NHVR
National Heavy Vehicle Regulator

A national systems-based approach to improving heavy vehicle safety

Inquiry into progress under the National Road Safety Strategy

15 February 2018

A national systems-based approach to improving heavy vehicle safety

The National Heavy Vehicle Regulator (NHVR) is Australia's dedicated, independent statutory regulator for all vehicles over 4.5 tonnes gross vehicle mass and is the predominant body for national heavy vehicle safety. The role of the NHVR is to develop and maintain a regulatory framework that supports the heavy vehicle industry and all parties in the supply chain to take responsibility for safety while promoting sustainable improvements in productivity and efficiency.

The NHVR is committed to establishing and embedding a regulatory framework that places safety as the highest priority for the NHVR and industry. To regulate heavy vehicles effectively and deliver safety and efficiency outcomes, the NHVR must be able to have visibility of all aspects including operators and drivers they employ, tasks they are completing, capability and vehicles used.

National Heavy Vehicle Accreditation Framework

The introduction of a National Heavy Vehicle Accreditation Framework is fundamental in this approach. Key components of the proposed framework include operator certification and driver licensing.

National Heavy Vehicle Operator Certification Framework

At present the NHVR has limited visibility of operators within the heavy vehicle industry. There are companies that direct and control a high risk set of transport activities, yet do not own or register a single heavy vehicle. There are also many heavy vehicle operators who do not consider that they are in the transport industry. The operator's perception may be because although they own a fleet of vehicles to deliver product to clients, their primary function may be, for example, farming or manufacturing. The development of a Heavy Vehicle Operator Certification Framework is critical to the successful regulation of heavy vehicles. All operators in the heavy vehicle industry must be able to demonstrate that they have developed and can maintain appropriate systems to ensure they meet acceptable levels of compliance.

The introduction of a National Heavy Vehicle Operator Certification Framework and associated standards for all heavy vehicle operators will bring the heavy vehicle industry in line with other safety regulators, both nationally (maritime, rail and aviation) and internationally. The framework can be risk-based and implemented in a phased manner to ease transition for smaller, low risk operators. The requirement for heavy vehicle operators to report safety incidents, including near misses, may be included in the framework.

NHVR propose that a set of national standards will be developed that transport operators must meet prior to entry into the heavy vehicle industry — that is, operators will be required to demonstrate their safety and competence before they can operate. Consideration also will be given to mandating the requirement of the implementation of Safety Management Systems (SMS).

Currently, the NHVR is promoting the adoption of SMS by the heavy vehicle industry as an effective method of improving safety performance and complying with Chain of Responsibility (CoR) obligations established under the *Heavy Vehicle National Law* (HVNL). A SMS is a systematic and integrated approach to managing safety in a safety critical business. The core purpose of a SMS is to manage risks to safety; therefore, the risk management processes an organisation adopts are paramount to its success. However, for any risk management activities to be effective and efficient, the business must integrate a number of supporting processes. These processes include the way that a business approaches and oversights the management of safety; the way assurance activities are undertaken; and the way safety is promoted and supported in the work environment.

These areas make up the key components of a SMS and are detailed in the following diagram.

A SMS encompasses all business operations and must involve anyone in the business who is involved in or can influence how the business undertakes its work. In heavy vehicle transport operations, a large number of parties can often be involved in a single job or piece of work. This creates a complex environment in which risk needs to be managed. The NHVR is advocating the adoption of SMS and associated risk based Codes of Practice throughout the heavy vehicle transport industry as a method to manage these operational risks and ensure safety.

National Heavy Vehicle Driver Licensing Framework

The development of a set of nationally consistent driver licensing standards for all heavy vehicle drivers is necessary. Currently, jurisdictions are responsible for all components of heavy vehicle driver licensing. The introduction of a National Heavy Vehicle Driver Licensing Framework would enable the NHVR to set the standards to adequately regulate drivers of heavy vehicles. This would be an integral component of the National Heavy Vehicle Operator Certification Framework. The development of the driver licensing framework would consider issues such as heavy vehicle licence renewal, including retesting to ensure an appropriate level of competency is maintained. It is envisaged that nationally approved and registered training organisations will deliver heavy vehicle driver licence training, subject to scrutiny under the NHVR assurance framework. Jurisdictions would maintain the administration and delivery of heavy vehicle driving testing and testing centres.

Statistical and anecdotal evidence demonstrates that a proportion of heavy vehicle incidents are related to driver behaviour including inappropriate speed and distraction. A nationally consistent set of driver standards and associated competencies will enable the NHVR to ensure heavy vehicle drivers undertake appropriate and ongoing training prior to obtaining and while maintaining their heavy vehicle driver's licence.

