

ONRSR

Fatigue Risk Management Review Consultation Paper



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1 Introduction

ONRSR has undertaken its review of the fatigue risk management requirements under *the Rail Safety National Law* (RSNL). This paper describes the review process, associated analysis and makes recommendations for consideration by the Transport and Infrastructure Council (Ministerial Council) in June 2019.

2 Background

In May 2012, prior to the commencement of the RSNL and National Regulations, Ministerial Council noted that the National Regulations would allow NSW to supplement the risk based approach with prescribed outer limits for hours of work and rest for rail safety workers who drive trains.

Ministerial Council also agreed that a further review of fatigue arrangements be undertaken by the National Regulator within three years from the commencement date of the National Regulator. Since the decision of May 2012 by Ministerial Council, the timeframe for the review was extended, recognising the time it has taken for all jurisdictions to transition to the RSNL and the complexity of the task of reviewing fatigue risk management requirements and practices in the rail industry.

Further, conditional of Queensland joining ONRSR was the acceptance into the RSNL of fatigue provisions which had previously been passed by the Queensland Parliament but had not been implemented. These included prescribed outer limits of hours of work and rest for train drivers in Queensland, however, the requirements are different to those included by NSW.

3 Objectives and scope

3.1 Objectives

The objectives of the fatigue risk management review were to:

- > examine current fatigue risk management legislation and policies to determine the appropriateness and effectiveness of different requirements prescribed within the RSNL;
- > consider leading practice approaches to the regulation of fatigue risk for all rail safety workers, particularly within a co-regulatory model;
- > assess options for fatigue risk management in terms of safety and regulatory burden on industry; and
- > recommend a consistent national regulatory approach.

3.2 Scope

The scope of the review includes:

- > examination of the degree to which fatigue is a risk factor for rail incidents;
- > assessment of the effectiveness of rail transport operators in managing the fatigue risk on rail safety workers while operating under the national law and NSW's specific provisions;
- > investigation into current and innovative fatigue risk management frameworks and research:
 - from Australia and overseas; and
 - from within and outside the rail industry;
- > development of options for an effective legislative framework to reduce the safety risks arising from fatigue; and
- > assessment of the current legislative framework against the recommended option.

While the review may recommend legislative change, the process for implementing such change is out of scope for the review and would be addressed following a Ministerial Council decision.

The review has also been guided by COAG endorsed principles of best practice regulation, and references the research and recommendations of the Independent Expert Panel on Rail Safety in 2011 (the Expert Panel), the recommendations of the *Rail Safety National Law Fatigue Risk Management – Hours of Work and Rest Regulatory Impact Statement (RIS)* prepared by the National Transport Commission (NTC) and the *Submission into Fatigue Risk Management Hours of Work and Rest* responding to the NTC RIS in 2012 by the Rail, Tram and Bus Union (RTBU).

4 The review method

4.1 Methodology

ONRSR has undertaken a rigorous review process that has involved data analysis, research into how fatigue is managed in rail internationally and in other industries both domestically and overseas, examination of rail investigation reports and a re-evaluation of prior reform proposals when the RSNL was being developed.

As outlined below, ONRSR also invested significant time and resources into stakeholder consultation and has investigated a variety of reform proposals including the drafting of a Code of Practice for fatigue risk management with stakeholder input.

To facilitate stakeholder engagement in the review process, the Fatigue Review Reference Group was formed in 2016. The Reference Group included representation from industry (including the Australasian Railway Association (ARA) and individual operators), government representatives, academic experts and the RTBU.

The review has also been informed by direct engagement with key stakeholders including industry, unions, government and academic experts in meetings and public forums via workshops.

4.2 Stakeholder Consultation

ONRSR conducted extensive consultation on a variety of reform options through the Reference Group, a discussion paper, workshops and in meetings with senior government officials, unions and industry. In consultation with the Reference Group, ONRSR developed a draft Code of Practice which was discussed amongst key stakeholders beyond the Reference Group from November 2017 to March 2018 for further industry feedback.

The draft Code was presented in a discussion paper which provided an analysis of the current status of fatigue risk management under the RSNL and posed a series of targeted questions on potential reform options. The paper was released over a 2 month period for stakeholder comment from Wednesday 30 May 2018 to Tuesday 31 July 2018. During this period, ONRSR also held discussion workshops throughout June 2018 in Perth, Adelaide, Melbourne, Brisbane and Sydney.

ONRSR received 13 written submissions on the discussion paper; 10 were from industry, 3 from governments and none from unions noting that unions were active participants in all jurisdictional workshops. ONRSR also engaged extensively with the RTBU in the Reference Group and, in addition, conducted a variety of meetings with various unions including the RTBU and the Australian Federated Union of Locomotive Employees (AFULE) in Queensland.

The Australasian Railway Association (ARA) also commissioned an economic analysis undertaken by Deloitte highlighting case studies outlining the costs based on the prescribed hours of work on two Queensland based rail lines. The case studies demonstrated the significant costs associated with the current system of prescribed hours in Queensland (and, while not costed, NSW).

There were 50 organisations represented at the workshops from industry (including the tourist and heritage sector), unions and governments which encompassed a diverse range of views on the issues presented both in the discussion paper and through the attendee's industry experience.

Stakeholder feedback on the proposals presented by ONRSR for reform are discussed further in the paper, however, the key issues presented in both oral and written feedback centred around the following areas:

- > A national risk-based approach to manage fatigue for all rail safety workers, is the preferred industry outcome.
- > No evidence that safety outcomes under prescribed hours for train drivers in NSW and Queensland are greater than under a risk based system.
- > Some stakeholders supported the continuation of prescribed hours for train drivers, noting that it provides clear outer limits and still operates within a risk based framework as required under the RSNL. This included feedback from the NSW government that the prescribed hours arrangements in NSW are reflective of NSW's specific risk profile. Further, the NSW and Queensland Governments have current policy positions in relation to maintaining prescribed train driver hours.
- > Concerns about the cost and productivity implications of prescribed train driver hours in NSW and Queensland.
- > Limited evidence of systemic issues relating to the management of fatigue in rail in Australia (e.g. in investigation reports, audits and occurrence data) which would warrant greater regulatory intervention, noting that guidance for less sophisticated operators may be of assistance.
- > Reform outcomes must not harm the competitiveness of rail versus road transport.
- > Industry concerns regarding any administrative burdens and potential costs of implementing a Code of Practice. Industry also requested further guidance materials if a Code was to be introduced to outline ONRSR's expectations from an administrative and compliance perspective.
- > The increasing use of labour hire workers in the rail industry due to the significant investment in rail infrastructure was raised as a potential area of concern for rail safety.

This feedback has been incorporated where appropriate into the final recommendations.

5 Existing requirements under the RSNL

5.1 Requirements under the RSNL

A rail transport operator's statutory obligations are to ensure, so far as is reasonably practicable (SFAIRP), that rail safety workers who perform rail safety work in relation to the rail transport operator's railway operations, do not carry out such work while impaired by fatigue or if they may become so impaired (s52(2)(d) of the RSNL). This requirement applies to all rail safety workers.

