



6 September 2019
Our Ref: CCF/465 DOC19/45019

National Transport Commission
Att: HVNL Review Project Team
Level 3, 600 Bourke Street
MELBOURNE VIC 3000

NHVR'S SUBMISSION TO THE *SAFE PEOPLE AND PRACTICES* ISSUES PAPER

The National Heavy Vehicle Regulator (NHVR) welcomes the opportunity to respond to the fourth Heavy Vehicle National Law (HVNL) Review Issues Paper on *Safe People and Practices*.

It has been almost 10 years since the HVNL was initially drafted, and more than 5 years since the NHVR was established. The initial reforms have introduced many improvements, including the recent introduction of wider safety duties under the Chain of Responsibility provisions.

The reforms are part of a significant cultural shift delivering better safety outcomes across the heavy vehicle industry and the broader supply chain, reinforced by the NHVR's investigations and prosecutions teams undertaking a number of investigations where safety breaches have occurred.

We have also continued to support industry through the continued rollout of better Safety Management Systems (SMS) and the Registered Industry Codes of Practice. However, the NHVR recognises the importance of working with policy decision-makers to introduce further improvements as part of the HVNL Review.

The NHVR believes that many of these improvements are an obligation, not a choice, to deliver a stronger and more flexible platform to improve industry safety and productivity.

As outlined in our submission, efficiencies will be delivered by moving to a *modern risk-based safety management regime* that enables the Regulator to work with all heavy vehicle users to improve safety outcomes.

Yours sincerely

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

Sal Petrocchio
Chief Executive Officer

Safe People and Practices – NHVR's submission

Introduction

The NHVR was established in 2013 under the HVNL as an independent statutory authority with our core functions and powers are set out in the law. Our role is to provide leadership to, and work collaboratively with, industry and partner agencies to drive sustainable improvements to safety, productivity and efficiency outcomes across the Australian heavy vehicle road transport sector.

The NHVR acknowledges that a *safe heavy vehicle driver* is one who is competent, fit for duty, authorised, alert and operating safely. They are capable of discharging all aspects of the heavy vehicle driving and operating task. Through their practices, the driver and all parties in the Chain of Responsibility (CoR) can positively or negatively influence the factors that contribute to the safe driver.

A key focus for the NHVR is improving public safety by fostering a strong safety culture and safe business practices by the heavy vehicle industry. The work we have undertaken over the past five years, while at times complex, allows us to meet community expectations, along with those of the heavy vehicle industry and governments. Most recently, the NHVR has focussed on the following areas to deliver safer people and practices:

- We worked extensively with the heavy vehicle industry and broader supply chain in preparation for the CoR and primary duties reforms that took effect from 1 October 2018;
- We completed the rollout of our SMS guidance materials, and assessed and registered the Master Industry Code of Practice, to ensure fit-for-purpose, user-friendly information was available to assist the industry to comply with the requirements of the CoR reforms;
- We administered \$11.61 million in funding for the Heavy Vehicle Safety Initiative (HVSII) program supported by the Commonwealth Government. Round three provided grants for 35 projects;
- We boosted our investigation and intelligence capability, with the addition of the Heavy Vehicle Confidential Reporting Line (HVCRL), which led to 885 individual reports of potential breaches of the HVNL;
- We undertook a comprehensive review of the existing NHVAS Standards and Rules, consulting broadly with stakeholders over a five-month period; and
- We hosted a Fatigue Safety Forums in November 2018 and in June 2019, provided \$250,000 to undertake a comprehensive study into fatigue monitoring technology, and began simplifying the NHVAS's Advanced Fatigue Management (AFM) module.

However, we accept that there is more to be done by all parties working in the heavy vehicle space. To do this, the NHVR has engaged with a range of stakeholders to develop concepts and ideas on areas for improvement under the current legislative arrangements, as well as recommending aspects that should be considered under the new NHVL that delivers a modern risk-based safety management regime.

Inputs into the NHVR's submission

Industry Reference Forum Workshop Session

In March 2019, the NHVR hosted an Industry Reference Forum (IRF) meeting devoted to the review of the HVNL, including the topic of Safe People and Practices, which was focussed on three key areas of competent drivers, fitness for duty and alert when driving. Participants in the IRF workshop agreed to four key themes for Safe People and Practices:

- work and rest hours do not equal safe drivers, and technology solutions need to be considered treating fatigue risks;

- there are some drivers who feel pressure to meet operator demands;
- there is a distinction between authorised and competent; and
- how do we create expert enforcement to match expert solutions?