Safer vehicles and technologies

The use of technology to improve safety is critical to achieve road safety improvements. To increase the use of technology in the heavy vehicle industry the NHVR supports:

- accelerating harmonisation with international standards
- removing regulatory barriers to safer vehicles
- promoting uptake of safer vehicle technology in-service
- considering mandating proven heavy vehicle safety technologies.

While Australia has made progress in mandating new safety features for new vehicles, this does not address older vehicles that are already in-service. Commonly, for a new vehicle standard, the Commonwealth allows a three-year implementation period from when a standard is made so that vehicle manufacturers can incorporate the feature into the

design of their vehicles. Given the average age of the heavy vehicle fleet in Australia is approximately 15 years, relying only on mandatory introduction through regulation, any new safety measure introduced may not reach 50% fleet presence for 20 years, and significantly longer, to be present in all vehicles. Therefore, without mandating the retrofitting of proven safety technology, a significant proportion of the fleet would not obtain the safety benefits available. To promote the uptake of safer vehicle technologies into the in-service fleet, the NHVR has a policy of requiring industry to provide a safety benefit in return for productivity improvements delivered by notices or regulation, such as increased mass or dimension limits.

Increasing access for Performance-Based Standards vehicles

While in many respects Australia is a follower of global vehicle trends, we are world leaders in relation to innovative vehicle design. Originally introduced in 2007, the Performance-Based Standards (PBS) Scheme is a locally developed initiative that offers the heavy vehicle industry the potential to achieve higher safety and productivity through innovative and optimised vehicle design.

PBS vehicles are designed to perform their tasks as safely, productively and sustainably as possible and to operate on networks that are appropriate for their level of performance. The basic principle of PBS is matching the right vehicles to the right tasks. PBS vehicles are tested against 12 stringent safety standards and four infrastructure standards to ensure they are safe and fit the existing road network.

As part of a recent project, the National Transport Commission (NTC) commissioned an analysis of the effectiveness of the current PBS vehicle fleet. This research found that:

- articulated PBS combinations are 60% safer in avoiding major impact crashes, whilst both rigid and articulated classes together are delivering 46% less major impact accidents than the existing conventional Australian trucking fleet
- during the years 2014 to 2016, PBS operations were estimated to have saved 440 million kilometres in truck travel and at least four lives. It is predicted that these figures will rise geometrically over the period to 2034.
- the research also forecast, based on the PBS fleet growing at three rates (4%, 7% and 8.5% per year) by 2034 PBS vehicles could save between:
    - 5.38 and 11.42 billion kilometres in truck travel (therefore reducing exposure), reducing fuel consumption by between 1.97 and 4.18 billion litres
    - $9.5 and $22.2 billion in operating costs
    - 70 and 149 fatalities.

Despite the clear safety and productivity benefits that PBS vehicles deliver, obtaining road access approvals is still a major hurdle to increased uptake. The NHVR strongly advocates that increasing the level of pre-approved access that state, territory and local government road managers provide to PBS vehicles, will accelerate the significant safety benefits that PBS vehicles offer. To provide the greatest level of certainty for vehicle operators, dedicated and gazetted networks that are classified in line with the *PBS Network Classification Guideline* should be developed and implemented.

Technology to monitor driver behaviour

Since the introduction of written work diaries, technological developments have created a range of potential lead indicators of fatigue impairment—from pupilometry, to drowsiness and inattention, to inconsistent speed control or uncontrolled lane departures. Increasing evidence is showing that these measures are becoming more reliable and effective predictors of fatigue impairment and/or driver distraction and inattention. However, uptake of these devices by industry is inconsistent. A common difficulty faced by industry in the adoption of such technology is the costs associated with monitoring the reports generated.

The NHVR believes that the refinement and promotion of driver behaviour monitoring devices, in association with broader adoption of risk management systems that encourage continuous improvement in scheduling and driver management, provides the greatest opportunity to improve fatigue and/or driver distraction and inattention to safety. To facilitate better uptake of behaviour monitoring devices, such as fatigue detection technology, the NHVR is investigating how to support businesses with back-office monitoring and review of fatigue detection alerts. This includes considering regulatory incentives through alternative compliance regimes based on fatigue detection as part of a fatigue risk management system, as well as measures to directly improve and support back-office activities.

Currently, the use of technology such as electronic work diaries is voluntary. The NHVR encourages exploring ways to mandate certain technologies and where appropriate, considering these technologies as alternative means of

compliance. In the interim, incentives for adopting such technologies may include greater flexibility in relation to regulations relating to work and rest hours.