Rail safety workers themselves also have a responsibility under section 56 of the RSNL whereby they are required to take reasonable care of his or her own safety and that of others, which includes not undertaking rail safety work when fatigued.

Shared responsibility is also a core principle under section 50 of the RSNL. The level and nature of responsibility that a person has for rail safety is dependent on the nature of the risk that the person creates from the carrying out of an activity or the making of a decision, and the capacity that person has to control, eliminate or mitigate those risks (s50(2)).

Accredited rail transport operators must have a safety management system which must include a fatigue risk management program (s99(2)(f) of the RSNL) to be prepared and implemented by the rail transport operator (s116 of the RSNL).

The fatigue risk management program must meet the requirements set out in regulation 29 of the National Regulations. Regulation 29 identifies the key fatigue related risk factors a rail transport operator must take into account when preparing a fatigue risk management program. These factors are not, however, exhaustive and any potential issue that may relate to fatigue must be considered by the rail transport operator as part of a thorough risk assessment process.

It is also an existing requirement under regulation 29(2) of the National Regulations that a rail transport operator must establish and maintain documented procedures to manage, SFAIRP, fatigue related risks.

Rail safety duties under the RSNL apply to contract workers undertaking rail safety work. This means that 'contracting out' this duty or using exclusion clauses, is not permitted under the RSNL, unlike contracting out railway operations, which is permissible¹. Further, rail safety duties apply to rail safety workers working under labour hire agreements. The RSNL also places a rail safety duty on persons other than rail transport operators, who carry out operations in the same way as it applies to a rail transport operator (see s52(5) of the RSNL).

Since the introduction of the RSNL, ONRSR has undertaken one safety improvement project assisting operators in managing their rail safety risk caused by fatigue likelihood. ONRSR has also provided advice on many occasions to rail transport operators to assist them in managing this risk.

It is also noted that to support rail transport operators in managing fatigue likelihood impacting on their rail safety risk and complying with the requirements for fatigue risk management under the RSNL, the Rail Industry Safety and Standards Board (RISSB) developed a guideline for its members.

5.2 Prescribed hours for train drivers in NSW and Queensland

Schedule 2 of the National Regulations prescribes work scheduling practices and procedures (i.e. outer limits of work and rest) specific to NSW (Schedule 2 Part 1) and Queensland (Schedule 2 Part 2). The prescribed 'outer limits' of work and rest in Schedule 2 are only applicable to rail safety workers driving trains in prescribed circumstances and are not applicable to all types of rail safety workers. The requirements under this Schedule were law (however, not implemented in Queensland) in both states prior to transitioning to the RSNL. The requirements for NSW and Queensland train drivers, however, are different.

The prescribed hours must be used in conjunction with a risk based approach as, in isolation, they do not consider the totality of operational contexts such as control measures (e.g. operating under Automatic Train Protection) or the maturity of operators and their capabilities to deliver robust fatigue risk management programs. Further, prescribed hours are not applicable to all types of rail safety worker.

The requirements of Schedule 2 in NSW and Queensland do not, however, preclude other conditions of work (such as, shorter or less frequent shifts than those specified in Schedule 2) from being provided by a rail transport operator for the purposes of managing fatigue related risks. Operators within NSW and Queensland are still required to undertake a risk based approach to work scheduling albeit under the prescribed outer limits of work and rest for drivers.

¹ *Contracting in the Rail Industry: Accreditation and Safety Management Systems Guideline*, RISSB, 21 September 2017, p. 11.

Rail safety workers, other than train drivers in NSW and Queensland, operate under a risk based system of fatigue risk management with no prescribed hours. This approach mirrors the national risk based scheme for *all rail safety workers* (including train drivers) operating in all other States and Territories.

Broadly speaking, the provisions in NSW and Queensland prescribe the 'outer limits' of rail safety work for train drivers relating to:

- > maximum shift lengths depending on the type of train driven (freight or passenger) and whether it is a single manning or two person operation;
- > minimum break length between shifts depending on whether taken at or away from the home depot;
- > maximum numbers of shifts and hours in any 14 day period; and
- > requirements in relation to the maximum amount of time allowed between signing on for a shift and reaching the home depot or barracks when travel is involved in getting to the home depot or barracks.

The requirements in NSW and Queensland are not identical, meaning that those who operate within both jurisdictions must comply with the variations between driver scheduling, leading to further jurisdictional inconsistencies.

The variations in the prescribed hours of NSW, Queensland and the risk based system in all other jurisdictions have an effect on driver rostering, depending on the type of configuration of drivers, train type and journey (i.e. whether the journey operates across multiple jurisdictions).

As of January 2018, there were 186 accredited operators across Australia. Forty-four (44) national operators are subject to two or three different sets of requirements as they operate in NSW and / or Queensland and another jurisdiction.

In November 2016, Ministerial Council also noted a review undertaken by ONRSR, relating to derogations from the RSNL, which identified over 80 derogations. Of these, industry identified fatigue risk management as one of the top four along with drug and alcohol testing, data logger and train communications, that most impacted their operations from a safety and productivity perspective.

5.3 Exemptions

The RSNL contains provisions for Ministerial exemptions and exemptions granted by the Regulator from any requirement, including the requirements for fatigue risk management and the limits on hours of work and rest prescribed in Schedule 2.

As of August 2018, one Ministerial exemption has been granted with a further three exemptions granted by the Regulator in relation to compliance with prescribed train driver hours. One exemption was also transitioned over to ONRSR that was granted by the Queensland Regulator prior to transition. Most exemptions relate primarily to defined circumstances, such as yard operations or seasonal work.

When submitting an application for exemption to the Regulator the operator must demonstrate that they are managing any fatigue related risks to safety SFAIRP.

6 Fatigue risk management in other industries and rail internationally

The use of risk based approaches to safety regulation dates back to the Robins report in the United Kingdom (1972), where the benefits of performance based regulatory models were first articulated as a regulatory principle.

These principles were reflected in amendments to Australia's Occupational Health and Safety (WHS) laws from the 1980's and have developed and grown in regulatory influence both internationally and in Australia ever since. The development of risk based approaches led to the development of the Australian standard for risk management (AS 4360) which has formed the basis of the ISO standard for risk management (ISO 31000).

Industry specific fatigue risk management regulations in the transport industry in Australia provide varying degrees and methods of regulation. The RSNL risk based legislative framework differs in its overall approach to some of the more prescriptive regimes such as heavy vehicles and aviation which operate on a more prescriptive basis, with more complex regulatory mechanisms that allow operators to work additional hours where approved by the regulators. It is further noted that from 1 October 2018, changes to the Chain of Responsibility (CoR) laws under the *Heavy Vehicle National Law* (HVNL) commenced which are aimed to make sure everyone in the supply chain shares responsibility for ensuring breaches of the HVNL do not occur.

In marine legislation, the national law aligns with the general safety obligations under the model Work Health and Safety laws and does not prescribe specific limits on hours of work.

