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

NHVR'S SUBMISSION TO THE ASSURANCE MODELS ISSUES PAPER

The National Heavy Vehicle Regulator (NHVR) welcomes the opportunity to respond to the sixth Heavy Vehicle National Law (HVNL) Review Issues Paper on *Assurance Models*.

It has been almost 10 years since the HVNL was initially drafted, and more than five 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 (CoR) 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.

The NHVR continues to support industry through the rollout of Safety Management Systems (SMS) and the registered Industry Codes of Practice. The NHVR also established the National Heavy Vehicle Accreditation Working Group to progress the recommendations of the Medlock Report titled *Analysis of Heavy Vehicle Accreditation in Australia*. Other activities have included an ongoing national education and awareness campaign to inform industry of changes to the amended CoR laws and the release of a suite of resources to promote industry adoption of a SMS.

The NHVR recognises the importance of working with policy decision-makers to introduce further improvements as detailed in the attached submission as part of the HVNL Review. In particular, the NHVR believes a shift from prescriptive assurance to risk-based assurance will be more effective in promoting a positive safety culture under a new HVNL.

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 and others in the supply chain to improve safety outcomes.

Yours sincerely

Sal Petrocitto
Chief Executive Officer

Assurance Models – NHVR's submission

NHVR key opportunities for improvement

The National Heavy Vehicle Regulator (NHVR) has identified a number of opportunities that if implemented would support a future heavy vehicle accreditation framework designed to improve safety outcomes and reduce the regulatory burden on industry. These include:

- Opportunity 1: Establish a coherent and consistent National Assurance Framework
- Opportunity 2: Enable a range of regulatory assurance scheme models
- Opportunity 3: Adopt a risk-based regulatory assurance model to improve confidence that regulated parties are meeting their obligations
- Opportunity 4: Adopt a positive safety culture for future assurance schemes
- Opportunity 5: Develop an efficient and effective regulatory hierarchy
- Opportunity 6: Provide more explicit provisions for monitoring by the NHVR to provide greater clarity, certainty and protections for industry
- Opportunity 7: Use assurance and enforcement data to deliver a risk-based, intelligence-led approach to compliance

Industry engagement

National Heavy Vehicle Accreditation Review

In 2018, the NHVR commissioned a report by Fellows Medlock and Associates (the Medlock Report)ⁱ to provide a range of options for the future of heavy vehicle accreditation schemes. Following the release of the report, the Transport Infrastructure Senior Officials Committee (TISOC) endorsed work to progress the development of a national heavy vehicle accreditation framework. The NHVR has convened a joint working group with industry and jurisdictional representatives to undertake this work.

The working group supports in principle:

- Better aligning the current accreditation scheme requirements and working toward mutual recognition of schemes.
- Encouraging existing schemes and operators to adopt a Safety Management System (SMS) approach to manage their safety risks and as a potential standard for a future national framework.
- Developing an assurance framework where operator accreditation can provide an alternative pathway for compliance with specific elements of the HVNL's prescriptive requirements, and more broadly, risk-based duties imposed on both operators and those in the supply chain.

The NHVR has committed to continue to work with stakeholders to develop an accreditation framework in tandem with the National Transport Commission's (NTC) review of the Heavy Vehicle National Law (HVNL). In the first half of 2020, the NHVR will report to TISOC on progressing the recommendations of the Medlock Report.

Introduction

The NHVR believes appropriate and robust assurance is vital to ensure community trust and confidence in the regulation of the heavy vehicle industry. Regulatory assurance can be achieved through a range of activities that are designed to verify that regulated parties comply with the law and meet the safety outcomes the community expects.

Modern regulators utilise targeted, risk-based and intelligence-led approaches in developing and deploying assurance resources (refer to Attachment A). This approach allows for flexible options in administering the law. Assurance methodologies include a range of options, such as monitoring through on-road compliance activities and auditing, investigations, the provision of education and information. If required, a Regulator has the ability to enforce the law utilising various legal remedies.

In a co-regulatory environment, contemporary risk-based assurance also includes the adoption of accreditation schemes by regulated entities. Robust regulatory assurance schemes have the potential to provide a method for industry to continuously improve their safety management while simultaneously providing the Regulator and the community with the level of confidence required.

