Review of the *National Standard for Health Assessment of Rail Safety Workers*

Final Report

August 2016

NTC AUSTRALIA

National Transport Commission

Report outline

Title	Review of the *National Standard for Health Assessment of Rail Safety Workers*
Type of report	Final Report
Purpose	Information only
Abstract	This report explains the changes to the *National Standard for Health Assessment of Rail Safety Workers* as part of the periodic review of the medical criteria.
Key words	Medical standards, Rail Safety Worker, health assessment, Safety Critical Worker
Author	Prepared by Project Health for the National Transport Commission
Contact	National Transport Commission Level 15/628 Bourke Street Melbourne VIC 3000 Ph: (03) 9236 5000 Email: enquiries@ntc.gov.au www.ntc.gov.au

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Executive summary

The *National Standard for Health Assessment of Rail Safety Workers* (the Standard) is a publication of the National Transport Commission (NTC) that is developed in consultation with industry, rail unions, rail safety regulators and health professionals. It was first published in 2004 and contains nationally agreed health management systems, procedures and medical criteria for the purposes of determining the fitness for duty of rail safety workers throughout Australia.

As part of an ongoing maintenance program, the NTC has reviewed the standard to ensure that it is current and up to date, and reflects the needs for the safe working environment of the rail industry.

This report outlines the changes to the Standard and the rationale for the changes. It also includes discussion on the issues raised by stakeholders that were considered out-of-scope for this project (Section 5).

Where relevant the report encompasses changes made to the *Assessing Fitness to Drive* (AFTD) guidelines, including how these have been translated across to the rail environment. A summary table of the medical changes made to AFTD and their translation into the rail industry is included in this report.

The NTC released an initial consultation paper in November 2014 requesting stakeholder feedback on the 2012 edition of the Standard. An issues paper seeking stakeholder feedback on AFTD was released at the same time. Feedback was received from the medical community, consumer health groups, industry groups and associations, rail transport operators and their employees, transport departments, unions and regulators. The feedback was considered by the NTC and the project's medical consultants, and further input was sought from various medical and allied health experts and rail stakeholders. Relevant feedback received on AFTD was also considered as part of the rail review and included in the proposed revised edition where appropriate.

Relevant legislative developments have also been considered including the Rail Safety National Law and regulations, and the guideline for the *Preparation of a Rail Safety Management System.* This required *adjustment* of various chapters to ensure interface issues were appropriately addressed, including those relating to drug and alcohol programs and fatigue management.

Other changes made in the current review were mainly limited to editorial adjustments for clarity and interpretation of the Standards, and to provide further information where required. There have been a small number of changes to the medical criteria to align with changes made to the commercial driver criteria contained in AFTD. Other small changes made to medical criteria were in response to stakeholder feedback and input from medical experts. All changes made to the Standard will improve clarity and interpretation of the criteria, and assist operators in implementing procedures and managing the health and safety of rail safety workers. A summary of the medical changes are detailed in Table 1.

Table 1. Summary of medical criteria changes to the National Standard for Health Assessment of Rail Safety Workers*

* Includes changes to medical criteria in the criteria tables. Changes to the text in the chapters are described in the body of the report.

CHAPTER	Change to criteria (YES/NO)	Detail of change to criteria tables
Blackout	NO	
Cardiovascular	YES	***Aneurysms*** The aneurysm diameter at which Fit for Duty Subject to Review may be considered has been amended based on risk stratification for different aneurysm types and current management guidelines. ***Implantable cardioverter defibrillator*** Clarity is provided that Safety Critical Workers are not Fit for Duty is they have an ICD inserted, including for primary prevention of arrhythmias. ***Angina –myocardial ischaemia*** Non-invasive CT is included as an alternative to angiogram for the criteria relating to myocardial ischaemia.
Diabetes	YES	***Screening for diabetes*** HbA1c has replaced fasting blood glucose for screening for diabetes. ***Definition of suitable specialist*** A suitable specialist is defined as an endocrinologist / consultant physician specialising in diabetes. ***Definition of severe hypoglycaemic event*** For the purposes of the standard the definition of severe hypoglycaemic event encompasses hypoglycaemic seizures.
Neurological Conditions – Dementia	NO	
Neurological Conditions – Epilepsy and seizures	YES	***Where EEG is required*** For Category 1 Safety Critical Workers, where EEG demonstrating no epileptiform activity is required, timeframes for the EEG are now provided. For example, in the default standard, for Fit Subject to Review to be determined, an EEG conducted in the last six months must have shown no epileptiform activity, and no other EEG conducted in the last 12 months must have shown epileptiform activity.
Neurological Conditions – Vestibular	YES	This chapter has been merged into 'Other neurological conditions'.The criteria for Meniere's disease remain unchanged. The criteria for Benign Paroxysmal Positional Vertigo have been deleted as the condition is usually self-limiting to a few weeks and hence is not relevant to the standard.

CHAPTER	Change to criteria (YES/NO)	Detail of change to criteria tables
Neurological Conditions – Other	YES	***Risk of post-traumatic epilepsy*** The head injury standard for Category 1 and Category 2 workers now includes criteria relating to risk of post-traumatic epilepsy. A non-working period of 12 months (without seizures) applies if they are determined to have a high risk of seizures following a head injury. ***Intellectual disability*** The standard for intellectual disability has been removed, including reference to IQ. It is considered that such a standard is not appropriate given that the capacity to undertake various rail safety tasks will be assessed by more direct means at recruitment and selection.
Psychiatric Conditions	NO	
Sleep Disorders	NO	
Substance misuse	YES	The criteria for substance misuse have been revised to clarify the management across the continuum of severity. Workers at low risk may work Fit Subject to Review at 6-months but may then be classified as Fit for Duty if cleared. This provides a safety net given the difficulty in establishing substance misuse disorders. Workers confirmed as heavy or chronic users, or as dependent will be subject to rigorous treatment and ongoing management and will be required to demonstrate biochemical remission over at least 6 months before being considered for return to Safety Critical Work, Fit Subject to Review.
Hearing	NO	
Musculoskeletal	NO	
Vision and eye disorders	NO	

1 Introduction

The *National Standard for Health Assessment of Rail Safety Workers* (the Standard) is a publication of the National Transport Commission (NTC) that is developed in consultation with industry, rail unions, rail safety regulators and health professionals. It was first published in 2004 and contains nationally agreed health management systems, procedures and medical criteria for the purposes of determining the fitness for duty of rail safety workers throughout Australia.

The Standard enables rail transport operators to monitor the health of rail safety workers, and to prevent or minimise work-related deaths and injury caused by medical conditions. It underpins a national system that ensures the consistent application of health standards across the Australian rail industry. All health assessments for rail safety workers are conducted in line with this Standard.

The NTC periodically reviews the medical criteria relating to the health assessments of rail safety workers to ensure that the medical standards are up to date, reflect current medical best practice and meet the needs of users.

1.1 This report

This document explains the changes to the Standard as a result of this review including:

- Changes flowing from the review of the commercial vehicle driver standards contained in the proposed 2016 edition of *Assessing Fitness to Drive* (AFTD)
- Changes made in response to consultations in late 2014 and with respect to the proposed changes in 2016
- Changes recommended by expert medical consultants
- Changes recommended by the project advisory group, comprising medical, regulator, government, industry and union representatives
- Feedback received since the release of the 2012 edition of the Standard.

