and propose incentives to government, such as those detailed in the Truck Industry Council's National Truck Plan (copy provided), that could be used to modernise our aged heavy vehicle fleet.*

**Specific Items**

**2.2.2 PBS scheme:**

The PBS scheme has produced significant safety and productivity benefits. However road network access remains the biggest single impediment to broader industry use and take-up of PBS vehicles. The PBS approval requirements are set performance standards, which must be met for a PBS approval to be granted. This approach does not always allow differing (potential new) technologies or



alternative test techniques to be used to prove the performance and safety of a vehicle. The lack of alternative pathways to allow compliance to a PBS requirement is a failing of the system. There is also no age limitation of an approved PBS vehicle type, allowing a specific vehicle to be certified to a much earlier PBS approval, even though ADR's may have moved to more stringent (and likely safer, or cleaner, or quieter) level.

**TIC recommendations:**

- *All road managers should have to show just cause as to why they would not grant PBS access, rather than operators and/or the NHVR having to justify why PBS should be granted for a specific route.*
- *The PBS scheme should ensure that at the time of PBS application, the vehicle combination (truck and/or trailer/s, as applicable) comply with the current (latest) version of all ADR's that are applicable to the vehicle type seeking PBS approval.*
- *The PBS scheme should allow for the alternative use of safety and other technologies where appropriate and where it can be shown (proven by physical test/s and/or simulation/s) that the alternative approach is of equivalent to the desired PBS performance outcome.*

**2.2.3 Non-compliance and recalls:**

**TIC recommendation:** *The HVNL should require the completion of all outstanding recalls that apply to a vehicle, as a requirement for the vehicle to be considered roadworthy. This should apply at any point of inspection, roadside, roadworthiness, annual registration, change of ownership, change of jurisdiction, etc.*

**2.4 Vehicle Modifications:**

**TIC recommendation:** *The HVNL should acknowledge/state, that where provided, truck OEM guidance and requirements take precedence over all other information, material, etc, including VSB6 and the NHVIM.*

**2.4.1 Approval of vehicle modifications:**

**TIC recommendation:** *The HVNL should ensure schemes (mass, loading, etc) are nationally consistent. For example, livestock transport, where multiple schemes exist across Australia.*

**2.4.2 Illegal modifications and tampering - Tampering of emission and safety control systems:**

It is a breach of ADR regulations to tamper with, or modify, emission and safety control systems, however the sophistication of the tools available for use often prevents the identification of those who have undertaken the tampering/modification. These tools are promoted widely within the media, often sellers of these tools have a physical Australian market presence, while tools are also easily sourced via the internet. Vehicles used off-road (on private land) can be legally modified, but this activity spills over into the on-road (public roads) space, where it is not legal.

The impact of such modifications is ADR non-compliance for the specific system, road speed limiting, noise and emissions. This is potentially a significant safety issue when it involves the road speed limiter, while engine changes are made by operators in an effort to achieve improved power, or better fuel consumption (disabling exhaust aftertreatment systems). The results are non-compliance to



emission and/or noise and a detrimental impact on engine life and reliability. Exhaust aftertreatment systems also suffer from degraded life and reliability.

**TIC recommendation:** *The HVNL should make it an offence to promote, sell, own, or use sophisticated tools, replacement parts, software, etc, that can manipulate safety or emission control systems making them non-compliant to the ADR's and/or reduce vehicle safety, or environmental performance. Authorised use of truck OEM service tools and systems would need to be excluded from these offences.*

### **2.5.3 Ongoing roadworthiness:**

**TIC recommendation:** *The HVNL should use a "tiered" approach to heavy vehicle roadworthiness consisting of:*

- 1. For operators registered in an approved maintenance scheme such as NHVAS or TruckSafe, risk-based vehicle inspections and compliance activities would apply.*
- 2. Annual vehicle inspections would apply to heavy vehicles once they get to the age that their ADR emission level is a generation behind the current level (trucks and busses) and once a heavy trailer is older than 5 years.*
- 3. Seasonally registered vehicles registered less than 6 months in a year and not registered in an approved maintenance scheme, would be required to undergo a biennial inspection after they become older than 5 years (for trailers), or once they get to the age that their ADR emission level is a generation behind the current level (trucks and busses).*
- 4. Seasonally registered vehicles registered more than 6 months in a year, (1) and (2) above would apply.*

### **2.5.4 Mass dimension and loading:**

Uniquely, the only area where the ADR's cover a vehicle's specific axle mass requirement is contained with ADR43/04, Vehicle Configuration and Dimensions, which covers the transitional mass limits for liftable axles. These transition axle mass limits are excessively low, resulting in increased vehicle fuel consumption and increased tyre wear (lightly loaded axles needlessly in contact with the road), as well as, negatively impacting on a truck's drive axle traction when lightly loaded, resulting in loss of drive axle traction under certain circumstances.

**TIC recommendation:** *The HVNL should control these transitional mass limits, as per all other heavy vehicle mass limits (and these mass limits should be removed from ADR43/04). The transitional mass limits should be increased, when the vehicle is fitted with ABS, to match GML for the axle group, paralleling the European approach/regulations. The NTC should recommend that transitional mass limits be removed from the ADR's and moved to the new HVNL.*

### **2.5.4 Container Weight Declaration (CWD):**

<https://www.nhvr.gov.au/safety-accreditation-compliance/on-road-compliance-and-enforcement/container-weight-declarations>

A CWD is a written declaration of the weight of a container and its contents which is designed to allow an operator to manage vehicle axle loadings and stability. Frequently containers moved from the docks are sealed for security reasons. The container's information may be inaccurate or misleading. As the container's contents cannot be inspected the Centre of Mass (CoM) and the



Centre of Gravity (CoG) cannot be assessed for vehicle stability. This can effectively prevent the container being moved from the wharf, or another location. However, vehicles equipped with On Board Mass measurement technology and ESC/RSC can be used to transport containers with a much higher degree of safety.