Further, WHS laws in Australia are crucial in terms of their inter-operability with the RSNL for operators and workers. Much like the RSNL, WHS laws in Australia set out primary work health and safety duties of employers and employees (be they government, private sector, or otherwise). The WHS framework is risk based and supported by a mix of both statutory and non-statutory instruments to support its operation. This includes regulations, national compliance and enforcement policies, Codes of Practice and guidelines e.g. *Model Code of Practice: How to manage work health and safety risks*, *Code of Practice: Working Hours 2006 (WA)* and the *Guide for Managing the Risk of Fatigue at Work 2013*.

The rail industry internationally operates under a variety of frameworks encompassing both regulated hours and varying degrees of risk based and prescription within regulatory frameworks. As will be demonstrated, however, there has been a general move towards risk based frameworks internationally.

In New Zealand, the rail industry is regulated under the *Railways Act 2005* that legislates general safety duties of rail participants and persons working for rail participants. Under this Act, each operator's safety case must contain policies to ensure that rail personnel are not suffering impairment or incapacity as a result of fatigue. There are no mandated hours of operations under the Act.

Amendments to the *Railway Safety Management System Regulations 2015* in Canada required Federal railway companies to develop and implement a safety management system, create an index of all required processes, keep records, notify the Minister of proposed changes to their operations, and file safety management system documentation with the Department of Transport when requested. However, Canada still operates under the *Work/Rest Rules for Railway Operating Employees* (the Work/Rest Rules) pursuant to section 20 (1) of the *Railway Safety Act 1985* which defines the requirements for hours of work and rest. The rules include maximum duty time and mandatory off-duty times for railway employees.

On April 26, 2017, the Honourable Marc Garneau, Minister of Transport in Canada launched a Statutory Review of the *Railway Safety Act*. The review was completed in May 2018 with 16 recommendations in total. In relation to fatigue, recommendation 3 states that "*Transport Canada [should] assume a leadership role on fatigue in the rail sector in order to set a flexible way forward*". This includes "*regulating prescriptive minimum criteria (that reduce the current number of on-duty hours and provide increased opportunities for rest) and non-prescriptive measures based on evolving fatigue science*".

In the United Kingdom, prescribed limits on hours of work and rest were removed and, in 2006, a risk based approach to fatigue was introduced. Additionally, the *Railways and Other Guided Transport Systems (Safety) Regulations 2006* (ROGS) give employers specific duties to make sure employees who perform safety-critical tasks are competent and fit to do so, and are not affected by fatigue. Safety critical tasks under the ROGS apply to all duty holders working on a transport system and not limited to train drivers.

Legislation relating to rail safety in the United States is generally prescriptive and the Hours of Service laws control how many hours train employees, dispatching service employees, and signal employees may work. The statute provides maximum on-duty periods for each group of employees, minimum off-duty periods for train employees and signal employees, and establishes how time on duty is to be calculated. The statute also provides additional limitations on consecutive days and certain monthly limitations on the activity of train employees.

6.1 Observations

Across other industries in Australia and the rail industry internationally there is a mix of risk based approaches to managing fatigue risk as is currently outlined in the RSNL and examples of industries where hours of work and rest are prescribed for some or all rail safety workers.

The legislative and operational environments, evidence of fatigue as a causal factor in major incidents, and differences in rail, maritime, heavy vehicles and aviation make it difficult to draw meaningful comparisons as to whether one system is safer than the other. Driving a train is unlike driving a heavy vehicle or vessel. A public road provides a different set of hazards to a rail corridor. Similarly, travel in airspace is three dimensional, whereas rail is restricted by the limits of the physical track. Additionally, a large proportion of air traffic is international and, therefore, governed by a more complex international system of regulations.

The heavy vehicle and aviation industries also rely on an approval process that requires the regulators to assess and approve applications for operators to exceed the prescribed limits.

However, in comparison with other legislative regimes, both in Australia and internationally, the RSNL sets out an extensive and comprehensive set of requirements using a risk based system to manage fatigue.

While opportunities exist to improve Australia's regulatory environment, education and support for industry, some conclusions can be inferred between the approach under the RSNL and those nationally and internationally:

- > Most jurisdictions operate under a risk based framework with a varying mix of prescribed and non-prescribed hours of work and rest.
- > In recent years regulation nationally and internationally has generally been moving to less prescriptive regulation and a greater focus on risk based regulation.
- > Applying to a regulator to operate outside of prescribed limits is not a feature in rail internationally.
- > Prescribed hours of work and rest apply to broader categories of rail safety workers than train drivers.

7 Emerging challenges

The rail industry is growing and changing rapidly both in Australia and internationally. Examining emerging challenges and opportunities in fatigue risk management associated with rail industry changes has helped inform the recommendations for this review.

A major fatigue related challenge facing the rail transport industry relates to the increasing role of automation and its impact on safety critical roles of rail safety workers. For example, the introduction of technology such as automatic train protection significantly impacts traditional high risk tasks such as driving trains. While such technologies can result in safer railways, they may present challenges for human operators as passive monitoring may impact alertness and performance.

Importantly, these technologies will affect a variety of different types of rail safety work (not just train drivers) who may be required to perform a variety of tasks including maintenance, monitoring of screens or equipment and other safety critical tasks, all of which potentially have different fatigue factors which would require assessment as part of a fatigue risk management program.

8 Analysis

8.1 Current fatigue risk management arrangements

Risk managing fatigue factors which contribute to rail safety risks relies on a thorough fatigue risk assessment. An operator should, SFAIRP, ensure a rail safety worker's need for rest breaks from work (both within work hours and between shifts) to allow sufficient sleep opportunities are balanced by work demands to ensure alertness levels and performance capacity are sufficient to safely and efficiently carry out rail safety work.

Risk managing fatigue, however, does not draw solely on, for example, work scheduling or defined hours of work and rest but can also include control measures such as engineering controls (e.g. Automatic Train Protection) that aid in mitigating rail safety risks. As noted previously, regulation 29 of the National Regulations provides the key factors to consider at law to aid operators in their management of fatigue factors that can contribute to rail safety risks.

As part of the analysis of fatigue risk management by ONRSR, one of the observations has been that there are variations in the maturity and capabilities of operators in being able to adequately implement and monitor fatigue risk management programs. Simply adhering to mandated hours does not satisfy this requirement.

In addition to the requirements under the RSNL, operators are also required to comply with the WHS legislation which is particularly relevant in addressing risk associated with commuting.

To support industry being able to manage their fatigue risk in accordance with the RSNL, ONRSR has undertaken a safety improvement project on fatigue risk management and provided education and assistance through its auditing function. A number of large operators engage fatigue risk management specialists and all operators who are RISSB members have access to the RISSB Guideline on fatigue risk management but there is no requirement to either utilise this guideline or adhere to it.

ONRSR currently has a comprehensive risk management guideline in relation to the *Meaning of duty to ensure safety so far as is reasonable practicable (SFAIRP)*, however, through ONRSR's safety improvement project and audit and compliance activities, it has become evident that, in order to ensure a truly risk based approach is undertaken to a high standard, further assistance would be beneficial.

8.1.1 ONRSR's risk based approach to compliance

Rail transport operators must be accredited under Part 3 Division 4 of the RSNL. As part of the accreditation process, applicants must demonstrate that they have the competence and capacity to manage risks to safety associated with the railway operations for which accreditation is sought under s65(b) of the RSNL. This includes having a fatigue risk management program.