This document is presented in a number of sections, which describe:

- Issues and changes relating to Parts 1-3 of the Standard (containing the health risk management system and procedures for conducting health assessments)
- Issues and changes relating to Parts 4 and 5 of the Standard (containing the medical criteria for Safety Critical Worker health assessments and medical criteria for Category 3 workers)
- Issues and changes relating to the model forms
- Various issues that were out of scope of the review but of interest to stakeholders.

This report is to be read in conjunction with the Standard.

1.2 Background

Under rail safety legislation, rail transport operators are required to manage the risks posed by the ill health of rail safety workers. The Standard provides practical guidance for rail transport operators to meet these obligations.

This responsibility is an essential part of an operator's rail safety management plan, which aims to minimise risks to, and protect the safety of:

- The public
- Rail safety workers and their fellow workers
- The environment.

The Standard recognises that health assessment is one aspect of an integrated management system designed to achieve a high level of safety throughout the rail network.

1.3 This review of the Standard

The last review of the Standard was completed in 2012 and came into effect on 20 January 2013, in line with the commencement of the new Office of the National Rail Safety Regulator (ONRSR). Oversight of the application of the Standard is undertaken by the ONRSR. The 2012 edition of the Standard was given effect by being incorporated by reference in the Rail Safety National Law which replaced individual rail safety laws that apply in States and Territories, on 1 January 2013.

Among other things, the 2012 review compared the Standard and the revised standards for commercial vehicle driver licensing contained in the 2012 edition of *Assessing Fitness to Drive*, and the revised standard for commercial vehicle drivers formed a key input into the development of the 2012 edition of the Standard.

The purpose of the review is to ensure that the medical criteria contained the Standard are up to date, and reflect the needs for the safe working environment of the rail industry. The medical standards are prescribed after extensive consultation with medical experts and industry stakeholders, to ensure a consistent level of safety across Australia.

In conducting the review the NTC has focussed on:

- Advances in medical knowledge
- New issues affecting medical standards for rail workers
- Changes to the operating environment and policies
- Stakeholder feedback on the operation of the current rail standards
- Consideration of new legislation requirements and how to two operate together
- Findings of recent relevant inquiries
- Corrections and updates.

Issues that are out of scope for this review include:

- Any conditions or operational implementation that is best addressed under OH&S policies and legislation
- New primary research into gaps in knowledge about medical condition
- Any significant shifts in the application of the standards.

1.4 Project - overview

The review aims to develop updated endorsed medical standards and supporting guidelines for Ministerial Council approval. This has involved the following main tasks:

- undertaking consultation with all relevant stakeholders
- contracting consultants to undertake specialist tasks and provide expert advice on medical advances
- undertaking an environmental scan to ensure all coronial or other inquiry recommendations have been identified
- seeking advice from the relevant stakeholders about the particular issues needing attention, including setting up a project Advisory Group
- analysing responses and liaising with medical and other stakeholder groups, including setting up working groups, as required to secure adequate input
- seeking advice from the Office of Best Practice Regulation regarding Regulatory Impact Statement (RIS) requirements
- preparing drafts of the revised documents

Figure 1 below shows the phases and outputs of the project.

The NTC released an initial consultation paper in November 2014 seeking advice from key stakeholders including the medical community, consumer health groups, industry groups and associations, rail transport operators and their employees, transport departments, unions and regulators. To assist with interpreting complex medial information, the NTC appointed Project Health as medical consultants to the project.

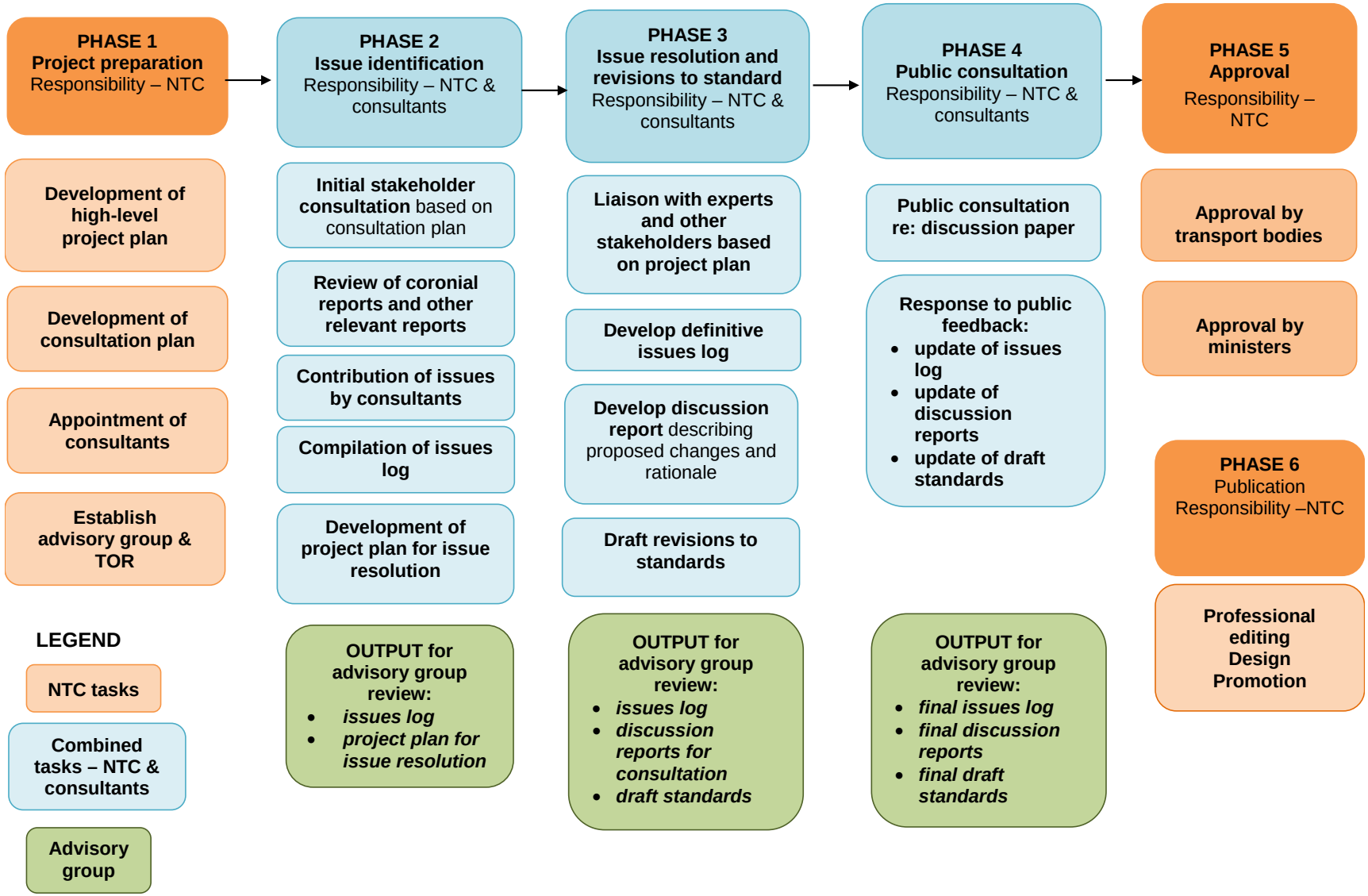
The NTC and the Project Health explored the feedback received via:

- Further liaison with stakeholders, including specialist medical societies, to better understand the issues raised and to ensure that medical standards meet current best practice
- Consideration of coroners' reports, other accident investigations and recent research
- Seeking feedback from working groups on issues relating to:
    - Substance misuse
    - Sleep disorders
- Bringing together a range of targeted stakeholders in the project Advisory Group (including medical professionals, rail occupation specialists, rail operators, regulators and unions) to provide overarching advice for the review.