The IRF feedback relating to heavy vehicle driver fatigue management was considered during development of the NHVR's submission in response to the *Effective Fatigue Management Issues Paper*.

The following summary box outlines the top takeaways from the IRF participants on the remaining issues of competence, fitness and alertness:

COMPETENT

- The complexity of the law and how it is enforced is driving people out of the industry and the applicant pool is therefore significantly reduced;
- A level of prescriptive law is still required; and
- The structure of the law needs to allow the NHVR to manage issues at a local level or support industry to manage regulatory tasks (e.g. agriculture seasons).

FIT FOR DUTY

- The hours do not help drivers with health outcomes, which are becoming more evident with higher rates of cardiovascular disease, sleep apnea and increasing rates of diabetes;
- Shift work has health implications, which is outside of the Regulator's current remit;
- Road managers sometimes force drivers to drive and operate in less safe or healthy conditions by restricting road access times; and
- Only nine of the current fatigue provisions relate to driver fatigue, the remaining provisions may be inconsistent with each other or with local laws. For example, bus drivers in state government contracts in New South Wales do not have to submit medicals to their operators due to derogations to the state laws, but are still required to submit medicals to get accredited under the NHVAS.

ALERT WHEN DRIVING

- The HVNL focuses on administrative offences and not on safety parameters;
- The New South Wales infringement data from 2014 to 2017 shows the majority of drivers are fined for not completing a work diary, with only one person pulled over for driving while impaired by fatigue;
- There are no set of hours that would delivery 100% safety;
- Hours being used as a proxy may no longer work in the future; and
- The law should allow for administrative rules to be developed for future innovations.

National Review of Accreditation

The NTC's *Safe People and Practices Issues Paper* recognises participation in accreditation schemes as one possible control for unsafe driving practices. The NHVR has formed a working group with industry and government stakeholders to progress development of a national heavy vehicle accreditation framework.

In late 2017, the NHVR commissioned independent consultants *Fellows Medlock and Associates* to undertake a review of heavy vehicle safety accreditation schemes in Australia. *Fellows Medlock and Associates* undertook a comparative analysis of heavy vehicle safety accreditation schemes (NHVAS, TruckSafe and WAHVA), including feedback from the NHVR, TruckSafe, industry, jurisdictions, NTC, consultative forums and other interested parties. Further consultations on an initial report were then undertaken across industry and jurisdictions.

The reports from the review were considered by the Transport and Infrastructure Senior Officials Committee (TISOC) in September 2018. TISOC noted the reports and agreed that a strong partnership and collaborative approach was needed to develop a new heavy vehicle safety accreditation framework, based on the outcomes of the review. As a result, TISOC agreed that the NHVR should convene a joint working group with industry and jurisdiction representatives to consider the outcomes of the review.

TISOC agreed that the NHVR will continue to lead the development of a new heavy vehicle safety accreditation framework and coordination of the proposed working group. The Heavy Vehicle Strategy Group will be utilised for strategic policy input and direction. The NHVR will work with the NTC and jurisdictions to progress any changes required to the HVNL, as part of the review of the HVNL.

Delivering Safer People and Practices

NHVR's aspirations for a better law

The NHVR agrees with several of the NTC's "aspirations" for outcomes to be achieved by the review of the HVNL, including:

- better safety outcomes;
- improved driver skills;
- suitable health and fitness management;
- practical and sustainable heavy vehicle driver licensing;
- suitable management of drugs and alcohol use;
- safer on-road practices; and
- an enhanced safety culture.

In order to achieve these outcomes, the NHVR proposes the following initiatives:

Delivering Safer People and Practices

Elements that are essential to delivering safer people and practices:

- Conduct regular systematic assessment of safety issues
- Empower NHVR to develop new safety standards to address issues as they arise
- Introduce safety duty for heavy vehicle and componentry manufacturers
- Introduce duty for parties in the Chain of Responsibility to consult with each other
- Investigate driver attraction and retention as a critical safety issue
- Improve regular screening of heavy vehicle drivers with industry data
- Introduce a shared responsibility for fitness to drive
- Promote better proactive driver health management
- Deliver a single national heavy vehicle driver licensing framework
- Adoption of a medical model for the management of drug and alcohol
- Develop regulatory guidance on driver distraction
- Investigate distraction detection technology
- Build on the current core safety management system materials
- Influence risk-reward ratio perceptions to improve commitment to safety

Each of these initiatives is discussed further in the following sections.