Review of Heavy Vehicle National Law

The NHVR believes that to address some pressing obstacles to regulatory reform embedded in the legislation, it is essential to review the HVNL ahead of the scheduled review by the NTC in 2021/22 to 2019. Significant changes to the HVNL would be required to introduce a National Heavy Vehicle Operator Certification Framework and National Heavy Vehicle Driver Licensing Scheme. An HVNL review would also allow consideration of contemporary issues such as Uber-like logistics service providers and autonomous vehicles.

Currently, any legislation amendments are considered through annual process of the HVNL Amendment Bill being developed by the NTC, then introduced to Queensland Parliament and thereafter adopted by jurisdictions. Consideration needs to be given to changing the current legislative maintenance process which is cumbersome and produces an unnecessary workload for jurisdictions, the NHVR and the NTC. The NHVR proposes a legislative reform process which will see a number of elements in the legislation move to regulation and responsibility for basic legislative maintenance rest with the NHVR.

The review and control of the HVNL is essential to our responsiveness including fatigue management regulations. The driver *Fatigue Management* chapter of the HVNL represents approximately one-fifth of the law and contains:

- multiple obligations about not driving while impaired by fatigue
- maximum work and minimum rest limits for drivers
- work and rest records in the work diary or alternative records
- duties that apply to drivers, schedulers, managers and businesses in general.

Even forklift drivers who put pallets on a fatigue-regulated heavy vehicle have duties under the current laws.

An internal review of the *Heavy Vehicle (Fatigue Management) National Regulation* found:

- no recognition of contemporary regulatory and safety practices
- potential inconsistent practices
- duplicitous and overly prescriptive requirements
- requirements that interfere with safety practices
- inconsistencies between sections of the law
- omissions that made compliance with the law confusing.

The NHVR believes that the combination of these factors has undermined voluntary compliance with the fatigue laws by industry. Drivers and other stakeholders who do not believe the laws protect them, may be more likely to disregard them and engage in higher risk activities. The law currently treats activities that break up the driving task and therefore may assist in managing fatigue, as work hours. For example, a driver of a livestock vehicle stopping to check on the animals they are transporting is considered work hours. A review of activities to differentiate the driving task from other activities is necessary.

The NVHR is calling for the immediate review of the *Fatigue Management* regulations with a view to:

- simplifying the regulatory framework
- facilitating the adoption of fatigue risk management systems
- facilitating the adoption of fatigue detection devices
- removing provisions that unreasonably compromise safety and voluntary compliance.

Data availability

The NHVR will establish a dedicated heavy vehicle safety research initiative. In-depth analysis of critical incidents involving heavy vehicles is a priority. It is commonly reported that heavy vehicles are disproportionally involved in fatal and serious casualty crashes and that the involvement of a heavy vehicle is often associated with more severe injury outcomes. In-depth analysis of serious casualty heavy vehicle crashes to identify causal factors, including driver behaviour, will enable the NHVR to identify and focus on those factors that present the highest risk to road safety.

Currently, heavy vehicle incident investigations are managed in very disparate ways across numerous government agencies including police. This represents a significant gap in the available data on causal factors related to serious injury

and fatal crashes. The NHVR will lead a collaborative approach to develop a framework for the robust investigation of heavy vehicle incidents and the development of a national database of the resulting information.

The NHVR is currently developing a regulatory safety platform which will have the ability to house all data relating to heavy vehicle incidents. Cooperation from jurisdictions and relevant agencies in the timely provision of existing and future data relating to heavy vehicle incidents is paramount in improving safety outcomes.

Collaboration with jurisdictions and road safety partners

The NHVR supports a holistic approach in the development and implementation of road safety initiatives and is committed to the establishment of joint safety initiatives with industry, partner agencies and other key stakeholders.

The NHVR continues to work to establish partnerships to provide opportunities to collaborate with all stakeholders on heavy vehicle safety. Data indicates that in a significant majority of crashes involving heavy vehicles, the other driver was at fault. A matter of priority is the development of a well-researched comprehensive education campaign to educate light vehicle drivers about sharing the road with heavy vehicles.

Low seatbelt wearing rates among truck drivers continue to be of concern with around 40 unrestrained drivers killed each year in Australia. The NTC has estimated that the number of unrestrained heavy vehicle driver fatalities would be reduced by 45% if their rate of seatbelt wearing matched that of light vehicle drivers and passengers. Research shows that drivers not wearing a seatbelt at the time of a crash were seven times more likely to be killed. The NHVR encourages a collaborative approach across jurisdictions to address heavy vehicle driver behaviours including seat belt use.