ONRSR is a risk based regulator and has a risk based audit and compliance program in place, whereby the greatest regulatory effort is exerted on the operators with the greatest risk profile.

In addition, ONRSR continuously monitors various data sources and other intelligence and conducts reactive regulatory activities where anomalies or trends are detected. In terms of monitoring the management of fatigue risk by operators, this includes notifiable occurrences, observations, confidential reports, incident investigations, outcomes of audits and inspections.

Any concerns with an operator's fatigue risk management program are identified through audits and inspections and the operator must take steps to rectify the concerns. However, if appropriate, ONRSR may use stronger enforcement options dependent on the circumstances.

The causal link between fatigue and rail incidents is complex and involves multiple factors. In its analysis, ONRSR has met some of the same challenges as those contained in the Rail Safety and Standards Board (RSSB) UK 2015 report, *Fatigue and its contribution to railway incidents*. Several key observations from ONRSR's experiences and RSSB UK's findings include.

- > There is not a truly objective measure of how fatigued a person was at the time of an incident or the extent to which that affected the individual's performance at the time;
- > Determining the role and extent of fatigue (if present) in incidents is a complex task. This has been a challenge in examining the investigation reports and occurrence reporting data.
- > The RSSB report noted that when examining fatigue related incidents by job role, 80% of affected persons were drivers. RSSB concluded that this was predominantly due to the fact that driver related incidents, particularly SPAD reports, were made more readily available in their database and that fatigue may be more routinely considered for drivers in these SPAD events.

The RSSB report noted that fatigue was identified as a Causal or Contributory factor in 6% of the 246 incidents on their database. However, given the difficulties of measuring fatigue, it should be noted that it may not always be reported as 'fatigue' but may be rather as human error or loss of situational awareness in some cases.

8.1.2 Investigations

Since the introduction of the RSNL in January 2013 until 1 August 2018, there have been 96 safety investigations completed by the ATSB, OTSI, CITS and TMR.

Fatigue was identified as a contributing factor in three of the incidents. All three incidents occurred in NSW at night or in the early morning. Two of the incidents involved the train crew of freight trains and were compliant with the mandated hours and the third involved the network controller of a passenger train.

Below is a summary of the investigation findings and links to the reports:

Investigation	Description
<p>ATSB RO-2013-003 NSW</p>	<p><u>Summary:</u></p> <p>On 30 January 2013, Pacific National (PN) freight train 9837, travelling from Nowra to Orange, passed signals SM109G and SM115G at stop on the Down Goods line between Dulwich Hill and Hurlstone Park in Sydney. Just prior to this incident a work crew had been working on the track but moved off the tracks once alerted to the trains approach. There were no injuries or damage.</p> <p><u>Findings:</u></p> <p>The co-driver had inadvertently fallen asleep on the approach to the signals. The trainee driver missed the first signal at caution, and the next signal at stop. He applied the brakes once the train passed the final signal at stop after realising this signal applied to his train.</p> <p>ATSB found fatigue was a contributing factor to the incident. In particular an over reliance on the use of bio-mathematical model scores used to roster train crew. Further that PN Bulk Rail division did not provide training on fatigue management to the driver.</p> <p>https://www.atsb.gov.au/publications/investigation_reports/2013/rair/ro-2013-003/</p>
<p>ATSB RO-2015-005 NSW</p>	<p><u>Summary:</u></p> <p>At approx 0513 on 12 March 2015, the driver of a Sydney Trains passenger train went in the wrong direction from Mt Druitt station. Instead of travelling towards St Marys on the Down Suburban line, he drove 761m in the opposite direction towards Blacktown. The driver only braked after a network control officer (NCO) contacted him and told him to stop. At the time, only the driver and guard were on board.</p> <p>At the same time, a PN freight train was about four kilometers away and travelling towards the passenger train on the same line. The NCO also called the driver of the freight train and told him to stop. There were no injuries or damage.</p> <p><u>Findings:</u></p> <p>Multiple factors contributed to the driver losing awareness of the direction the train was facing including that the driver was:</p> <ul style="list-style-type: none"> • impaired by fatigue due to being awake for over 21 hours and in the low range of the circadian sleep cycle • confused about the direction due to changing ends seven times • distracted from the main task of driving as he had spent over three hours at Mt Druitt station performing other tasks before he started driving • at risk of making an error due to his high workload • feeling under pressure to move the train

	<p>Fatigue was identified as a contributing factor with the ineffectiveness of Sydney Trains fatigue management processes in identifying the fatigue impairment experienced by the driver sighted as a key contributing factor. However, mandated working hour provisions were not breached.</p> <p>https://www.atsb.gov.au/publications/investigation_reports/2015/rair/ro-2015-005/</p>
<p>OTSI 04631 NSW</p>	<p><u>Summary:</u></p> <p>At approximately 2214 on 21 December 2013 near Moss Vale station, passenger service ST21 passed a stationary PN freight service 6AB6. This alerted the crew of 6AB6 to the fact that worksite protection had not been in place for the co-driver while he was investigating a report of a warm axle on one of the train's wagons. Protection was sought by the driver of 6AB6 and was understood to have been implemented by the network controller located at the ARTC's Network Control Centre South at Junee.</p> <p>When the network controller was about to implement protection arrangements, he was distracted by a personal phone call which resulted in him moving away from the control panel. He was not relieved and, on return, took no further action. Even though controlled signal blocking was not implemented, the network controller told the crew that it had.</p> <p><u>Findings:</u></p> <p>The investigation found for ARTC that:</p> <ul style="list-style-type: none"> • the network controller's performance may have been fatigue-impaired. He had been working for 9 hours of a 10 hour shift without a scheduled break. It was normal practice in the control centre not to have scheduled breaks. • inadequacies in the use of verbal communication protocols • inadequacies in post-incident drug and alcohol testing and • inadequacies in the train driver's adherence to procedures in the implementation of controlled signal blocking. <p>For PN, it was recommended that the auditing of verbal communications be undertaken, and it was recommended they have regular refresher training for train crew about the implementation of worksite protection.</p> <p>http://www.otsi.nsw.gov.au/rail/Moss_Vale_Report_Final.pdf</p>

While there is limited conclusive information to be gleaned from a small sample of investigations, several observations can be made.

While all these incidents occurred in NSW, nothing in the investigation data suggests that the limits on hours of work and rest prescribed in Schedule 2 were breached in these instances. All of the incidents did, however, occur during night and early morning periods where the risk of fatigue is highest. This example demonstrates that, while the prescribed limits were adhered to, fatigue was still considered a contributing factor in the investigations.

The safety message from the ATSB in investigation RO-2015-005 noted that: *“Rail operators should ensure that adequate strategies exist to safeguard against fatigue impairment of train crew. It should also be noted that train crew have a responsibility to decline a shift if they feel that their performance may be affected by fatigue”* (consistent with the duty of a rail safety worker under s56 of the RSNL to take reasonable care of his or her own safety and that of others).