Conduct regular systematic assessment of safety issues

The NHVR notes the risk analysis in section 2.2 of the NTC's Issues Paper is based on event tree analysis represented in a bow-tie diagram for three key risks:

- a driver who is incapable of fulfilling driving tasks safely;
- a driver who is not fit for duty; and
- a driver is not driving safely.

Event tree analysis is more suited to understanding the sequence of events for specific incidents and cannot deliver a systematic assessment of safety issues required to accurately and comprehensively describe the risks and potential failures.

In addition, the NHVR also notes that the bow-tie diagrams are incomplete. The models include regulatory, policy and standards based control measures but omit the following:

- potential threats to safety;
- business practices and other controls for the stated risks; and
- recovery measures that would mitigate the risk (e.g., autonomous emergency braking and lane departure warning are recovery measures for a driver not driving safely).

On the basis of this analysis type and these omissions the NHVR believes that not all relevant issues are captured in the *Safe People and Practices Issues Paper*. However, the NHVR believes a detailed assessment of the risks and hazards in heavy vehicle operations in Australia should not be a one-off occurrence done during the review of the HVNL but should be an active process regularly undertaken by the Regulator to:

- monitor the effectiveness of current controls in the regulatory framework; and
- identify new or emerging safety issues in heavy vehicle operations.

The NHVR believes that the most suitable approach to this assessment involves performing both Fault Tree Analysis (FTA) and Failure Mode and Effects Analysis (FMEA). FTA is a top-down, deductive failure analysis in which an undesired state of a system is analysed using Boolean logic to combine a series of lower-level events. FMEA on the other hand, is an inductive, bottom-up analysis method aimed at analysing the effects of single component or function failures on equipment or subsystems.

Performing both of these analyses will result in a better understanding of the initiating faults and their local effect as well as determining the interaction of failures and or errors that can result in specific incidents. This two-fold approach to risk assessment is widely adopted in system safety analysis. For example, the Civil Aviation Safety Authority (CASA) uses this proactive approach in its Airspace Risk and Safety Management Framework.

By adopting this approach, the Regulator would be in the position to deliver agile and responsive regulatory guidance and, where necessary, binding standards and rules that promote improved safety practices by heavy vehicle users and better road safety outcomes for all road users. However, for the assessments to be effective and creditable to heavy vehicle users, they must include input from heavy vehicle users themselves.

Based on open and transparent industry input

As discussed in the NHVR's submission in response to the *Effective Fatigue Management Issues Paper*, the NHVR believes that open and transparent involvement from heavy vehicle users is critical to understanding how business practices influence safety outcomes. Unfortunately, the NHVR is aware of a lack of willingness by heavy vehicle users to share information on potential safety concerns out of fear of potential compliance

repercussion. This has been demonstrated to the NHVR during the Fatigue Monitoring Trial, where several heavy vehicle operators with proactive safety strategies were reluctant to share work and rest hour information with the Regulator.

The Regulator notes that laws for other transport safety regulators like rail, maritime and aviation in Australia provide no-fault investigations powers. These powers do not necessarily exculpate offences but provide the regulators with authority to actively consider the facts of a matter, the public interest, and the likelihood of a matter and determine not to proceed with a prosecution.

The NHVR believes that similar powers in the HVNL would enhance the Regulator’s capacity to undertake detailed and systematic analysis of risk and hazards that heavy vehicle users face and to provide better regulatory guidance that would ultimately contribute to improved safety outcomes.

Legislative Implications:	Introduce a power to enable the Regulator to conduct no-fault investigations for building knowledge on the antecedents of heavy vehicle incidents.
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Empower NHVR to develop new safety standards with stakeholders

The NHVR believes that it is not possible to develop safety standards now for heavy vehicle users, because of;

- unknown risk factors identified in future research; or
- the impact of changes in market forces and operational practices; or
- emerging technologies.