Whilst schemes such as National Heavy Vehicle Accreditation Scheme (NHVAS) and Western Australia Heavy Vehicle Accreditation (WAHVA) have been the focus of regulatory accreditation, assurance schemes should cover a broad range of regulated parties including, inter-alia, transport operators, Approved Vehicle Examiners (AVEs), Performance Based Standards (PBS) service providers and technology service providers.

When first introduced, many of the existing heavy vehicle assurance schemes were developed independently of each other and not aligned under a common framework. Some of these assurance schemes were transitioned to the HVNL and some remain under State and Territory law, such as the accreditation of AVEs and public passenger transport operations.

The NHVR believes that a future assurance model will provide the basis for the heavy vehicle industry to demonstrate it is proactively managing compliance to the objectives of risk-based regulation. The proposed assurance model will be underpinned by the philosophy of all regulated parties having a commitment to building a positive safety culture that takes a systematic approach to safety management. The systematic approach will encompass their own business, and with other parties they interact with in the supply chain.

The benefits to industry will be delivered through achieving a safer industry that is sustainable into the future, and less tolerance for unsafe practices that create a competitive advantage that undermines industry safety standards.

The NHVR's submission to the NTC's *Risk-based Regulation Issues Paper* has outlined the pathway to move from a prescriptive approach, which has high costs, towards a more risk-based assurance approach. Delivering this outcome will need a cohesive framework for regulatory assurance in the HVNL.

Opportunities for a better law

Opportunity 1: Establish a coherent and consistent National Assurance Framework

Recommendations:	Include provisions in the HVNL for a National Accreditation Standard and National Audit Standard.
	Include provisions in the HVNL to allow the NHVR to approve mutual recognition of schemes or modules within those schemes where appropriate.

Several assurance schemes were established, under legislation that pre-dated the HVNL, as alternative approaches for complying with some aspects of traditional prescriptive regulation. The schemes were developed with variation in the objectives and design depending upon whether the schemes were for transport operators, such as the NHVAS, or certification schemes for the approval of technology that support other assurance schemes, such as the IAP.

In 2018, the HVNL was amended with the introduction of a primary duty to ensure safety that applies to all parties in the chain of responsibility and that cover all heavy vehicle transport activities. Other laws regulating WHS, public passenger transport, tow trucks and dangerous goods overlap with HVNL requirements, for example with the requirement that vehicles be roadworthy, but also regulate other activities not in the HVNL, such as passenger service delivery standards or dangerous goods handling.

In addition, there are regulatory assurance schemes operating in non-participating jurisdictions such as the Western Australian Heavy Vehicle Accreditation (WAHVA) scheme, and non-regulatory schemes operated by industry bodies, such as TruckSafe and CraneSafe.

Due to the fragmented way that assurance schemes and regulatory obligations have developed over time, there is:

- inconsistency in the operation of the schemes,
- inconsistency of assurance of the schemes, and
- a lack of recognition of assurance schemes by some third parties.

In the case of the existing accreditation schemes, the NHVR believes that a consistent and coherent overarching assurance framework, which promotes confidence in the competence and capacity of operators to meet their safety duties, is needed to address the fragmented approach to these schemes.

The framework would include a National Accreditation Standard to provide minimum standards that are required to be met and maintained, and a National Audit Standard to provide a minimum standard of audit. The combined standards would provide confidence to the NHVR, other regulators and third parties that an assurance scheme is robust and reliable.

The NHVR will continue to work with the NTC, non-HVNL jurisdictions and industry to develop a national framework to support existing schemes that consist of a National Accreditation Standard and National Audit Standard.

The NTC's *Assurance Models Issues Paper* outlined three levels of assurance that can be provided by an assurance scheme. The assurance levels were described as:

- Level 1 assurance: regulated parties self-assess, without independent oversight.
- Level 2 assurance: the party performing the assessment is a stakeholder of the regulated party. There is greater rigour, but it's not an independent assessment.
- Level 3 assurance: assessed by an independent third party. Assessment processes are secure and robust; data is depended on for high levels of accuracy or integrity.

The NHVR believes that a National Audit Standard will require Level 3 assurance to provide the confidence for all parties.

The National Accreditation Standard and the National Audit Standard will support mutual recognition of schemes or modules across participating and non-participating jurisdictions. This will reduce the regulatory burden on operators. The example below demonstrates how mutual recognition can be applied in the recast HVNL to benefit industry by removing the duplication of scheme participation and audits.