1.5 Public consultation

The NTC sought feedback from the public on the revised draft Standard between May and July 2016.. Stakeholders wrere invited to provide comments on the proposed changes via the NTC website (see www.ntc.gov.au) . The consultation period closed at the end of July.

Figure 1. Phases and outputs of the project



1.6 Review of *Assessing Fitness to Drive*

As part of the Review of Transport Medical Standards project, the NTC also reviewed the *Assessing Fitness to Drive* (AFTD) guidelines. The review of AFTD was undertaken prior to the rail medical standards review and the document is in its final approval stages.

Changes made to AFTD following the current review were limited to refinements to further support clarity and interpretation, and to support consistent implementation. The implications for all stakeholders, including health professionals, driver licensing authorities and drivers, will be that there will be consistency in patient/driver management through improvements in clarity and decision support. A summary of these changes is outlined in Table 2.

Despite the differences in application of the two documents, the medical criteria for commercial vehicle drivers in AFTD are similar to that for rail safety workers, and where appropriate alignment with these standards is maintained as a result of the reviews. Table 2 summarises whether the changes made to AFTD have been carried over to the Rail Standard.

Table 2. Summary of changes to Assessing Fitness to Drive 2016 edition and applicability to the National Standard for Health Assessment of Rail Safety Workers

CHAPTER	Change to criteria (YES/NO)	Detail of change to Assessing Fitness to Drive criteria tables	Relevance to the National Standard for Health Assessment of Rail Safety Workers
Blackout	NO		
Cardiovascular	YES	***Aneurysms*** The aneurysm diameter at which a conditional licence may be considered has been amended based on risk stratification for different aneurysm types and current management guidelines. ***Implantable cardioverter defibrillator*** For commercial vehicle drivers, clarity is provided that licensing is not permitted for ICDs inserted for primary prevention. ***Ventricular assist devices (VADs)*** New criteria have been developed to cover VADs. A conditional licence may be considered for a private driver requiring a LVAD subject to meeting several criteria. They may not drive if they require a combined LVAD/RVAD or an artificial heart. A VAD of any type is not acceptable for commercial vehicle driving.	***Aneurysm*** The change is relevant to rail and the amendments have been carried over. ***Implantable cardioverter defibrillator*** The clarification is relevant to rail and the amendments have been carried over. ***Ventricular assist devices (VADs)*** The circumstances requiring a VAD are rare thus a standard for VADs has not been included in the rail Standard.
Diabetes	YES	***Diabetes treated by glucose-lowering agents other than insulin*** For private vehicle drivers, the criterion *'the person experiences early warning symptoms of hypoglycaemia'* has been qualified to also include *'or has a documented management plan for lack of early warning symptoms'.* For commercial vehicle drivers, the criterion for a conditional licence *'the condition is satisfactorily controlled'* has been removed due to difficulties in interpretation so that the criteria	***Diabetes treated by glucose-lowering agents other than insulin*** Control of diabetes is important for Safety Critical Workers and has been retained as a criterion for fitness for duty. The definition of a suitable specialist has been carried

CHAPTER	Change to criteria (YES/NO)	Detail of change to Assessing Fitness to Drive criteria tables	Relevance to the National Standard for Health Assessment of Rail Safety Workers
		focus on the main risks to safety, which are hypoglycaemia and end-organ effects. For both private and commercial vehicle drivers, a suitable specialist is defined as an endocrinologist / consultant physician specialising in diabetes. ***Diabetes treated by insulin*** For both private and commercial drivers, the criterion for a conditional licence *'the condition is satisfactorily controlled'* has been removed so that the criteria focus on the main risks to safety, which are hypoglycaemia and end-organ effects. For private vehicle drivers, the criterion *'the person experiences early warning symptoms of hypoglycaemia'* has been qualified to also include *'or has a documented management plan for lack of early warning symptoms'.* For both private and commercial vehicle drivers, a suitable specialist is defined as an endocrinologist / consultant physician specialising in diabetes. ***Definition of severe hypoglycaemic event*** For the purposes of the standard the definition of severe hypoglycaemic event encompasses hypoglycaemic seizures.	over for consistency. ***Diabetes treated by insulin*** As above. ***Definition of severe hypoglycaemic event*** The revised definition of severe hypoglycaemia has been carried over to the rail standard
Hearing	YES	Wording changes provide clarity that: • audiometry should only be undertaken if clinically indicated (i.e. if hearing loss is identified on clinical assessment) • if the hearing threshold is not able to be reached with hearing aids, a person can be individually assessed for suitability for a conditional licence.	This is not applicable to rail. The rail standard is more stringent than commercial vehicle driving based on the inherent requirements of rail safety work.
Musculoskeletal	NO		

CHAPTER	Change to criteria (YES/NO)	Detail of change to Assessing Fitness to Drive criteria tables	Relevance to the National Standard for Health Assessment of Rail Safety Workers
Neurological Conditions – Dementia	NO		
Neurological Conditions – Epilepsy and seizures	YES	***Where EEG is required*** For commercial vehicle drivers, where EEG demonstrating no epileptiform activity is required, timeframes for the EEG are now provided. For example, in the default standard, for a conditional licence an EEG conducted in the last six months must have shown no epileptiform activity, and no other EEG conducted in the last 12 months must have shown epileptiform activity. ***Reduced periodic review requirements*** For drivers with epilepsy under treatment who have been seizure-free for an extended period (10 years for private drivers and 20 years for commercial), the driver licensing authority may consider a longer review period on the advice of an independent specialist. Ongoing review for commercial vehicle drivers will continue to be by a specialist in epilepsy.	***Where EEG is required*** The change is relevant to rail and the amendments have been carried over. ***Reduced periodic review requirements*** The change has not been carried over to rail.
Neurological Conditions – Vestibular	YES	This chapter has been deleted. Meniere's disease is referred to in the text of 'Other neurological conditions'.	The vestibular chapter has been merged into the Neurology chapter for consistency however the full standard Meniere's disease has been retained as sudden onset of vertigo is relevant to acute incapacity and hearing loss may affect safe working. .
Neurological Conditions – Other	YES	***Stroke*** For private vehicle drivers, the requirement for a conditional licence and periodic review has been removed if the driver has recovered adequate neurological function. This reflects the non-progressive nature of stroke. The standard cross refers to management of treatable causes of stroke.	***Stroke*** There is no change for commercial vehicle drivers and therefore no change for Safety Critical Workers in rail.