As we observed in our submission to the *Effective Fatigue Management Issues Paper*, using legislation in this manner historically hampers continuous improvement in safety practices as this creates a downward pressure on safety practices. In this environment, businesses with a strong safety culture are discouraged because they face higher safety costs than businesses with a poor safety culture and become economically less viable than their competitors.

To counter this downward pressure, the laws for other safety-oriented regulators, have been amended to allow for the development of both legal binding and voluntary standards by administrative processes. For example, work health and safety law allows regulators to develop codes of practice to address new and emerging safety risks. Also, aviation safety laws allow CASA to develop safety rules, a recent example being the introduction of drone safety rules to manage the emergence of drones interfering with commercial aviation operations.

These safety standards allow regulators to counter the downward pressure by setting new, public safety expectations, based on the outcomes of the regular risk and hazard assessments and understanding of industry practices.

Accordingly, the NHVR believes the review of the HVNL should consider the introduction of a rule development power to enable the regulator to develop safety standards with appropriate consultation with heavy vehicle users and affected stakeholders.

Legislative Implications:	Introduce a rule development power to enable the Regulator to develop legally binding safety standards.
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Introduce safety duty for heavy vehicle and componentry manufacturers

The quality of heavy vehicles and their componentry parts has become a constant issue for heavy vehicle operators across the country. At a recent forum, many operators were concerned with the quality of their vehicles and the parts on their vehicles and the consequences if the parts were not designed or engineered for Australian conditions. Impacts such as fires, breakdowns and resulting crashes were cited as outcomes from poorly manufactured vehicles and parts. The Australian Competition and Consumer Commission does not have jurisdiction over a heavy vehicle and its quality as a heavy vehicle is not considered a consumer good.

Whilst the Australian Design Rules (ADRs) specify minimum requirements, there are many parts of the vehicle that are not covered by ADRs. Lastly, the Department of Infrastructure, Transport, Cities and Regional Development does not currently have the power to enforce a recall of an unsafe vehicle or change the standards on component parts.

The NHVR notes that there are no current controls in place for unsafe vehicles or componentry. In response to recent major safety incidents, the Regulator has used persuasion to influence an international manufacturer to voluntarily modify their componentry. The NHVR believes that a duty to provide safe plant and componentry should be introduced to ensure vehicles are constructed to the highest safety standards so that heavy vehicle drivers have a reliable operating environment.

The NHVR believes that the review should investigate whether the proposed duty needs to be limited to protect persons who could not know that the intended use of the components will be unlawful (e.g., fitting different specification tyres on a PBS vehicle).

Legislative Implications:

Extend the primary safety duty to manufacturers of heavy vehicles and componentry.

Introduce a duty for parties in the Chain of Responsibility to consult with each other

The NHVR believes that parties in the CoR are not effectively consulting with heavy vehicle operators or heavy vehicle drivers on safety critical issues that affect the driving task. For example, consignors may not be given instructions on the load restraint requirements to packers, resulting in uneven packing of shipping containers. Uneven packing may alter the performance of the heavy vehicle during manoeuvring, making safe driving more difficult.

The NHVR notes that under the current HVNL, a party in the chain could hold substantial information regarding a risk to the safety of an activity but there is no requirement for them to share the information with other parties to enable the principals contained in section 26A to operate effectively.

The NHVR believes that a duty to share knowledge/consult across the supply chain should be introduced to enable all parties in the chain to be fully informed so risks can be managed appropriately.

Legislative Implications:

Introduce a duty for parties in the chain of responsibility to share information that may affect the safe operation of a heavy vehicle.

Investigate driver attraction and retention as a critical safety issue

The NHVR believes that driver attraction and retention is a potential critical safety issue for the heavy vehicle industry in the coming years.

Anecdotally, heavy vehicle operators are telling the NHVR that it is already difficult to get 'good' drivers and the Regulator is aware that there are various immigration schemes established to increase the number of heavy vehicle drivers coming into Australia. This 'shortage' of drivers will worsen in the future as the freight task grows and older heavy vehicle drivers retire.

The Australian Government forecasts that heavy vehicle traffic will grow by around 50% to 2030¹. If this is the case, applying the same assumptions as the 'Twice the Task' report², the NHVR believes that up to 50,000 additional qualified and experienced heavy vehicle drivers will be needed to service this demand over the same period.