Example	
	<p>The Western Australia Heavy Vehicle Accreditation (WAHVA) scheme is mandatory for individuals and organisations operating certain types of heavy vehicles that require a permit or order to perform any transport task as part of a commercial business or for profit within Western Australia, including interstate operators. WAHVA involves three mandatory modules Fatigue, Maintenance and Dimension, and Loading which transport operators are required to incorporate into their daily work practices. There is one optional module -The Mass Management Module - which is only required if an operator wishes to operate within the Accredited Mass Management Scheme (AMMS).ⁱⁱ</p> <p>In a future state, operators that have accreditation in WAHVA should be recognised when travelling in jurisdictions that participate in the HVNL for the fatigue and maintenance modules of the NHVAS. Operators outside of Western Australia that have NHVAS fatigue and maintenance accreditation would only need to attain the WAHVA Dimension and Loading module to be eligible for the WAHVA accreditation. They would have the option to add the mass module in either WAHVA or NHVAS.</p>

Opportunity 2: Enable a range of regulatory assurance scheme models

Recommendations:	Allow a range of assurance models and fee structures that can be tailored to the specific requirements depending upon the scheme.
	Establish a head of power in the new HVNL for the NHVR to create accreditation schemes for third parties who provide regulatory services on our behalf.

The NTC’s *Assurance Models Issues Paper* provides four assurance framework models in section 5.2, as a basis for consideration across a range of regulatory assurance scheme designs. The NHVR believes there isn’t a single model that is best suited to deliver all types of regulatory assurance schemes.

Assurance schemes for new services may need to use the vertical integration model (model 1). This approach will allow the NHVR to create the necessary skills to certify and audit scheme participants. Model 1 is also the most appropriate model to apply tighter regulatory oversight of the scheme, enabling the NHVR to administer the scheme and conduct audits using NHVR-approved auditors.

Regulatory assurance of technology providers and the implementation of that technology for regulatory purposes may be more suited to a market for regulatory certification (model 2). This allows an entity with specialised technical skillsets to evaluate the competency and compliance of providers. This entity would be approved by the NHVR and the administration and regulatory details would be contained in subordinate legislation.

Example

The use of technology for regulatory purposes is regulated to provide assurance that the technology and the implementation of the technology is fit-for-purpose:

- The assurance model for the IAP empowers Transport Certification Australia (TCA), an independent authority, to approve and audit IAP Service Providers. IAP Service Providers offer regulatory monitoring services to transport operators in a competitive marketplace, often bundled with other fleet management services.
- The EWD is a recording system used by drivers and operators to demonstrate their compliance with fatigue rules. EWD's are approved directly by the NHVR, against the requirements within the HVNL and standards set by the NHVR.

Each scheme is tailored to meet the needs of multiple stakeholders and their respective regulatory, operating and business environment.

In some cases, the use of Registered Training Organisations (RTO's) or other qualified bodies to certify regulated parties to perform a regulatory service, may fit the accreditation market model (model 3).

Delivering flexibility through performance standards (model 4) could be applied in circumstances where the regulated party is not able or willing to assume a risk-based approach. This would apply where there is a risk-based safety duty, but the HVNL recognises a code of practice as an alternative method to demonstrate that the regulated party is 'deemed to comply'. Codes of Practice could be developed by the NHVR or by industry, and recognised in the HVNL as a method to meet safety duties.

Rational hierarchy for assurance models:

The roles and distribution of responsibilities within the different models for assurance schemes would need to be developed and enabled within the HVNL. Where scheme ownership and management is distributed to external providers, the method of delivery and cost structures will differ. Models for cost-recovery, subsidised activities or market-driven fees will need to be considered within the context of the scheme design, who is providing the service, and additional services that may be bundled with the service delivery. That is, the HVNL will need to allow a range of funding models tailored to the design of the scheme, assurance model applied, and dependent upon whether the scheme is administered by the NHVR, a monopoly third-party provider or there is a market-place for third-party providers.

Re-structuring the HVNL to move administrative and regulatory detail further down the legislative hierarchy will allow the scheme design and funding models to be addressed on a scheme-by-scheme basis, rather than being set in the HVNL. This approach will also support the continuation of existing schemes that do not fit into a single assurance model.

In the future, it is likely that the NHVR will utilise third parties to provide assurance services on our behalf. For example, the NHVR uses third parties known as Approved Vehicle Examiners (AVEs) to certify and approve certain modifications to heavy vehicles under the HVNL. Similar third party assurance is also provided in the Performance Based Standards Scheme. At present the NHVR relies upon a number of different approaches to authorise these third party providers, including recognition of state and territory accreditation systems and contractual arrangements. Neither of these approaches represents best practice. The new HVNL provides an opportunity to establish a Service Provider Accreditation Framework rather than having multiple schemes and approaches to authorisation across Australia.