CHAPTER	Change to criteria (YES/NO)	Detail of change to Assessing Fitness to Drive criteria tables	Relevance to the National Standard for Health Assessment of Rail Safety Workers
		Risk of post-traumatic epilepsy The head injury standard for commercial vehicle drivers now includes criteria relating to risk of post-traumatic epilepsy. A non-driving period of 12 months (without seizures) applies if they are determined to have a high risk of seizures following a head injury. There is not a similar standard for private vehicle drivers. ***Intellectual disability*** The standard for intellectual disability has been removed, including reference to IQ. This is covered in 'Other neurological conditions'.	***Risk of post-traumatic epilepsy*** The change is relevant to rail and the amendments have been carried over. ***Intellectual disability*** The change is relevant to rail and has been carried over.
Psychiatric Conditions	NO		
Sleep Disorders	NO		
Substance misuse	NO		
Vision and eye disorders	YES	***Visual fields*** The standard for private vehicle drivers has been clarified by including the additional criterion to define when a driver no longer meets the requirements for an unconditional licence: if there is any significant field loss (scotoma) with more than four contiguous spots within 20 degrees radius from fixation. ***Monocular vision*** For commercial vehicle drivers, the review period for drivers with a conditional licence has changed from one year to two years.	***Visual fields*** The change is not relevant to rail. ***Monocular vision*** The change is not carried over to rail. The inherent requirements of train driving were agreed to differ from commercial vehicle driving because of the relative constancy and predictability of the track and route requiring less demand on visual fields.

2 Issues raised in Part 1-3 and other general issues

2.1 Introduction to Part 1-3 and other general issues, including Forms

This section of the report describes the feedback and changes to Part 1- 3 of the Standard, and other general issues relating to the Standard, including the template Forms.

The Standard consists of 6 Parts. The Parts being discussed in this section are outlined below:

- Part 1: Introduction – describes the purpose, scope and context of the Standard
- Part 2: The health risk management system – outlines the responsibilities of rail transport operators, workers and health professionals, and describes the system for managing health risks of rail safety workers
- Part 3: Procedures for conducting health assessments – outlines the procedures for conducting health assessments for rail safety workers.
- Part 6: Forms, case studies and transition arrangements – provides supporting documentation.

2.2 Inputs from stakeholders

A number of stakeholders provided submissions addressing Parts 1-3 of the Standard and other general issues, including forms (refer to list below). Any issues that were out of scope for the review are discussed in a later section in this report.

Stakeholder feedback
Government Departments
• Northern Territory Government Department of Transport
Industry stakeholders, including unions
• Australian Rail Track Corporation • Aurizon (Qld) • Carnarvon Heritage Group Inc. Heritage Rail Association • Illawarra Light Railway Museum Society Limited • Metro Trains (Vic) • Pacific National • Yarra Trams (Vic)

The majority of the issues raised regarding Parts 1-3 of the Standard centred on Authorised Health Professionals (AHPs) and consistency of application of the Standard amongst AHPs. Stakeholders also commented on the intent of “triggered health assessments” and requested clarity around process. This will also improve consistency between rail operators.

Revisions have also brought the content up-to-date with relevant legislative changes.

2.3 Issues and recommendations

Some minor amendments will be made throughout Parts 1-3 in response to stakeholder feedback to improve clarity.

Authorised Health Professionals

Training of Authorised Health Professionals (AHPs)

Stakeholders raised concerns that some rail operators may be having difficulty finding information about training for AHPs and a listing of registered or accepted AHPs. Health practitioners who wish to conduct rail health assessments have difficulties in finding information about how to do this.

Standardised training in the application of the *National Standard for Health Assessment of Rail Safety Workers* is currently available in most jurisdictions, which qualifies medical professionals to be railway AHPs. Information about how to receive training to become an AHP and how to become registered is available on the Rail Industry Worker website, which is owned and endorsed by the Australasian Railway Association (ARA). The website also contains a list of nationally accepted AHPs who are registered to undertake rail safety worker medical assessments.

A reference to the website will be included in the Standard to improve clarity regarding training and registration of medical practitioners to become AHPs. Information will also be included regarding the standardised training available for medical practitioners.

Appointment of AHPs

A stakeholder commented on the terminology 'suitably qualified' which is used to describe an AHP in section 7.1 of the Standard.

The term 'suitably' in this context refers to the need to meet the requirements for AHPs as outlined in the Standard. While access to trained AHPs may be a challenge in regional areas, there are mechanisms in place for external training options, including online training. Although, for completeness of training, all AHPs are required to undertake a practical onsite component.

Clearer reference has been made to this in the Standard and to the training for AHPs.

Relationship between AHPs and general practitioners

A stakeholder commented that it is not clear who organises additional screening tests for workers (the AHP or a treating GP). There have been incidences where an AHP will send a worker back to their GP to request referrals for screening tests such as glucose tolerance tests and exercise stress tests.

Clarification is required on this issue and is now included in relevant sections in the Standard including general responsibilities and in the assessment procedures section.

The generally agreed principle is that an AHP makes referrals and arranges necessary tests required to establish a fitness for duty status. Referrals and tests associated with subsequent management are the responsibility of the individual's treating doctor. To support this process, test results should be copied to the treating doctor/GP. This is highlighted in the Standard in the responsibilities/assessment procedures sections, and in the Forms.

Triggered health assessments

A stakeholder requested clarification around the intent of triggered health assessments and whether a worker undergoing a triggered assessment is required to have a full assessment, or just have the specific 'triggering issue' looked into.

Triggered assessments result from a variety of circumstances thus the extent of the assessment will vary. For example, general concerns about a worker's health may warrant a full assessment, while more frequent reviews of a known condition will focus on that condition. Additionally, in some circumstance, a 'review' may involve the review of test results or a report from a specialist without an AHP needing to see the worker.

The Advisory Group noted that some operator systems may be a barrier as they may be unable to process and manage the requirements for a specific examination only.

The content of the standard and forms has been revised to clarify these requirements and to differentiate between the nature and extent of triggered and periodic health assessments.

Timing and frequency of health assessments

Stakeholders suggested that the current wording around frequency of health assessments for Category 3 workers is ambiguous, for example, a person attending an assessment 4 weeks before their 40th birthday may be required to attend another when they turn 40.

It is not the intent of the standard to repeat these assessments within a short time frame. However, if the Category 3 worker has not had a full Category 3 assessment, this would need to be implemented at 40 years.

Wording has been added to the Standard to improve clarity around timing and frequency of health assessments for Category 3 workers.

Categorisation of Tourist and Heritage workers

The categorisation of tourist and heritage rail safety workers has been raised during each review of the Standard. Tourist and heritage rail operators request an additional standard of health assessment with lower and less costly requirements for low-speed/narrow-gauge rail operations on isolated lines for rail safety personnel who are not part of the mainline rail industry.

Tourist and heritage operators are required to comply with the Rail Safety National Law for a Safety Management System including implementation of the health assessment standard. The standard is however risk based and categorisation should be based on the outcome of a risk assessment. If it is determined that action or inaction of the worker due to a health condition will not lead directly to a serious incident affecting the public or the rail network, then the worker can be categorised at a lower risk category and have less stringent health assessment requirements.

Tourist and heritage operators may be able to address this issue through implementation of additional controls such as having two drivers such that sudden incapacity of one will not affect the safety of the network.

Forms

The Standard contains template forms which can be modified as required by rail transport operators. As part of the review, stakeholders have requested that the forms be made modifiable, fillable and saveable.

The forms in the Standard will be updated as part of the review to reflect any necessary changes to the medical criteria. Any changes to how operators use the forms (i.e. developing fillable PDF versions) is able to be done by the operator as they see fit.

Wording will be added at the start of the form section in the Standard to highlight this.

The forms are available in Word format rather than PDF to facilitate modification as required by rail operators.

Case studies

A stakeholder requested that the case study relating to trams be updated to reflect the current environment. In particular, the reference to conductors, which do not feature on all tram networks.