For incident RO-2013-003 the ATSB noted that in order to minimise fatigue-related errors, rail operators should ensure that fatigue management systems incorporate integrated and multi-layered risk control mechanisms.

In all instances, operators agreed to review and / or update standards or policies to better meet the requirements of the RSNL, while in RO-2013-003, PN Bulk rail also agreed to review the appropriate use of bio-mathematical tools as part of the fatigue risk management review process.

8.1.3 Non-conformance reports

Based on analysis of 2016 to 2017 audits and inspections, non-conformance rates for fatigue management are broadly in line with average non-conformance rates for other elements of a Safety Management System (SMS) (48% of audits and inspections with fatigue management in scope resulted in at least one fatigue-related NCR, compared to 58% of audits and inspections without fatigue management in scope that resulted in at least one non-fatigue-related NCR).

There have been no statutory notices issued under the RSNL to operators with regards to not meeting the requirements for fatigue risk management.

8.1.4 Occurrence data

As at 1 August 2018, there have been 1199 occurrences reported to ONRSR by rail transport operators under reg 57(1)(b)(xv) of the National Regulations (any breach of the work scheduling practices and procedures set out in the rail transport operator’s fatigue risk management program), since operators have been regulated under the RSNL.

83% of these occurrences were reported by one operator.

On a breakdown by State this includes:

Jurisdiction	Number
ACT	1
NSW	638
Qld	220
SA	153
TAS	2
VIC	71
WA	114
NT	0
TOTAL	1199

Little, if any, of this data, however, can conclusively point to whether a worker was indeed fatigued or whether trends of fatigue in NSW and Queensland differ greatly than those in other jurisdictions. What can be observed, however, is that notification of work scheduling practice breaches does appear proportionally higher in NSW and Queensland - i.e. the states in which prescribed hours are in effect – however, this is not a measure of fatigue.

Importantly, it should be noted that a lack of or inconclusive data, does not mean that fatigue is or is not an issue in Australia.

8.1.5 Labour hire under the RSNL

As noted above, ONRSR also received feedback in undertaking the review regarding the issue of potentially elevated rail safety risks arising from the use of labour hire workers in the rail industry. As a result of stakeholder feedback, ONRSR committed to examining the issue further.

Under the RSNL, rail safety duties under Part 3 exist for operators, rail safety workers (including labour hire workers performing rail safety work) and 'upstream duty holders' (e.g. designers, manufacturers, suppliers). The RSNL also places a rail safety duty to persons other than rail transport operators, who carry out operations in the same way as it applies to a rail transport operator (see s52(5) of the RSNL) and provides the capacity to conduct enforcement measures under Part 5 where there is a risk to safety (e.g. issuing a prohibition notice). Further, under s262 of the RSNL, any duty owed under the law cannot be contracted out or transferred to another party e.g. through labour hire contracts.

Labour hire companies also have a primary duty of care under WHS laws as Persons Conducting a Business or Undertaking (PCBU). WHS laws must be observed in addition to the RSNL and WHS laws will prevail to the extent of any inconsistency (see s48(2) of the RSNL).

The rail industry has seen and will continue to see an increase in major project spending. For example:

- > In 2012, Major rail projects in Australia were valued at \$15.4 billion.
- > In 2016, Major rail projects in Australia were valued at over \$60 billion.
- > The 2017/18 Federal Budget committed \$20 billion in current and forward investment.
- > The 2018/19 Federal Budget committed \$7.9 billion towards rail projects across the nation.

As investments in rail increase, the potential for an even greater use of labour hire workers will likely arise, primarily in construction and specialist rail services, where workers will undertake rail safety work as defined under s8 of the RSNL.

While labour hire workers and companies provide valuable services to the rail and construction industry, the use of labour hire workers (which is a commercial decision made by operators), gives rise to fatigue concerns associated with 'secondary employment'. This issue may arise where a labour hire worker works concurrently for multiple operators and / or other employers.

Further, as the labour hire workforce represents a fluid body of workers, this presents challenges in terms of ensuring all labour hire workers have knowledge of their duties as rail safety workers under the RSNL, of operators' SMSs, and of competency requirements.

In addition, while some operators have put in place oversight arrangements for their use of labour hire workers, ongoing monitoring of labour hire workers poses greater challenges for operators than in managing permanent staff whose work scheduling they almost solely control.

This may be complicated by the fact that operators taking on contract workers when they are not the primary employer, are reliant on assessments and declarations made by labour hire workers (who may be working multiple jobs) or labour hire companies (for whom the worker is not the primary employee) about a worker's 'fitness for duty'.

8.1.6 Effectiveness of current arrangements

Since operating as a national regulator, ONRSR has not identified evidence nationally to show that the management of the fatigue risk is not generally being handled in accordance with the risk based framework of the RSNL. In assessing the top risks/priorities for ONRSR based on the evidence of operations since the commencement of the RSNL, there has been no evidence to indicate that the management of fatigue under the RSNL is not being managed SFAIRP by rail transport operators. Accepting that some operators manage fatigue related risks more effectively than others, means that work is always required to support and educate operators and to apply compliance tools if operators fail to take action when identified by ONRSR.

Fundamentally however, little of the investigation, occurrence or non-conformance report data provides any clear indication that rail safety risks in jurisdictions without prescribed hours for train drivers are any more or less safe than those with prescribed hours.

While the three fatigue related investigations all occurred in NSW, there was no evidence the prescribed hours were breached, yet fatigue was still a causal factor. Investigation reports and associated operational responses, however, related to improvements in policies, practices and controls linked to fatigue risk management which would all occur using risk based management approach (i.e. irrespective of whether prescribed hours were in place).

ONRSR notes that the review period only provided a limited window for collection of data, considering that accidents are rare events in rail. This may lead to a perception that fatigue is not a problem or has minimal impact on rail safety risks currently in the industry. ONRSR does not support this view. Currently, there is no clear cut test for determining definitively if fatigue was a factor in incidents, leading to the potential for it to be underestimated. What is clear from the evidence, is that managing hours of work alone is unlikely to be an effective approach to fatigue risk management and fatigue cannot be entirely eliminated in a 24/7 service industry.

ONRSR is committed to working with industry and unions to promote comprehensive risk management approaches that will respond to advances in scientific understandings and new technologies that reduce the consequences of fatigue-related error. For these efforts to be successful, the approach must acknowledge the diversity of risk profiles that exist in the industry and the focus of attention must extend beyond train drivers to include the full range of rail safety workers, including those that are contractors or working through labour hire companies.

Studies confirm the risks associated with fatigue, in particular, the risks associated with a variety of causal factors such as extended work hours, insufficient rest, recovery and reset breaks. Studies in transport sectors internationally, such as the UK RSSB report, identified fatigue as a factor in 21% of the 246 incidents studied and that it was more likely to be identified as a Performance Shaping Factor (15%) than as a Causal or Contributory factor (6%). Similarly, nearly 20% of the 182 major U.S. National Transportation Safety Board investigations across transport modes including civil aviation, rail, highway, marine and pipeline, completed between January 1 2001 and December 31 2012, identified fatigue as a probable cause, contributing factor, or a finding.