Opportunity 3: Adopt a risk-based regulatory assurance model

Recommendation:

The HVNL to enable the NHVR to apply a risk-based approach to regulatory assurance to improve confidence that regulated parties are meeting their obligations.

The Australian economy relies upon an efficient and productive transport industry. The general community expects the heavy vehicle industry to operate safely, especially where and when it shares the road with other road users.

Currently, the regulatory framework includes activities conducted by authorised officers in accordance with their prescribed functions. Officers assess the levels of compliance by parties in the chain with the provisions of the HVNL and use a mixture of education and enforcement appropriate and proportionate to the situation and risk presented. The ideal outcome from these activities is to drive behavioural change and deliver effective and efficient regulatory and safety outcomes.

Not all assurance schemes are considered regulatory assurance schemes. Non-regulatory assurance schemes are another method for regulated parties to improve their business and safety practices. Only a small percentage of heavy vehicle operators participate in regulatory or non-regulatory assurance schemes, although many of those participants operate large fleets of vehicles and perform a substantial proportion of the transport task.

Because the majority of transport operators and heavy vehicles are not in a regulatory assurance scheme of which NHVR has visibility, regulatory assurance relies heavily upon traditional compliance and enforcement activities. If there were a greater take-up by heavy vehicle operators of regulatory assurance schemes, it is possible that the on-road enforcement burden would be reduced and limited regulatory resources could be more appropriately allocated to higher-risk areas.

The NHVR supports the development of a re-cast HVNL that will enable the NHVR to apply a risk-based regulatory assurance model, rather than a prescriptive approach to regulatory assurance. This approach is aligned to the priority areas in the NHVR's submission to the NTC's *Risk Based Regulation Issues Paper*.

Assurance schemes

Regulatory assurance schemes are those intended to provide assurance to the NHVR or another regulator, such as WHS regulators or State and Territory transport regulators. Assurance in the HVNL includes operator accreditation schemes, such as NHVAS, technology provider certification schemes, such as the IAP, vehicle design and approval schemes, such as PBS. The benefits for operators include incentives and flexibility for participants who invest in safety systems and technologies.

Non-regulatory assurance schemes can include industry-representative schemes, such as TruckSafe and CraneSafe, industry sector schemes, such as the gas and petroleum industry Safe Load Program, a CoR audit scheme required by a primary contractor or a transport operator SMS. Non-regulatory assurance schemes can also be a valuable method of building and demonstrating a positive safety culture.

As part of the regulatory assurance model, the NHVR encourages regulated parties to participate in compliance and assurance activities, including schemes, to demonstrate they are meeting their safety and compliance obligations under a risk-based HVNL.

Opportunity 4: Adopt a positive safety culture for future assurance schemes

Recommendation:	Embedding the principles and elements of a positive safety culture across the supply chain will be considered in the design of future regulatory assurance schemes.
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A risk-based approach to regulation relies on regulated parties taking responsibility for identifying and managing the risks in their business. It involves operators and other parties in the supply chain identifying, managing and monitoring the safety risks associated with their transport activities.

While documenting policies and completing checklists are important tools in developing a positive safety culture, it is the change in behaviour that delivers the assurance of safer outcomes. A cohesive assurance framework will encourage and promote businesses to develop a positive safety culture to manage risk. The NHVR believes that in a risk-based regulatory environment, assurance schemes should seek to support a positive safety culture for scheme participants.



Figure 2 The five interconnecting components of a positive safety cultureⁱⁱⁱ

In a positive safety culture, regulated parties are encouraged to seek out non-compliance that results from an honest mistake, learn from the mistake, and adapt their business policy and processes to eliminate or reduce the likelihood of re-occurrence. The NHVR believes regulatory assurance schemes should incentivise this behaviour by design, including the elements of an SMS, such as risk assessment and treatment, incident reporting, safety performance monitoring and measuring, change management and continuous improvement. Non-compliance events that are identified and effectively treated by the regulated party will be considered a positive outcome, provided they result in improved safety performance.