It is noted that the case studies are examples only and are not intended to be applicable to all rail operations. They aim to demonstrate the management of a worker in a given environment. Any changes that are made to the case studies in the Standard will be in relation to medical matters, if required.

Additionally, a stakeholder suggested that case studies include examples of completed forms. This issue relates to the training of AHP's in completing forms, and is recommended to be addressed as part of the course undertaken by medical professionals to become AHPs.

2.4 Implications

Rail operators

Most of the proposed changes to Parts 1-3 in the Standard will provide greater clarity around operator requirements and management of workers requiring a periodic or triggered health assessment.

Clear information outlining the flexibility of the use of the template forms will encourage operators to make necessary adjustments to the forms to better support their own procedures and requirements. Availability of the forms in a Word format will also enable modifications to suit the rail operators' requirements.

Health professionals

The proposed changes will provide greater clarity to health professionals who wish to find information on how to become an AHP, and the options available to them to achieve this.

More detail around patient referrals and how to work with a rail safety workers' treating doctor, will reduce uncertainty around the relationship and minimise unnecessary doctor-patient visits.

Clarity around requirements for triggered health assessments will improve efficiency for rail operators, who will be able to request the appropriate level of health assessment.

Rail safety workers

Proposed changes relating to Parts 1-3 in the Standard in terms of clarifying requirements for triggered assessments and timing of periodic assessments will reduce unnecessary testing.

Other changes will not impact workers as they relate to clarity of procedures, and to training of medical professionals.

3 Part 4: Medical criteria for Safety Critical Worker health assessments

3.1 Introduction to proposed Part 4 changes

This section summarises the changes made to each of the medical standards in the *National Standard for Health Assessment of Rail safety Workers*.

Each chapter describes the inputs received through stakeholder consultation, including formal submissions and ongoing consultation with relevant experts. The focus of this section is on inputs relating to the rail standards; however it draws on changes made to *Assessing Fitness to Drive* as appropriate to ensure alignment with these standards, were applicable. The resulting changes to the chapter, and any particular implications for rail operators, health professionals and rail safety workers, are described.

3.2 Blackouts

Inputs

No specific feedback from stakeholders was received about this chapter.

Issues and recommendations

In the last review in 2012, this chapter underwent major review in response to stakeholder feedback including the need to:

- link the various causes of acute loss of consciousness (i.e. cardiovascular, neurological, diabetes, sleep disorder, etc.);
- ensure consistency as appropriate in the standards and non-working periods for the various causes of blackout;
- ensure appropriate use of terminology in relation to syncope and blackouts; and
- include appropriate criteria for Fit for Duty Subject to Review for cases of unexplained blackout.

Following consultation with neurology and cardiology experts, the chapter was redrafted to summarise the various causes of 'blackout' and to direct users to the relevant chapter as appropriate. A flow chart was included to aid management of cases.

The revised criteria for blackouts of undetermined origin meant that these workers were managed the same as for those experiencing a seizure, a five-year non-working blackout-free period.

In the course of the current review of the standards an inconsistency in the logic of the Blackouts chapter became apparent, in that there was no advice on the management of medical conditions that can cause blackouts, but are not covered elsewhere in the standard. This has now been rectified with a separate paragraph in the text advising that the general principles be applied and an appropriate change to the flowchart. There has been no change to the criteria outlined in the table.

Implications for stakeholders

Rail operators

Driver licensing authorities should be provided with better advice on unusual medical causes of blackouts.

Health professionals

Clear advice is now provided to health professionals for managing unusual causes of blackouts.

Rail safety workers

Workers should benefit from improved management of unusual causes of blackout.

3.3 Cardiovascular

Inputs

A number of submissions were received from stakeholders in relation to *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*) and were addressed through formal consultation with the Cardiac Society of Australia and New Zealand (CSANZ) via their representative Dr Ken Hossack. Two additional submissions were received in relation to the rail Standard.

Stakeholder submissions
Rail transport operators • Yarra Trams (Vic)
Rail regulator / government departments • South Australia Department of Planning and Transport Infrastructure

Issues and recommendations

The Cardiovascular chapter underwent substantial revision in 2012. Revisions to this chapter in the current review include those made to the commercial vehicle standard in *Assessing Fitness to Drive*, including:

- ***Ischaemic heart disease:*** non-invasive CT has been included as an alternative to invasive angiogram for assessing myocardial ischaemia.
- ***Aneurysms:*** amendments have been made to the cut-off for aneurysm diameter for Fit Subject Review, making a distinction based on risk stratification between degenerative and bicuspid aortic valve associated aneurysm (55 mm) compared to genetic forms of aneurysm (50 mm) for Fit Subject to Review[1].
- ***Implantable cardioverter defibrillators (ICD):*** the Standard includes confirmation that ICDs are not compatible with Category 1 Safety Critical Work, including those implanted for secondary and primary prevention. This is in keeping with the advice of the European Heart Rhythm Association[2] and other international standards.
- ***New valvular procedures:*** there is mention of new procedures for valve repair including a mitral valve procedure (Mitra clip) and an aortic valve procedure (TAVI). These have been included as examples but there are no changes to the fitness for duty criteria.

Some changes to *Assessing Fitness to Drive* have not been incorporated in to the rail Standard. New criteria have been included in *Assessing Fitness to Drive* in relation to ventricular assisted devices (VAD) for heart failure. These are used for a very small number of people with severe disease and are considered not relevant to safety critical work.

A small number of issues were raised in the current review of the rail Standard.

In relation to ***atrial fibrillation***, a stakeholder sought clarification that a Category 1 Safety Critical Worker undergoing treatment with ablation may not be subject to ongoing periodic review if the condition was considered to be cured. Wording to this effect is already included in the Standard; however it has been repositioned and reworded to be consistent with similar statements elsewhere in the Standard.

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[1] Canadian Cardiovascular Society (2014) *Position Statement on the Management of Thoracic Aortic Disease.* Canadian Journal of Cardiology; Volume 30: pp. 577-589.

[2] Vijgen J, Botto G, Camm J, Hoijer CJ, Jung W, Le Heuzey JY, Lubinski A, Norekvål TM, Santomauro M, Schalij M, Schmid JP, Vardas P. (2009 Aug) *Consensus statement of the European Heart Rhythm Association: updated recommendations for driving by patients with implantable cardioverter defibrillators*. Europace.Volume 11(8): pp. 1097-107.

A stakeholder requested that tram drivers (currently Category 2) should be subject to cardiac risk assessment due to the consequences of sudden collapse due to heart attack or stroke. This risk points to the need for such workers to be re-categorised as Category 1. Rail transport operators are encouraged to undertake a risk assessment of their rail safety tasks in line with the guidelines provided in the Standard.

Amendments to the ***Cardiac risk assessment*** were also proposed by the medical stakeholders. The online risk calculator is now emphasised as the preferred method of calculation but the risk tables are still included. On the advice of the Australian Diabetes Society and in line with current evidence, diagnosis of diabetes for the cardiac risk assessment is now based on HbA1c testing rather than plasma glucose (refer Section 3.4 Diabetes).

A member of the Advisory Group identified that the wording of the criteria for Category 2 Safety Critical Workers was not consistent for all cardiovascular conditions and that the focus should be more clearly on symptoms likely to affect performance of the task. All wording has been amended in this regard.