However, ONRSR has been unable to identify any evidence that a risk based system of fatigue risk management increases rail safety risks when compared to a system of prescribed outer limits (within a risk based framework) in NSW and Queensland. Nor is there any evidence that a system of prescribed hours for drivers (within a risk based framework) provides for safer outcomes than under a risk based system.

The RSNL clearly articulates that rail transport operators have a duty that they must ensure, SFAIRP, the safety of the operator's railway operations. Any increase in the use of labour hire workers is a commercial decision made by the operator and the RSNL requires that the risks must ultimately be managed by the relevant operator (noting that labour hire companies themselves under WHS laws, have their own duties as a PCBU).

In considering the effectiveness of the existing provisions, ONRSR examined other options including:

- > amending the RSNL to include a primary duty on labour hire companies;
- > utilising existing powers under the RSNL and working with industry to monitor and evaluate any trends, risks or challenges posed by the contracting out of labour hire work; and
- > amending the RSNL to include 'Chain of Responsibility (CoR) provisions akin to the Heavy Vehicle National Law (HVNL).

Including a rail safety duty specifically on labour hire companies was deemed to pose issues under the RSNL in relation to potentially confusing or diluting the accountability of rail transport operators while also duplicating existing WHS laws. Operators can, and do, also negotiate contractual arrangements and safeguards with labour hire companies when providing services to perform rail safety work.

The co-regulatory nature of the RSNL also guides ONRSR to work with industry to address any issues while also noting the ability for ONRSR to conduct enforcement related activities on any party that is a risk to rail safety should it be necessary. In this regard, the existing provisions of the law are arguably adequate to mitigate any risks to rail safety by focusing on the operations of the operator and through existing WHS laws, the RSNL and contractual arrangements between operators and labour hire companies.

Any amendment to the RSNL to include CoR type provisions would represent a major legislative reform that would alter the structure of the current RSNL framework significantly, far beyond the scope of the fatigue provisions alone. Given that there are clear existing accountabilities in the RSNL, it is not regarded as a tenable nor proportionate response to the increasing use of labour hire at this point.

8.1.7 Stakeholder Feedback

Written feedback from industry was overwhelmingly supportive of a national risk based approach, noting there was no evidence that operating under a purely risk based system increases rail safety risks in comparison to jurisdictions with prescribed hours of work for train drivers, and no evidence of regulatory failure warranting increased regulation to manage fatigue risks in rail.

A number of submissions acknowledged that the regulatory variations in NSW and Queensland have cost implications and an impact on productivity, while industry submissions generally agreed that the prescribed hours create an administrative burden with no demonstrable safety benefits.

For example, case studies provided by the ARA outlined the costs of operations using prescribed hours of work in Queensland on two existing rail lines, based on the actual costs of operating under prescribed hours.

The Deloitte report states that no evidence could be found to justify the safety case for prescribed hours of work for train drivers and cited the following costs:

- > Aurizon Blackwater Rail Corridor – \$567,000 annually
- > Pacific National – Goonyella Rail Corridor - \$826,000 annually

Of note, is that the Aurizon Blackwater Rail Corridor only applies to part of the Aurizon network and the Pacific National, Goonyella Rail Corridor only applies to one service on a multi service network.

The costs in both Queensland operating lines relate to the need to change crews and use road vehicles when outer limits of service are reached. This creates, in many cases, increased risks associated with changing of staff in remote location and increased road use by train drivers which is required to be managed under WHS legislation. The risk of serious injury or fatality due to road accidents is a much higher risk than train travel. Industry have also identified additional staff costs and road vehicle operating costs - both of which are borne by the rail operator.

As can be seen, the cost impacts on rail operators currently in Queensland are considerable. Whilst there was no proposal to increase the application of prescribed hours nationally, it is noted that contemplation of any such increase would pose an enormous cost burden on industry, with no identified safety benefit.

Multiple industry submissions were also particularly concerned about the competitiveness of rail transportation where it competes directly with road (particularly in relation to the respective fatigue provisions) and that maintaining prescribed hours represents a barrier to fully realising the productivity benefits from a national risk based scheme.

Industry expressed further concern relating to the prescription of hours as being used as de facto safe limits which can result in systems that are compliance driven to comply with the outer limits rather than risk focussed.

Feedback in relation to the evidence base for the existing system of prescribed hours in NSW and Queensland was limited. The primary feedback rested on the determination of the prescribed hours in NSW and Queensland being the result of risk assessments which took into account the specific risk profiles of operations in those jurisdictions. A jurisdictional government and union feedback (from the workshops) noted that provisions also evolved from collective learnings between employees and rail operators and that the prescribed hours align in a pragmatic sense closely to the proposals for a risk based approach.

Unions also stated in workshops that the prescribed hours were the result of years of work practices and experience to form what are acceptable outer limits of work which are most often reflected in enterprise bargaining agreements.

No evidence was presented that prescribed outer limits for train drivers provided safer outcomes than a risk based framework and no submissions presented scientific evidence for the basis of the current outer limits. No evidence was presented that fatigue is not being adequately managed under the existing framework either.

Industry also noted that the consolidation of jurisdictional requirements into a single national law was the premise upon which the RSNL was founded and should continue to be the aspirational goal.

Issues relating to labour hire arose from union members in the workshops querying the safety impacts of contract workers in rail. Industry and governments also highlighted issues relating to the safety risks of labour hire workers with several submissions including the ARA's noting the extent of rail projects underway and that the greater management of labour hire workers who often work in short term arrangements is a challenge nationally.

8.1.8 Proposed approach

ONRSR acknowledges the complexity of policy issues and diversity of views in relation to fatigue risk management.

As a rail safety regulator, ONRSR's primary determining factor will always be what is best to achieve safe outcomes for the Australian rail industry. Stakeholder views and issues relating to harmonisation, costs and productivity are also critical determining factors in ONRSR's decision making when it comes to making its recommendations.

In undertaking the review of fatigue risk management, ONRSR has identified:

- > No conclusive evidence to demonstrate that jurisdictions operating under a full risk based framework for all rail safety workers pose a greater rail safety risk than jurisdictions which also have prescribed hours for train drivers.
- > A nationally consistent risk based approach to fatigue risk management encompassing all rail safety workers would be best suited to the Australian rail context, both in terms of delivering on safety and productivity benefits.
- > While prescribed hours for train drivers places an additional burden on operators in NSW and Queensland, they do not have an identified negative impact on rail safety, however, industry stakeholders have raised concerns that they may increase work, health and safety risk.
- > The NSW and Queensland Governments have current policy positions in relation to maintaining prescribed train driver hours.
- > The RSNL provides clear existing accountabilities in relation to labour hire workers.

As a result, ONRSR proposes no change to the existing fatigue provisions under the RSNL, including no changes to the prescribed hours of work and rest in NSW and Queensland.

ONRSR makes this recommendation on the basis that rail safety outcomes will not be impacted by the maintenance of the status quo, thereby fulfilling the main purpose of the RSNL, which is to provide for safe railway operations in Australia (see s3(1)).