Data from the Australia Bureau of Statistics indicates that the average age of truck drivers in Australia is 47, while the average age of bus and coach drivers is 57, with the average age growing by two years in the past five years³. Given that the average retirement age in Australia for people aged 45 years and over in Australia is 55.3 years, this means that up to 75,000 heavy vehicle drivers will reach retirement age by 2030⁴.

It is unclear how the heavy vehicle industry will respond to the demand for up to 125,000 new heavy vehicle drivers by 2030 or the impact on drivers training and development. However, in other industry sectors, skills shortages have resulted in a lowering of competency standards and experience of prospective employees during recruitment.

The NHVR believes lower competency and driving experience could result in poorer safety outcomes and that the review should provide for improved heavy vehicle driver licencing standards to counter this, while not introducing unnecessarily burdensome new training requirements.

Legislative Implications:

Nil for the HVNL Review.

Improve regular screening of heavy vehicle drivers with industry specific data

The NHVR agrees that driver health is an important contributing factor towards optimum driver performance. However, the NHVR believes that the broader regulatory environment for heavy vehicle users already contains sufficient controls for driver health and fitness for duty.

Currently, under fatigue management accreditation, there are already requirements for drivers to be fit for duty (Basic Fatigue Management/Advanced Fatigue Management) and to have a health management system (Advanced Fatigue Management). This potentially includes drivers undertaking regular medical assessments using the *Assessing Fitness to Drive (2016)* developed jointly by the NTC and Austroads.

The NHVR is also aware that many jurisdictions have introduced similar requirements for heavy vehicle driver licensing. Anecdotally, these requirements are complied with by drivers and businesses, though further investigation is warranted, given the potential negative health effects of shift work on heavy vehicle drivers and the likely higher risk.

¹ Department of Infrastructure and Regional development Infrastructure Australia (2013), *Trends: Infrastructure and Transport to 2030*. Canberra, Australia, p10.

² National Transport Commission (2005), *'Twice the Task' A review of Australia's freight transport tasks*. Melbourne, Australia.

³ Australian Bureau of Statistics (2016), *Census – 2006, 2011, 2016*. Canberra, Australia.

⁴ Australian Industry Standards (2018), *Skills forecast 2018: Transport and Logistics*. Melbourne, Australia, p24.

As advised in our submission to the *Effective Fatigue Management Issues Paper*, some major operators have identified health issues not captured by the current version of *Assessing Fitness to Drive* that commonly occur in their safety incidents. The concerns raised relate to specific cardiac issues and issues with the accuracy of the Epworth Sleepiness Scale used as an earlier indicator of potential sleep apnoea.

Legislative Implications:

Nil for the HVNL Review. The NHVR supports reviewing *Assessing Fitness to Drive (2016)* to take advantage of heavy vehicle operator data associated with heavy vehicle driver health.

Introduce a shared responsibility for fitness to drive

In addition to improving the standard for assessing driver health, the NHVR is concerned about the role that lifestyle factors originating outside of heavy vehicle operations have on fitness to drive. To ensure that such factors are considered in meeting broad occupational safety requirements, work health and safety laws in Australia create a shared responsibility between employees and employers.

This shared responsibility necessitates that employees are to advise employers of factors that may introduce or create a safety risk. Also, the shared responsibility should require that employers work with their employees to ensure that the risks created by drivers' lifestyle factors are controlled.

The Regulator observes whilst the HVNL provisions create positive safety duties similar in some respects to work health and safety laws, they do not provide for shared responsibility between drivers and other heavy vehicle users. The Regulator's experience is that lifestyle factors that may impact road safety are inconsistently managed because of this.

In the absence of a shared responsibility, drivers are reluctant to share information in fear of reprisals or loss of income and operators do not make themselves aware of driver lifestyle factors that may make drivers potentially unsafe for their proposed duties. This means that lifestyle factors of drivers that may increase the risk of drivers being unfit for their proposed duties or the risk of becoming impaired by fatigue are difficult to control and mitigate.

The NHVR believes that the new HVNL should create a shared responsibility so that driver lifestyle factors are better controlled and managed.