Implications for stakeholders

Rail operators

The changes to the criteria for aneurysms will have little impact on rail operators. Other changes are minor and will have no impact on implementation, other than to ensure clarity and consistency of application.

Health professionals

The changes to criteria for aneurysms will give health professionals more latitude in managing their patients. Other changes are minor and will have no impact on implementation, other than to ensure clarity and consistency of application.

Rail safety workers

The changes to the criteria for aneurysms will probably enable a small number of workers to continue in safety critical work. Other changes are minor and will have no impact on implementation, other than to ensure clarity and consistency of application.

3.4 Diabetes

Inputs

A number of submissions were received from stakeholders in relation to *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*) and were addressed through a dedicated working group with representation from the Diabetes Society of Australia, Diabetes Australia, the Australian Diabetes Educators Association and the Royal Australian College of General Practitioners. Two additional submissions were received in relation to the rail Standard.

Stakeholder submissions
Rail transport operators • Sydney Trains (NSW)
Rail regulator / government departments • South Australia Department of Planning and Transport Infrastructure s

Issues and recommended changes

The Diabetes chapter underwent substantial revision in 2012 with a focus on addressing the main risk of hypoglycaemia, including clarifying the definition of a hypoglycaemic episode and providing detail around the risks and management of lack of hypoglycaemic awareness. A minimum six-week non-working period was introduced for those who had experienced a severe hypoglycaemic event.

Revisions to this chapter in the current review have been made largely based on the commercial vehicle standard in *Assessing Fitness to Drive*, including:

- ***Hypoglycaemia:*** in recognition of the significant risk of lack of hypoglycaemic awareness, the Clarke questionnaire has been included so as to encourage diagnosis, particularly in persons with prolonged insulin usage or following an incident or serious hypoglycaemic event[3]. Some additional text is also included in the Standard to highlight that different medications present different risks in terms of hypoglycaemia. This is likely to be considered in more detail in the next review to ensure new medications are adequately covered in the Standard.

- ***Seizures:*** The definition of a 'severe hypoglycaemic event' has been amended to specifically include seizure so as to ensure clarity regarding the management approach. Seizure due to hypoglycaemia is not managed as per other acute symptomatic seizures and is no longer included in the Neurology chapter.

- ***Definition of specialist:*** To align with *Assessing Fitness to Drive* an 'appropriate specialist' is defined as 'an endocrinologist or consultant physician specialising in diabetes', recognising that endocrinologists are not necessarily specialists in diabetes.

- ***Comorbidities - visual fields:*** Wording has been revised to emphasise that referral for testing of visual fields should be made only when clinically indicated.

Satisfactory control of diabetes:

In 2012, advice was included in the standard about how 'satisfactory control' could be assessed in relation to recommending Fit for Duty Subject to Review. This included reference to the use of HbA1c as an indicator of control, with satisfactory control generally indicated by an HbA1c of less than 9% in the previous 3 months. For those on insulin, review of blood glucose monitoring records and other related records remained a requirement. The cut-offs for satisfactory control are not definitive and are included in the criteria tables as assessment must be made on an individual basis. The HbA1c 'cut-off' of 9% provides a trigger for a Safety Critical Workers to have their management reviewed by the treating specialist.

[3] Clarke W, Cox DJ, Gonder-Frederick LA, Julian D, Schlundt D, Polonsky W. (1995) *Reduced awareness of hypoglycemia in adults with IDDM.* Diabetes Care. Volume 18(4): pp. 517-22.

While the requirements to demonstrate satisfactory control has been removed from Assessing Fitness to Drive, stakeholders for rail have supported this be retained in the standard for Safety Critical Workers and that is was supportive of safety for these roles.

As with drivers, it is well recognised that there is a tension between the clinical benefits of tight control and the potential increased risk of hypoglycaemia, which has implications for safety[4]. The AFTD review identified evidence that "tight control" may be a risk for crashes and this is now included in reference to this aspect of the Standard. This is a difficult area and will require ongoing consideration in future reviews.

A small number of issues were raised in the current review of the rail Standard.

Diabetes screening

In relation to tests conducted during periodic assessments, a stakeholder suggested that there needed to be greater clarity about the requirements for those already diagnosed with diabetes and those being screened for diabetes. There is currently not a section on diabetes screening in the chapter or in Part 3. It was also questioned whether there may be screening approaches that may forgo the need for repeated glucose tolerance testing which involves appreciable lost time and multiple venepunctures.

Advice was sought from the Diabetes Society of Australia and recent literature on the issue was reviewed.[5] Based on this advice, new information on diabetes screening is included in the chapter and in Part 3 of the Standard. It identifies that for Category 1 Safety Critical Workers without known diabetes, screening should be undertaken by HbA1c testing, replacing plasma fasting blood glucose as the preferred method of screening and, in turn, obviating the need for oral glucose tolerance tests on borderline FBG results. This involves the following:

For Category 1 Safety Critical Workers, diabetes may be diagnosed on history or on HbA1c testing on fasting or random blood*

- *If HbA1c is equal to or greater than 53 mmol/mol (7%) regard as diabetic.*
- *If HbA1c is 48 mmol/mol (6.5%) or greater but less than 53 mmol/mol (7%) arrange a repeat (confirmatory) test.*
    - *If repeat (confirmatory) HbA1c is 48 mmol/mol (6.5%) or greater, diagnosis of diabetes is confirmed.*
    - *If repeat test is not raised, regard as non-diabetic and review as per normal periodic schedule.*
- *If initial test is less than 48 mmol/mol (6.5%), regard as non-diabetic and review as per normal periodic schedule.*

**Note: any condition that leads to a shortened red cell survival time can interfere with the HbA1c assay. This includes the haemoglobinopathies, therapeutic venesection, anaemia, haemolysis, recent transfusion, and chronic renal failure. In this situation FBG should be used with OGTT as required.*

Category 2 Safety Critical Workers are not subject to blood tests, thus diabetes is diagnosed by history / self-report via the Health Questionnaire.

Implications for stakeholders

Rail operators

There are no additional administrative requirements associated with HbA1c testing. There will be reduced requirements for oral glucose tolerance testing which will have positive resource implications.

[4] Redelmeier DA, Kenshole AB, Ray JG. (2009) *Motor vehicle crashes in diabetic patients with tight glycemic control: a population-based case control analysis*. PLoS Med. Volume 6(12): e1000192.

[5] d'Emden M. Glycated haemoglobin for the diagnosis of diabetes Aust Prescr 2014;37:98–100

The use of the Clarke questionnaire has no resource implications for rail operators and may facilitate decision-making to support rail safety.

Health professionals

There are no additional requirements associated with HbA1c testing. There will be reduced requirements for oral glucose tolerance testing which will reduce the impost on health professionals.

The use of the Clarke questionnaire may be helpful to health professionals to diagnose reduced hypoglycaemia awareness.

Rail safety workers

There are no additional requirements associated with HbA1c testing. There will be reduced requirements for glucose tolerance testing which will reduce the impost on workers.

The use of the Clarke questionnaire does not impose on workers and may be beneficial to them in general.

3.5 Neurological conditions

Inputs

A number of submissions were received from stakeholders in relation to *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*). Those relating to dementia were addressed through a dedicated working group. The Epilepsy Society of Australia and the Australian New Zealand Association of Neurologists provided detailed input and oversight through their representative, Professor Ernest Somerville.

One further submissions was received in relation to the rail Standard.