Opportunity 5: Develop an efficient and effective regulatory hierarchy

Recommendations:	Establish a head of power in the HVNL for the NHVR to make statutory instruments for the purpose of regulatory assurance schemes.
	Accreditation and other regulatory assurance schemes currently in the HVNL, such as PBS (Chapter 1, Part 1.4), fatigue accreditation, EWD (Chapter 6, part 6.3, Divisions 3, 4, 5 and 7), the Intelligent Access Program (Chapter 7) and Accreditation (Chapter 8) should be moved to subordinate legislation.

The NHVR's submission to the NTC's *Risk-Based Regulation Issues Paper* included positions that:

- *Wherever possible, ensure administrative and regulatory details are dealt with through regulation and legally enforceable guidelines, standards, codes of practice and business rules.*
- *Matters of detail surrounding common functions be grouped together to reduce the size and complexity of the HVNL and if necessary relocated away from the critical rights and obligations.*

The HVNL should provide the head of power for the NHVR to establish the assurance schemes with administrative detail contained in legally enforceable guidelines, standards, codes of practice and business rules for these schemes. This will enable the NHVR to be more responsive to emerging issues and industry needs. It will also enable existing schemes to be more flexible and adaptable to fit the dynamic regulatory environment, which may include recognition of the use of new and emerging technologies within existing schemes.

Opportunity 6: Provide more explicit provisions for monitoring by the NHVR to provide greater clarity, certainty and protections for industry

Recommendations:	Expand the powers in Chapter 9, Part 9.2 and 9.3 to allow monitoring and investigation for safety purposes.
	Amend the definition of monitoring purposes and investigation purposes to include compliance to the law and for safety purposes.

An important element of regulatory assurance is the need for the Regulator to confirm that regulated parties are fulfilling their obligations. Monitoring can be achieved through a number of approaches, including on-road compliance, roadside cameras, in-vehicle technology, inspecting heavy vehicles, auditing, investigations, voluntary sharing of information, and other forms of intelligence gathering.

The HVNL currently enables monitoring for the purpose of determining compliance with the HVNL. The limitation of this definition of monitoring is that it does not include coverage of matters not explicitly within the HVNL and may have an impact on the safety of all transport activities. The lack of explicit coverage of transport activities not regulated in the HVNL can lead to uncertainty for both the Regulator and regulated parties.

The NHVR believes that more explicit provisions for monitoring will provide greater clarity, certainty, and in some cases, greater protections for industry. Other regulators that have adopted a risk-based approach have the capacity to undertake safety investigations to identify the underlying causes of safety incidents or hazards. The NHVR is limited in the ability to conduct safety investigations in relation to matters that are not contained in the HVNL. For example, if the NHVR became aware of unsafe heavy vehicle components, the HVNL limits the ability of the NHVR to investigate or influence the importers or distributors of the unsafe components because they are not regulated under the HVNL. Expanding the powers for safety purposes would enhance the NHVR's ability to investigate and mitigate the risk of unsafe practices, vehicles or vehicle components.

Another issue for monitoring under the current HVNL is that it is focussed on assessing compliance with the law rather than seeking improvements in safety outcomes. The NHVR proposes that the re-cast HVNL should enable the monitoring of both compliance and safety issues to allow for the investigation of safety hazards or incidents that may not be the result of non-compliance to the HVNL. This approach can be used to support

proactive safety alerts and notifications to industry to help improve safety outcomes, in addition to enforcing the law.

Opportunity 7: Use of assurance and enforcement data in a risk-based approach to compliance

Recommendations:	The HVNL should enable regulatory assurance schemes to access enforcement data, where appropriate to verify that the auditing process is robust.
	Assurance and enforcement data will be used to deliver a risk-based, intelligence-led approach to compliance.

The NHVR believes in a risk-based data and intelligence-led approach to compliance. Assurance and enforcement data informs intelligence-led evaluation of regulated parties.

The NHVR's submission to the NTC's *Risk Based Regulation Issues Paper* supported establishing a regulatory framework that provides incentives and flexibility to industry participants who invest in safety systems and technologies, and proportionate deterrents for those who choose to actively disregard their safety obligations.

Regulated parties should also have the opportunity to voluntarily share safety-critical data in order to provide an increased level of confidence and further demonstrate the effectiveness of their compliance. A simplified ability to share information between industry and the NHVR would allow the NHVR to assist industry with voluntary compliance. For example, if on-board mass data were shared with the NHVR and a pattern of low risk non-compliance was identified, the NHVR could share this information with the operator to 'nudge' them back to a compliant state. This is a much simpler method of behavioural modification than enforcement.