ONRSR will continue to monitor the management of fatigue likelihood and rail safety risk associated with this. ONRSR proposes to review the fatigue provisions of the RSNL again within five years, if not required earlier, and report back to Ministers on its effectiveness and any proposed changes to enhance both safety and national harmonisation.

8.1.9 Impact of proposed approach

As the proposed position maintains the status quo, there will be no impacts resulting from this review noting that savings, 'red tape' reduction and productivity gains will also not be fully realised.

ONRSR will continue to work with stakeholders to assist and support them within the co-regulatory framework of the RSNL. ONRSR will also will monitor any trends and safety risks posed by both fatigue and any expansion of labour hire in the rail industry through its compliance and enforcement program.

Recommendations:

1. Continue to apply the current fatigue provisions of the Rail Safety National Law.
2. ONRSR to complete a further review of the fatigue provisions of the Rail Safety National Law in five years, if not required earlier.

8.2 Improving fatigue risk management in a co-regulatory environment

One of the key challenges of the fatigue review has been to find national agreement on an agreed framework to harmonise the fatigue provisions of the RSNL.

While the rail industry is generally managing fatigue well, ONRSR also sought to explore opportunities to provide better information and / or materials to aid operators' management of one of the most complex areas under the RSNL.

As a reform option to deliver better rail safety outcomes and national harmonisation, ONRSR engaged with stakeholders and jurisdictions on exploring the concept of a Code of Practice approved by Ministers under the RSNL.

The concept to introduce the Code was based on the premise that it would be used to support operators by setting out a risk based approach to achieve a minimum standard of fatigue risk management that is tailored to the operational needs of the Australian rail industry, while also providing an additional statutory instrument that may allay concerns were prescribed hours to be repealed.

ONRSR invested significant time and resources in developing the Code and worked closely and corroboratively in consultation with the Reference Group and key stakeholders from 2017 onwards to produce a tangible product for discussion.

ONRSR then engaged in a period of 'socialisation' of the Code with key stakeholders from industry, unions and governments both through the Reference Group and in meetings from November 2017 until the release of the discussion paper in June 2018. These stakeholder discussions were invaluable in shaping the development of the Code. A draft of the Code then formed part of the discussion paper for stakeholder feedback during the consultation period.

The draft Code's development was based on scientific evidence and incorporates a six step process underpinned by seven principles identified as important for effective fatigue risk management. The principles address each of the seven major factors that rail transport operators need to consider to ensure that rail safety workers are sufficiently alert and have the capacity to undertake all work related tasks. An evidence statement that articulated the evidence base for the principles was developed by Professors Drew Dawson and Ann Williamson as part of the discussion paper during the consultation process.

The evidence in the Code reflected and addressed the core factors which may lead to an elevated risk of fatigue likelihood. It did this by setting out clear parameters relating to elevated fatigue likelihood using the seven principles of rest and recovery which fall into three main types of rest breaks listed below:

- > *Work-related Rest Breaks*: Breaks from work within shifts to reduce performance impairment due to extended time-on-task;
- > *Recovery Breaks*: Sleep opportunities between shifts to provide enough time to obtain sufficient sleep in order to reduce the likelihood of unsafe levels of fatigue;
- > *Reset Breaks*: Breaks in sequences of shifts to reduce the likelihood of the build-up of unsafe levels of fatigue over an extended sequence of shifts.

By using the parameters and principles of the Code, operators may use the information within to address each of the major factors which should be considered to ensure that rail safety workers are sufficiently alert and have the capacity to undertake all work related tasks.

Importantly, the Code was designed to apply to all rail safety workers equally subject to the tailoring of it to their specific operational requirements and fatigue risks.

Use of Codes of Practice are prevalent in a wide variety of industries including under WHS laws, e.g. *the Code of Practice: Working Hours 2006* (WA), which applies to all workplaces in Western Australia covered by the *Occupational Safety and Health Act 1984* and the *Mines Safety and Inspection Act 1994*. The risk based nature of the Code of Practice was also designed to be flexible enough to align with WHS requirements, which is critical due to the relationship and interaction between WHS laws and duties under the RSNL.

8.2.1 Stakeholder Feedback

Submissions relating to the Code contained mixed feedback, with several noting that the Code provided a robust framework for fatigue risk management that would help with guidance and education for the rail sector. Submissions also identified that there would be no adverse safety impacts should the Code be introduced.

Areas of consideration for improvement / clarification related to aspects of the seven principles and their interoperability and the issue of guidance materials to support the Code as well as clarification of ONRSR's compliance expectations for operators and any expectations regarding administrative requirements (e.g. expectations on the recording of break times etc).

Unions and industry (in workshops) also stressed the importance of predictability in rostering and indicated that they felt the Code needed to better express this, particularly where a person performs night shifts only (which, due to the time of day being in the circadian low, means that fatigue risk is elevated) which are common in the rail industry. Further scientific research is currently being undertaken in this area and ONRSR will continue to work with industry stakeholders and academic experts to monitor any progress in this space.

The ARA submission, however, was not supportive of introducing the Code, noting primarily that there was no evidence of regulatory failure to warrant additional regulatory instruments and that it could impose additional costs on operators which were not yet quantified. Industry submissions also noted the limited necessity for regulatory enforcement and limited incidents involving fatigue as evidence that industry is generally meeting its obligations under the RSNL.

Several submissions, including that by the ARA, expressed unease over any potential cost increases resulting from adherence to the Code relating to additional administrative burdens and one off revisions of work scheduling practices to comply with the Code. ONRSR committed to producing guidance materials to assist operators to adhere to any regulatory expectations underpinning the Code should it progress. The Code would not, however, be mandatory and operators should be adhering to the same or higher standards in the proposed Code and / or RISSB standards in their SMS already.

Industry also noted that resources such as the RISSB fatigue guidelines are already in existence to assist operators manage fatigue, however, as noted above, the RISSB guidelines are only available to RISSB members but can be purchased by other members in industry. They are not therefore a part of ONRSR's tools for use in the wider rail industry.

8.2.2 Proposed approach

During the discussion paper process, ONRSR sought input from stakeholders in relation to the implementation of the Code as a means of achieving national consistency for fatigue risk management.

ONRSR also acknowledges that, while operators are generally managing fatigue under the RSNL SFAIRP in accordance with ONRSR's expectations, there exists a variety in operator maturity with regards to fatigue risk management.

Feedback indicates that additional guidance on fatigue risk management may assist industry to develop and maintain greater systems and vigilance in managing fatigue.

ONRSR acknowledges that having additional materials in addition to existing industry materials (e.g. the RISSB fatigue guidelines), be they a Code or otherwise, would greatly assist in achieving better safety outcomes, robust processes and would aid industry in outlining more clearly ONRSR's expectations with regards to fatigue risk management.

Industry feedback identified some concerns in relation to any additional burden resulting from a requirement for compliance with the Code, but noted that it may be of use to some operators. Given the diversity of views on the concept of the Code itself, ONRSR does not propose its implementation per se but, rather, to use it as the basis for developing robust guidance on fatigue risk management to support operators and rail safety workers.

Hence, the work thus far on the Code will be used as the basis for the guidance.