Stakeholder submissions
Rail regulator / government departments
• South Australia Department of Planning and Transport Infrastructure

Issues and recommendations

The Neurology chapter, comprising subsections on dementia, epilepsy, vestibular disorders and other neurological disorders underwent substantial revision in 2012.

Revisions to this chapter in the current review have been made largely based on the commercial vehicle standard in *Assessing Fitness to Drive*, including:

- ***Epilepsy:***
    - A flow chart has been included to help summarise the management of rail safety workers experiencing a seizure;
    - There has been clarification in the criteria regarding the timing of EEG to demonstrate no epileptiform activity and thus fitness to return to Safety Critical Work;
    - Hypoglycaemia has been removed as an example of acute symptomatic seizures (this is now covered separately in the Diabetes chapter);
    - Criteria for the management of risk post traumatic epilepsy following head injury has been included, with a non-working period of 12 months (Temporarily Unfit for Duty) if the worker is assessed as being at risk;
    - There has been clarification of the circumstances when reduction in the doses of antiepileptic medication is acceptable for Safety Critical Workers (i.e. when there are dose related side effects and when the dose reduction is unlikely to result in seizure);
    - There has been clarification of action to be taken if a Safety Critical Workers refuses treatment; they are to be assessed as Unfit for Duty.

- ***Vestibular***
    - Vestibular conditions have been merged into the section on 'Neurological conditions, other' for consistency with AFTD;
    - Acute onset vertigo can cause incapacity although there may be a warning prodrome and various rail tasks require good hearing and balance (unlike driving a motor vehicle). Thus the full criteria for Meniere's disease are retained.[6]

[6] Kim and Zee NEJM 2014

- **Other neurological conditions**
    - As above, the risk of seizure after head injury is incorporated into the criteria for head injury, with those at high risk being Unfit for Duty for at least 12 months following the injury;
    - The standard for intellectual impairment has been removed as a person will be required to undertake a number of tests of capacity for the work before attending a health assessment.

The only additional feedback about the Neurology chapter received during the rail Standard review process related to aligning the standard with the commercial vehicle standard and including the additional circumstances (such as epilepsy treated for the first time, sleep only seizures, safe seizures). It is noted that these are largely covered in the text of the chapter thus no change is proposed to the criteria tables.

Implications for stakeholders

Rail operators

The criteria have been made clearer, which should improve administrative efficiency.

Health professionals

The clarification in the text and through inclusion of a flowchart for epilepsy should provide better guidance to health professionals.

Greater clarity around the management of risk of post traumatic epilepsy will support management of these workers.

Rail safety workers

The changes will have a limited impact on rail safety workers. The revised wording may provide fairer decision-making for workers with seizures.

The introduction of criteria relating to the risk of post traumatic epilepsy may have implications, as workers will not be able to work for 12 months if assessed to be at risk of seizure after a significant head injury.

3.6 Psychiatric conditions

Inputs

A limited number of stakeholders provided submissions for *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*). One stakeholder provided input for the rail standard review however this was considered to be out-of-scope (refer Section 5, Out of scope issues).

Stakeholder submissions
Rail operators • Yarra Trams (Vic)

Issues and recommendations

Revisions to this chapter in the current review have been made largely based on the commercial vehicle standard in *Assessing Fitness to Drive*, including:

- removal of reference to the GP Psych Support service which is no longer available; and
- minor wording revisions and reordering to provide clarity.

While the limitations of the K10 questionnaire were acknowledged, it was considered reasonable to retain this in the Health Questionnaire. The chapter indicates that other validated questionnaires may also be used.

A stakeholder requested that the health assessment comprise an of assessment of a person's ability to manage stress; with anecdotal evidence that chronic stress is impacting on job performance. The Advisory Group recommended that it was not the role of the standard to assess such capacities and there were no effective tools to available to do this.

A small number of additional issues were raised by the Advisory Group. It was noted for example that people with some mental illnesses may be particularly prone to non-compliance due to the nature of their condition. A general comment to this effect has been included.

Implications for stakeholders

Rail operators

There are no significant changes to the chapter.

Health professionals

There are no significant changes to the chapter.

Rail safety workers

There are no significant changes to the chapter.

3.7 Sleep disorders

Inputs

A number of stakeholders provided submissions to the review of *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*).

The following stakeholders provided submissions to the review of *National Standard for the Health Assessment of Rail Safety Workers.*

Stakeholder submissions
Rail transport operators
• Queensland Rail • Sydney Trains • Pacific National • Metro Trains (Vic) • Aurizon (Qld) • Yarra Trams (Vic)
Regulators and government departments
• Office of the National Rail Safety Regulator • South Australia Department of Planning Transport and Infrastructure
Health professionals
• Australian Sleep Association

Issues and recommendations

The Sleep Disorders chapter underwent substantial revision in 2012. A key development was the inclusion of objective markers of sleep apnoea, resulting from general concern that the Epworth Sleepiness Scale is not always reliably answered. A person with a BMI ≥ 40; or a BMI ≥ 35 if associated with diabetes type 2 or high blood pressure requiring 2 or more medications for control; or a history of habitual loud snoring during sleep or of witnessed apnoeic events (such as in bed by a spouse/partner), is assessed in relation to a possible sleep disorder. The 2012 Standard also encouraged the use of home polysomnography to facilitate assessment for sleep disorders.

The Standard has been successful in identifying rail safety workers with sleep disorders and enabling them to be successfully treated and sustain employment.[7]

The current review of the sleep disorders chapter involved extensive consultation with Dr Mark Howard, a representative from the Australian Sleep Association. The Australian Sleep Association also provided a detailed submission. They noted that there were no major advances in medical knowledge requiring significant alteration to the guidelines. Various wording changes have been made as a result of their submission.

Interface with fatigue management

Based on new legislation and guidelines in relation to fatigue management, the Standard describes the interface with such programs. Clarity is provided around the numerous health conditions that may cause fatigue, with or without sleepiness, and the need to refer workers for appropriate assessment and management.

[7] Colquhoun C and Casolin A. Impact of rail medical standard on obstructive sleep apnoea prevalence Occup Med 2015

Usefulness of Epworth Sleepiness Scale

The limitations of this and other subjective tests continue to be acknowledged in that they rely on accurate completion by the worker, and there is evidence that incorrect reporting may occur in some settings, including among rail safety workers. Wording to emphasise these limitations has been included.

Stakeholder feedback identified that screening for the presence of sleep apnoea among rail safety workers has been very successful based on the risk factors outlined in the 2012 edition. They highlight that the clinical screening involving BMI and other risk factors is far more effective than using the subjective measures such as the Epworth Sleepiness Scale (ESS). The ESS has however been retained as it provides a useful basis for general questioning about sleepiness and the impact of treatment.

Objective measures of sleep

The Australian Sleep Association recommended the Maintenance of Wakefulness test as the preferred test and that reference to the Multiple Sleep Latency Test be deleted. The ASA also proposed providing some more detail regarding the tests available and the importance of clinical assessment in association with the test results. It was agreed that provision of detail around the tests available was not necessary and that the tests should be determined by the sleep specialist.

Risk factor cut-offs for sleep disorder investigation (BMI)

Evidence among commercial vehicle drivers points to the value of lowering the BMI cut off for sleep study referral.[8] It was proposed by stakeholders that a cut off of BMI 35 be adapted, this being likely to identify a significant proportion of these workers as having a sleep disorder.