The NHVR believes that participation in assurance schemes assists the creation of a positive safety culture and provides a foundation for demonstrating compliance with CoR obligations. Participation in assurance schemes does not exclude regulated parties from other compliance and enforcement actions. However, compliance and enforcement actions will be risk-based, data and intelligence-led.

In Summary

The NHVR continues working to create a true, modern, single national heavy vehicle regulator across the country. 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.

The NHVR supports reforms to the HVNL and welcomes the opportunity to continue to work with the NTC, states and territories, industry, providers of assurance services and other relevant stakeholders to introduce reforms to the HVNL which will improve safety and productivity in the heavy vehicle industry through:

- a risk-based regulatory assurance model
- promoting a positive safety culture across the transport industry
- re-structuring the HVNL to be simpler and easier to understand and administer
- enabling the right assurance model for the right application
- establishing a coherent and consistent national assurance framework
- promotion of trust and confidence across assurance schemes to reduce duplication
- use of assurance and enforcement data in a risk-based approach to compliance.

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.

Attachment A – Inputs into NHVR submission

Risk-based regulation in other transport industries

On 19 August 2011, the Council of Australian Governments signed Intergovernmental Agreements to establish a national maritime regulator, national rail safety regulator and a national heavy vehicle regulator. The reforms were introduced to provide major productivity gains for the economy and to reduce the compliance burden across the transport industry in Australia. The NHVR has considered the approach applied by the other transport regulators, including the air transport regulator, Civil Aviation Safety Authority, in this submission.

Assurance and safety management systems (SMS) are common to the regulation of the other major transport modes in Australia. Businesses that have intermodal supply chains need to interact with the other transport regulations. The NHVR believes that an increased use of SMS and regulatory assurance will align the heavy vehicle regulatory approach with other transport modes and assist the productivity and efficiency of a modern intermodal supply chain in Australia. The NHVR acknowledges that in considering the regulatory approaches applied to other transport modes it is important to take into account the size of the industries, number of operators and nature of the associated safety risks, and current maturity levels of their safety culture and associated systems.

Rail - Office of National Rail Safety Regulation (ONRSR) - applies a co-regulatory risk-based approach to rail regulation. Entry to participate as a rail transport operator is limited through an accreditation framework. Safety management systems are a pre-requisite for entry. Safety management is an ongoing process. It is an essential requirement of receiving and maintaining accreditation with ONRSR. The level of detail included in an SMS is determined by the complexity of the rail operations for which it has been designed.^{iv}

Maritime – Australian Maritime Safety Authority (AMSA) - takes a risk-based and proportionate approach in determining where to focus legislative and compliance responses so that those who demonstrate a safety culture, and are compliant, are rewarded by reduced regulatory intervention. A risk-based approach provides AMSA with a structured framework to identify, analyse, prioritise and respond to risk. Responses and resources can then be effectively targeted and regulatory activity is directed where it is needed.^v

AMSA mandates that all domestic commercial vessels must have an SMS. The system must demonstrate and document how the vessel meets the mandatory general safety duties.^{vi}

Air – Civil Aviation Safety Authority (CASA) - takes risk-based approaches to regulatory action and decision-making. Commercial operators must obtain and hold an air operator's certificate. CASA mandates an SMS for all regulated public transport operators. This SMS is scalable and can be tailored to the size and complexity of the organisation and is submitted and approved by CASA.^{vii}

ⁱ <https://www.nhvr.gov.au/files/201812-0966-analysis-of-hv-safety-accreditation-schemes-in-aus.pdf>

ⁱⁱ <https://www.mainroads.wa.gov.au/UsingRoads/HVS/accreditation/Pages/home.aspx>

ⁱⁱⁱ http://www.ntc.gov.au/system/files/webform/submission_hvnl_access_ip/481/HVNL-access-issues-paper-submission-NHVR.pdf

^{iv} Adapted from James Reason's Safety Culture Model.

^v https://www.onrsr.com.au/__data/assets/pdf_file/0014/20822/The-ONRSR-Way-web.pdf

^{vi} <https://www.amsa.gov.au/about/corporate-publications/statement-regulatory-approach-2018>

^{vii} <https://www.amsa.gov.au/vessels-operators/domestic-commercial-vessels/safety-management-systems>

^{viii} <https://www.casa.gov.au/safety-management/safety-management-systems/what-safety-management-and-safety-management-systems>