ONRSR also hopes that in producing the guidelines, it can respond to industry comments expressed during the consultation period by articulating in guidance, ONRSR's expectations on fatigue risk management in more detail as well as providing an up to date scientifically based framework and robust risk management process to assist industry at all levels of maturity in fatigue risk management.

ONRSR will work with industry in developing the guidance materials and hopes that, by doing so, it will add to the available resources that operators and workers may utilise to further strengthen fatigue risk management programs, information and awareness in the rail industry.

The guidance material would be available via ONRSR's website to all in the rail industry.

8.2.3 Impact of proposed approach

The publishing of guidance material to support operators in managing fatigue will have no regulatory impacts as it will not be compulsory and imposes no new legal obligations.

Rather, it will support the risk based framework and co-regulatory model of the RSNL by responding to stakeholder feedback that greater guidance, (especially for less mature operators but available for all operators), would be beneficial to assist in a more robust fatigue risk management system.

Recommendation:

3. Note that ONRSR will produce guidance materials on fatigue risk management under the Rail Safety National Law to support operators.

8.3 Other reform options

During the review process ONRSR sought input from a range of stakeholders. The discussion paper process also sought feedback in relation to the following:

- > the implementation of a 12 hour cap on all rail safety work within a risk based system; and
- > strengthening the consultation requirements on operators under the RSNL where any changes are made to an operator's safety management system.

The following represents a summary of stakeholder feedback noting that there are no formal recommendations for reform.

8.3.1 12 hour outer limit on all rail safety work

As noted in the discussion paper there is a point, irrespective of what controls are put in place, that fatigue impacts rail safety risks. Generally, it is recognised that shifts beyond 12 hours will put a rail safety worker (or any person), regardless of their principle duties, at risk of higher fatigue likelihood.

The idea of introducing a 12 hour outer limit on all rail safety work within a risk based approach was based on feedback from operators and unions that 12 hour shifts for all types of rail safety work is common and evidence from the Code that shifts beyond 12 hours represent a high risk of fatigue likelihood.

ONRSR also sought feedback on the types of exemptions that should be applicable should this option become law, and noted that exemptions would need to be approved by the Regulator on a case by case basis as part of this proposal.

There was, however, little support in the submissions for the proposed 12 hour maximum limit applied to all rail safety workers. While some submissions contended that prescribed outer limit on hours of work within a risk based framework provide clarity in respect of regulatory requirements, industry notes that there is little evidence to suggest that fatigue risks are not being effectively managed by industry at present.

Industry feedback suggested that imposing the 12 hour cap could, in some circumstances (for example, shutdowns), constrain flexibility and possibly introduce unnecessary operational delays causing issues with scheduling and worker / driver movements. This, in turn, would result in cost and productivity impacts and reduce rail's ability to compete with road transport - a key concern amongst many in the industry.

Submissions generally asserted that imposing the 12 hour cap could be misunderstood and create the risk of becoming the de facto "safe" limit, resulting in the prescribed outer limit of work being defaulted to rather than operators implementing a risk-based, holistic approach to manage fatigue.

The ARA also noted that operators, workers and unions have negotiated enterprise bargaining agreements which set the principles by which hours of work and schedules are managed and any further prescription would make it more difficult for operators to ensure adequate operational flexibility.

8.3.2 Amendments to strengthen consultation with workers

Operators are currently required under the RSNL to consult with persons affected by the SMS (e.g. rail safety workers, health and safety representatives, any union representatives, other rail transport operators) with whom the operator has interface agreements and the public (as appropriate). This also applies when developing a fatigue risk management program and / or proposing changes to the fatigue risk management program.

Union representatives questioned the extent and effectiveness of consultation on an operator's SMS, including changes to a fatigue risk management program. ONRSR therefore sought stakeholder feedback on the effectiveness of the current arrangements and whether the consultation requirements could be strengthened under the RSNL.

Again, there was no support for amending the provisions relating to consultation under the National Law in the written feedback. Submissions generally pointed to the adequacy of existing RSNL provisions and further pointed out that consultation requirements are also required under WHS laws and, in most cases, under enterprise bargaining agreements. The effect of these additional requirements meant that this issue was effectively regulated under the RSNL, WHS laws and in enterprise agreements.

Stakeholders attending the consultation sessions representing unions, however, expressed support for greater engagement in consultation. Many expressed concerns that the consultation process did not adequately take into account the views of their members and queried how the results of consultation were evidenced.

In response to this concern, ONRSR proposes to develop guidance material to clarify expectations for consultation under the RSNL where an operator seeks to establish, review or vary an SMS. It is proposed that the guidelines will be based on those contained in the Model Consultation Term under the *Fair Work Regulations 2009* but tailored to the unique circumstances of the RSNL. The guidelines will be developed in consultation with stakeholders.

Additionally, ONRSR has already instigated changes to the Rail Safety Register resulting from this feedback to be more transparent by providing greater detail on operator exemptions. This information is available on the ONRSR website.

9 Summary of proposed recommendations

Recommendation 1

Continue to apply the current fatigue provisions of the Rail Safety National Law.

Recommendation 2

ONRSR to complete a further review of the fatigue provisions of the Rail Safety National Law in five years, if not required earlier.

Recommendation 3

Note that ONRSR will produce guidance materials on fatigue risk management under the Rail Safety National Law to support operators.

Attachment 1 – Discussion paper questions

As part of the discussion paper, ONRSR posed the following questions in May 2018:

Discussion points: Current requirements under the RSNL

1. Within the risk based legislative framework, are you able to provide evidence that prescribing hours of work for train drivers provides safer outcomes than operating solely under the risk based approach?
2. What evidence is there to support the variations in the current system of prescribed hours in NSW and Queensland?
3. What are the impacts in relation to safety and productivity for those operators that carry out railway operations under the differing requirements of the RSNL for fatigue risk management?

Discussion points: Prescribed outer limit

4. Would the introduction of a prescribed outer limit on hours of work for **all** rail safety workers within a risk based framework provide clarity in respect of regulatory requirements and what is not acceptable?
5. a) If a 12 hour outer limit on hours of work for all rail safety workers was implemented, would this have a major impact on your operations?
b) If so please provide examples and details of how you are managing the risk to safety under current circumstances.
6. Examples as to when an exemption to the outer limit of 12 hours may be required, have been listed above. Are there any other situations, which may require such an exemption?

Discussion points: Code of Practice

7. Would the draft Code of Practice support operators by providing a robust risk based framework for fatigue risk management and clearly articulate what ONRSR expects of operators when managing fatigue in their operations?
8. Are there areas within the Code of Practice that could be strengthened to provide greater clarity for fatigue risk management? Please provide as much detail as possible of these areas.
9. Would there be any adverse safety impacts if the Code was introduced? Please give examples.

Discussion points: Consultation with workers

10. Under current RSNL regulations there is a requirement to consult with rail safety workers who are affected by the SMS which includes varying the fatigue risk management program. Is this effective? If not, why not?
11. Would specifically articulating in the RSNL regulations the requirement to consult with rail safety workers when varying the fatigue risk management program provide greater clarity in relation to this requirement? Are there any reasons why this should not be specifically articulated in regulations for fatigue risk management programs?