Legislative Implications:

Introduce a shared responsibility for heavy vehicle drivers and operators to share relevant information that impacts the safe operation of a heavy vehicle.

Promote better proactive driver health management

Finally, as discussed in the NHVR's submission to the *Effective Fatigue Management Issues Paper*, the Regulator believes that more resources must be available to inform heavy vehicle users and drivers of the potential negative health impacts of shift work. Accepted health impacts of insufficient and poor-quality sleep caused by shift work include:

- Sleep difficulties;
- Diabetes;
- Cardiac disease;
- Gastrointestinal disorders;
- Anxiety/depression;

- High blood pressure; and
- Cancer.

Given the unique nature of heavy vehicle operations in Australia, the NHVR believes that industry specific education materials and guides should be developed in collaboration with industry stakeholders.

Legislative Implications:	Nil for the HVNL Review.
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Deliver a single national heavy vehicle driver licensing framework

The NHVR believes that any person permitted to drive a heavy vehicle in Australia should be required to undertake assessment in order to demonstrate that they:

- can safely operate a heavy vehicle on the road, relevant to the licence class they are applying for; and
- are aware of and can comply with relevant road rules and legislative requirements specific to operating a heavy vehicle.

To achieve this, the Regulator supports the delivery of a single national heavy vehicle driver licensing framework. The framework should:

- establish administrative competency and assessment standards that are adopted and administered consistently by all jurisdictions; and
- provide for a single ‘national heavy vehicle driver licence’
- encourage and implement regular driver testing as part of licensing frameworks.

Through the analysis of data from sales of the National Driver Work Diary, the Regulator is aware of potential governance oversights in the current system that have resulted in drivers being issued with multiple heavy vehicle driver licences. This has the potential to undermine the effectiveness of heavy vehicle driver licencing as it could allow drivers who have had their heavy vehicle drivers licence removed in one jurisdiction to operate under licences obtained in other jurisdictions.

There is a need to strengthen the current National Heavy Vehicle Driver Competency Framework (NHVDF) units of competency and assessment processes and methodology. The NHVR has recommended that the NHVDF units of competency should include a greater focus on non-technical driving skills that are key elements of safe heavy vehicle operations (e.g. driver fatigue and distraction management).

Accordingly, the NHVR believes that the NHVDF should adopt a competency-based approach, rather than a progressive or ‘time served’ approach. The Regulator believes that these revisions can occur outside of the HVNL Review.

Legislative Implications:	Nil for the HVNL Review.
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Encourage industry to adopt a medical model for the management of drug and alcohol

The NHVR agrees that drivers affected by drugs or alcohol should not be allowed to control a heavy vehicle in any circumstance. However, it's not a question of simply banning drug and alcohol use by heavy vehicle users.

At present, state and territory governments have significant powers to stop heavy vehicle drivers to collect and test biological specimens for the presence of drugs and alcohol as well as issue sanctions when these substances are detected. Statistics from various police agencies indicate that they use these powers to monitor drug and alcohol use and are successful in detecting drug and alcohol use by heavy vehicle drivers. Given this, the NHVR believes that there would be little benefit from replicating drug and alcohol testing in the new law.

In terms of encouraging heavy vehicle operators to monitor drug and alcohol use by heavy vehicle drivers under their supervision, the general safety duty in the HVNL is applicable to safety risks caused by heavy vehicle drivers impaired by drugs or alcohol. From reviewing applications for fatigue management accreditation, the NHVR is aware that many operators take a proactive approach to monitoring their drivers. Accordingly, the NHVR questions the need for prescriptive requirements in the future HVNL for the management of drug and drink driving.

The NHVR believes that a medical model approach with a focus on prevention, intervention and recovery compliments the traditional approach already in place. This approach will make the regulatory framework more comprehensive and credible, encouraging voluntary compliance by heavy vehicle users.

The NHVR believes that regulatory guidance on managing drugs and alcohol, specific to heavy vehicle operations, is critical to improving drug and alcohol related safety issues. The Regulator notes that the motivations behind the drug and alcohol use of heavy vehicle drivers are different to those of light vehicle drivers, especially when it comes to illicit drug use. Light vehicle drivers most frequently drive to a specified location in order to purchase the illicit drugs and then use the drug before, or while, driving back to their residence. In contrast, heavy vehicle drivers report using illicit drugs while driving to counter the effects of extended periods awake while working.