**TIC recommendation:** *The HVNL should ensure that:*

- *An appropriate scheme is deployed to ensure that a container has been weighed and the container's CoM and CoG are correctly documented and that this documentation is available to the operator how is tasked with moving the container, or;*
- *Only vehicle/s using appropriate advanced safety features and systems that can verify a container's load declaration; are used in container movements to ensure a minimum level of industry safety.*

### **2.5.5 Coupling and towing:**

Tow couplings, 5th wheels, etc, are controlled by Australian Standards. Australian Standards take undue time to update and keep current (they are typically only reviewed sometime after a decade of use), they are not publicly available (must be purchased) and they are expensive to buy. In the case of heavy vehicle coupling standards, there is little documented design or installation information available (such information typically does not have to be provided as a requirement of the Standard/s). Correct and regular maintenance, or the lack thereof, is the key issue identified in operation (in the field) leading to coupling problems/failures.

**TIC recommendations:** *The following Australian Standards should be replaced by NHVR developed Vehicle Standards Bulletins (given legality by the HVNL): -*

- *AS 2213 Commercial road vehicles - Mechanical connections between towing vehicles*
- *AS 2174 Heavy road vehicles - Mechanical coupling between prime movers and semitrailers*
- *AS 3819 Heavy duty towing components*
- *AS 4945 Commercial road vehicles - Interchangeable quick connect/release couplings for use with air-pressure braking systems*
- *AS 4968 Heavy road vehicles - Mechanical coupling between articulated vehicle combinations*

*A further recommendation is to ban the use of air susie coils (and similar extendable air lines) and plastic air lines, in air brake coupling system between a truck and trailer that has an A type coupling.*

### **2.7 Damage, defects and repairs:**

Correct replacement parts are critical to ensuring a safe and ADR compliant vehicle. There is no regulation of heavy vehicle replacement parts in Australia. Truck OEM's supply genuine and certified parts that ensure a vehicle's ADR compliance is maintained, however there is a large segment of the market which supplies parts of questionable quality, with no evidence that the replacement part is ADR equivalent, or suitable, to the part being replaced. The impact of these non-genuine parts will vary from simply reduced service life, with an earlier likelihood for its replacement, through to negating the ADR compliance of the vehicle, with potential significant vehicle safety implications. Typically, and under the current operating environment, only the OEM can verify ADR equivalency without extensive and expensive test / validation program.



In the case of tyres for a new vehicle, a safety critical component, they are required to meet one of four standards listed in the ADR42. However, once the vehicle enters into service any aftermarket tyre can be fitted, with no proof of any level of compliance to any standard.

There are currently no equivalent requirements, to the ADR's, for compliance to any in-service standard/s, nor auditing, or enforcing, of any parts fitted to a heavy vehicle once it enters into service.

**TIC recommendation:** *The NTC should recommend the establishment of an approval system for safety critical replacement parts, at least, but not limited to, brake, steering, suspension, wheel and tyre components and systems.*

*Further, third-party parts suppliers and repairers should be included in the Chain of Responsibility for heavy vehicles, as their work and actions can drastically influence a vehicle's safety, potentially without any knowledge, or forewarning to the driver of the vehicle.*

### **3.2 Barriers to advanced safety technology:**

**TIC recommendation:** *The NTC should recommend that new ADR introduction "keep pace" with international regulations for safety AND environment, particularly European regulations. It is very important that both safety AND environment regulations are introduced in Australia in the same sequence as they are introduced in international markets. This is fundamental because new trucks are primarily developed in and for, their specific domestic markets in Europe, Japan and USA. In Australia we now have the case where the ADR's are mandating safety technologies such as ESC and AEBS for trucks, but our emissions standards remain "stuck" at Euro V (and equivalents). Many truck OEM's have only developed ESC and AEBS on their Euro VI and equivalent models, because in their domestic markets they moved to Euro VI and equivalents up to ten (10) years ago. Because Australia has not moved from Euro V and equivalents, many of the safety technologies that are available in overseas markets on Euro VI and equivalent trucks, are not available on aging Euro V and equivalent models for Australia. Or if the features are available, operators have to pay a premium for the safety features to be specially engineered on these aging Australian models. TIC also supports nationally consistent, incentivised (for example; increased access, axle mass, etc), voluntary schemes that complement pending national regulations, such as ADR's, as a means of introducing technologies into new vehicles before mandatory regulation. Such voluntary schemes must be discussed with industry and a realistic and adequate timeline to introduction be agreed between regulators and industry, so as to ensure that one vehicle OEM is not significantly advantaged, or disadvantaged, relative to another, due to the timing of such a scheme/s.*

### **3.5.2 Uncertainty about how vehicle modifications should be handled:**

**TIC recommendation:** *The HVNL should ensure that truck OEM guidelines, where available, take precedence over all other sources of information and guidance, including VSB6. All modifications should be approved by a suitability qualified AVE who must verify that modifications have been undertaken in accordance to suitable guidance and suitably record/document both the modifications and approval.*



I trust that you find TIC's submission acceptable and that the issues that have been raised in this document will be considered in the review and development of new heavy vehicle safety standards within the HVNL to deliver safer heavy vehicles in Australia. Please contact the undersigned, on 0408 225 212 or [m.hammond@truck-industry-council.org](mailto:m.hammond@truck-industry-council.org) for any questions about this submission.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Mark Hammond', written in a cursive style.

Mark Hammond  
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