In terms of prevention, the NHVR is aware that pre-employment screening of potential new heavy vehicle drivers is infrequent, with many heavy vehicle operators preferring to use a randomised or ad hoc screening arrangement instead. The Regulator believes that greater emphasis is needed on pre-employment screening as past drug use is the best predictor of future drug use. Data from one operator indicated that pre-employment screening showed positive results for drug use in three out of five tests, compared with less than one in ten tests in post-employment ad hoc testing.

In terms of recovery, the NHVR is also concerned about the potential impact of legal drugs. Given the multiple health challenges faced by heavy vehicle drivers, they are more likely than other drivers to be using medical substances that could impact their driving performance. As fitness to drive assessments are typically done every three to one years, depending on the driver's age, the NHVR is concerned that the use of medical drugs that impair driving performance is under-reported.

As stated above, the NHVR believes that the HVNL Review needs to consider introducing a shared responsibility for heavy vehicle drivers and operators. This should include reporting on legal drug use that may affect driving performance, and taking measures to manage driver health in a way that does not disadvantage the driver.

Legislative Implications:

Nil for the HVNL Review. The NHVR believes that alcohol and drug management would be a good candidate for an administrative rule made under the rule development power recommended above.

Develop regulatory guidance on driver distraction

The NHVR agrees that heavy vehicle driver distraction is an emerging safety issue that needs to be proactively managed by heavy vehicle users. While not the focus of the NHVR's Fatigue Monitoring Trial, data obtained during the trial indicates that heavy vehicle driver distraction events are up to ten times more common than driver fatigue events.

The NHVR believes that mobile telephony, which is commonly associated with driver distraction in light vehicles, is less of a concern for heavy vehicle drivers. Heavy vehicle drivers have been using communication technology while driving since the 1950s with little demonstrable safety impact. Whilst the increased capability of smart technology may affect this, the NHVR believes that key hazards for driver distraction for heavy vehicle drivers are:

- monotony of the driving task, especially in rural and remote areas;
- design and complexity of the work environment (e.g., dashboard designs and control inputs);
- cognitive demands of complying organisational, HVNL and other road rule requirements; and
- non-driving tasks performed for lifestyle and self-care reasons while driving (e.g., consuming food or drink while driving).

The NHVR believes that the best approach to encourage the heavy vehicle industry to proactively manage driver distraction is to develop regulatory guidance on driver distraction, in collaboration with heavy vehicle users covering all relevant hazards.

Legislative Implications:

Nil for the HVNL Review. The NHVR to develop guidance on heavy vehicle driver distraction.

Investigate distraction detection technology

As discussed in the NHVR's submission to the *Effective Fatigue Management Issues Paper*, the NHVR is undertaking the Fatigue Monitoring Trial to assess the potential role of fatigue monitoring technologies in improving fatigue management under the HVNL regulatory framework. The trial commenced in early 2019 and is due to be completed in 2020.

The interim results of the trial indicate that some continuous operator monitoring paradigms currently available are also able to detect driver distraction by measuring changes in eye movements and focal attention. In this monitoring paradigm, when the system detects that a heavy vehicle driver's focal attention is outside of a predefined range because the driver is looking away from the driving task, an in-cab alarm is sounded and a distraction event recorded.

Whilst the interim data from this technology is promising, the NHVR believes that it is premature to include specific provisions in the new HVNL at this time, as there is little independent scientific evidence on the validity and effectiveness of this monitoring paradigm.

The NHVR also believes that recognition for distraction monitoring technology is a strong candidate for introduction through a rule developed under the rule development power proposed in our submission to the *Effective Fatigue Management Issues Paper*. This should not commence until the NHVR's Fatigue Monitoring Trial is complete and the results have been peer-reviewed and presented to relevant stakeholders.

Legislative Implications:

Nil for the HVNL Review. The NHVR will publish the results of the Fatigue Monitoring Trial including recommended concept of operations for regulatory recognition. Depending on the results of the trial, the NHVR believes that fatigue monitoring technology would be a

good candidate for an administrative rule made under the rule development power recommended above.

Build on the current core safety management system materials

In 2018, the NHVR published a suite of guidance material on safety management systems, including written guides, videos, templates and worked examples. The suite of these materials provide foundational principles for safety management systems from which heavy vehicle operators can develop their own systems, using the templates and worked examples as appropriate.

The NHVR is currently investigating the development of additional safety management system guidance, including specific material for small to medium operators, given that approximately three quarters of heavy vehicle operators manage between one and five vehicles.

Legislative Implications:

Nil for the HVNL Review.

Influence risk-reward ratio perceptions to improve commitment to safety

The NHVR believes that the broader regulatory framework needs to influence the risk-reward ratio perceptions of heavy vehicle users in order to promote better safety practices and culture.

There is a significant body of research showing that safety culture thrives when users:

- know the appropriate safety behaviours for their operations;
- believe that there are rewards for displaying safety behaviour; and
- believe that there are risks for not displaying safety behaviours.

The perception of the risks of not complying with safety standards are influenced by three key decisions:

- credibility of the safety standards in the specific circumstances;
- availability of more rewarding alternatives to the safety standards; and
- likelihood of being detected not complying with the safety standards.

An example of these three decisions as it relates to heavy vehicle drivers is seat belt use. Queensland statistics show that heavy vehicle drivers not wearing a seat belt are six times more likely to die in the event of a crash.⁵ Despite this, many heavy vehicle drivers routinely do not wear their seat-belts because they believe it will hamper them in exiting the vehicle if something goes wrong. In this example, heavy vehicle drivers 1) do not believe that seat belts will save their lives during a crash and 2) believe that being able to escape is more important for their safety.

During the Fatigue Safety Forum, participants advised the NHVR that they felt that the current prescribed rules for heavy vehicle driver fatigue management lacked credibility because, in their own words; *“compliant activities can be unsafe, non-compliant activities can be safe, the focus of the law is too narrow, the law is too complex to be applied consistently.”*⁶

⁵ Transport and Main Roads (2009), *One-click could change you future*. Brisbane, Queensland. Retrieved from: <https://www.qta.com.au/Seat-Belts>

⁶ National Heavy Vehicle Regulator (2018), *Fatigue Safety Forum – Summary of Outcomes*. Brisbane, Queensland.

In order to overcome these beliefs, participants in the Fatigue Safety Forum agreed that the review of the HVNL should do more to reward those with good safety practices and discourage those with bad safety practices. Operators must demonstrate their good safety practices to achieve more responsibility and flexibility in the work limits (e.g. through performance based standards on fatigue risk management and the adoption of technology).

To achieve this, the NHVR believes that the review of the HVNL should systematically assess safety standards in the HVNL and revise them to ensure only un-safe practices are restricted and safe practices are permitted.

Legislative Implications:

Revise provisions setting safety standards to correct errors, and internal inconsistencies in the law.

In Summary

The NHVR is continuing to work towards creating a true, modern, single national heavy vehicle regulator across the country which makes safety the number one priority for all involved in heavy vehicle road transport related activities. We believe that a key aspect of this is creating consistent and effective safety outcomes through the national coordination of compliance, enforcement and assurance activities.

As a modern, risk-based regulator, NHVR is focused on adjusting the traditional prescriptive regulatory approach, which relies heavily on on-road enforcement and sanctions; to place a greater emphasis on the way we work with industry and the broader supply chain to develop their safety capabilities.

We are continually pursuing effective initiatives that will improve national heavy vehicle road safety outcomes in-line with is the number one priority for the heavy vehicle industry – to deliver safer people and practices. The NHVR is committed to the following safety related activities:

- encourage industry to adopt risk and safety management systems through continued education;
- produce more regulatory guidance materials for CoR parties and other duty holders about factors that may affect the safety of their operations;
- assess and register more Industry Codes of Practice;
- target and reduce high-risk safety behaviours and repeat offending;
- transition prosecution services to the NHVR from Victoria;
- work with industry to increase adoption of flexible fatigue management options;
- advocate for increased harmonisation of Australian vehicle standards to allow for the latest designs from origin markets; and
- provide increased education and advice to industry on purchasing safer heavy vehicles.

While working with policy-makers on improvements to the HVNL to deliver safer people and practices, the NHVR will continue to maintain focus on improving public safety by fostering a strong safety culture and safe business practices by the heavy vehicle industry.