Advice from Mark Howard based on commercial vehicle driver studies indicates that a BMI cut off of 35 kg/m2 alone would provide sensitivity of 30% for moderate to severe obstructive sleep apnoea (AHI>15) with a specificity of 90%. This is compared to the current cut-off of BMI equal to 40, which provides sensitivity of 55%, specificity of 97.5%[9];

The impact of this change was considered to be such that an Regulatory Impact Statement would need to be undertaken and that this change would not be adopted in the current review. Further evidence of the impacts and benefits will be sought as inputs into the next review.

In the meantime, additional text has been included to recommend workers with raised BMI be referred to their general practitioner of workplace health promotion program to assist in obesity management.

Period of validity of sleep studies

A stakeholder requested clarity be provided about the period of validity of sleep studies if there have been previous negative results and the other clinical risk factors remain unchanged. This has implications for resource utilisation and implications for the worker. It was determined that a repeat sleep study may not be necessary but will depend on the clinical picture and therefore could not be specifically defined in the Standard. A general statement has been included that advises Authorised Health Professionals to seek advice from the specialist as to whether a repeat sleep study is required.

Refusal of treatment

Stakeholders sought clarity around management of workers who deny symptoms and refuse treatment after a positive sleep test. Conduct of a Maintenance of Wakefulness Test (MWT) in such circumstances is now included in the Standard.

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[8] Howard M and O'Donoghue F The hidden burden of OSA in safety critical workers: how should we deal with it? Occup Med (Lond) (2016) 66 (1): 2-4.

[9] Personal communication. Mark Howard, Sleep Specialist

Annual review requirements

The Standard requires that individuals with sleep apnoea syndrome or severe sleep apnoea should be reviewed annually. Stakeholders sought clarification about the nature of the annual assessment and whether it is sufficient to review the output of their CPAP machine (assuming no other comorbidities). Expert advice indicated that review of machine outputs was not adequate and that a clinical assessment by the treating specialist (or treating general practitioner if agreed by the Chief Medical Officer) was required. The report from the treating doctor would indicate if treatment is adequate.

Shift Work Disorder

A stakeholder proposed that the Standard should consider Shift Work Disorder (SWD) in the list of relevant disorders. The Advisory Group considered this and agreed that SWD was not yet widely established as a disorder, and as a result it has not been included in the chapter.

Implications for stakeholders

Rail operators

There are no material changes to the criteria for sleep disorders. Various other changes should support consistent and improved management of workers with sleep disorders or risk factors such as high BMI.

Health professionals

There are no material changes to the criteria for sleep disorders. The flow chart and supporting text has been refined to provide greater clarity about the approach to management, the role of the Authorised Health Professional in initiating a sleep study to assess for the presence of sleep disorder, and the role of the specialist and treating general practitioner. This should support management by AHPs.

Advice is provided in managing the uncommon situation of a person with positive polysomnography who denies symptoms and treatment.

Advice is also provided to encourage referral of workers with raised BMI for management by their GP or workplace health promotion program, which should help to address the growing problem of obesity.

Rail safety workers

There are no material changes to the criteria for sleep disorders. Various other changes should support consistent and improved management of workers with sleep disorders or risk factors such as high BMI. The requirement that workers with a positive sleep study who refuse treatment should undergo further testing via the Maintenance of Wakefulness Test will support appropriate management of these workers.

3.8 Substance misuse

Inputs

A number of stakeholders provided submissions to the review of *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*).

A number of stakeholders provided submissions to the rail review (refer to table). Expert opinion was also sought from Professor Edward Ogden, Consultant in Addiction Medicine, who sat on a Substance Misuse Working Party comprising representation from rail transport operators and the regulator:

Paul Davies – *NTC (Chair)*
Belinda Irwin – *NTC*
Dr Bruce Hocking – *Australasian Faculty of Occupational & Environmental Medicine / Project Health*
Fiona Landgren – *Project Health*
Professor Edward Ogden – *Chapter of Addiction Medicine, RACP*
Dr Armand Casolin – *Sydney Trains*
Dr Keith Adam – *Sonic Health Plus*
Dr Chris Walls – *Occupational Medicine Specialists NZ*
Patrick Maney - *KiwiRail NZ*
Alex Claassens – *Rail Bus and Tram Union*
Amanda Benton – *Metro Trains*
Louise Clayworth – *Queensland Rail*
Melissa Radke – *Office of the National Rail Safety Regulator*
Dr Stuart Turnbull – *Medibank Health*

Stakeholder submissions
Rail transport operators
• Queensland Rail • Sydney Trains (NSW) • Australian Rail Track Corporation • Metro Trains (Vic) • Aurizon (Qld)
Regulators and government departments
• South Australia Department of Planning Transport and Infrastructure

Issues and recommendations

The medical aspects of substance misuse integrate closely with organisational management and this was a key consideration for the current review in light of new legislative requirements for rail operators in relation to drug and alcohol programs.

Definitional issues were also raised, identifying the need for greater clarity in this regard, while acknowledging that there is not agreement among experts regarding terminology and definitions in this area.

Legislative developments

Reflecting the requirements of the Rail Safety National Law (RSNL)[10] and Regulations[11] regarding the drug and alcohol management program requirement, as well as rail SMS guidelines[12], a new section has been included to describe the interface of these requirements with the Standard.

[10] Rail Safety National Law (a Schedule to the *Rail Safety National Law (South Australia) Act (SA) 2012* and the *Rail Safety National Law Act (WA) 2015*)

[11] *Rail Safety National Law National Regulations 2012* and the *Rail Safety National Law Regulations 2015 (WA)*

A new flow chart has also been included to show how the interface works in practice.

Road crash risk

The extensive content on road crash outcomes associated with alcohol and drug use has largely been deleted except for a small number of relevant data references.

Terminology

In the review of AFTD, the Chapter of Addiction Medicine suggested a number of terminology changes to align the publication with current terminology in the field:

- "alcohol and other drugs use disorder" preferred
- "opioid misuse disorder" is preferable to "opioid dependence".
- preference for "addiction" to "dependence"
- preference for "use" to "misuse".

Further input from Professor Edward Ogden was sought regarding the rail Standard and the definitions, including a definition for 'remission' have been included in the first section of the chapter to provide clarity at the outset.

Assessment and management

The content regarding assessment and management has been extensively revised to provide greater clarity, acknowledging that substance misuse is a continuum; at one end of the spectrum is the 'foolish' or 'unfortunate' worker who has a positive drug screen but is not a regular drug user.. People in this category do not need long term special attention. At the other end of the spectrum is the person who is addicted – displays tolerance, has withdrawal, experiences cravings – and is unfit to be engaged in safety critical work. Whether they are unfit for life or can be rehabilitated is decided on a case by case basis, but the path back to work requires rigorous scrutiny over a prolonged period. Any of the medications that may be required in the short to medium term are impairing and would disqualify the individual from safety critical work. This worker will aspire to being 'fit subject to review' after demonstrating sobriety and abstinence. There are then people of every shade in between. They will need to be managed in the work place under performance management guidelines with a layer of increased drug scrutiny – e.g. bi-monthly hair testing. As second detection would move this person from 'fit subject to review' to 'unfit' and to be managed as though addicted.

The new flow chart provides guidance for managing these various situations, focussing on close scrutiny and management of those found to be heavy or chronic users or dependent. A mandatory follow-up at 6 months for all those found to be misusing but at low risk provides a safety net.

Approved drug/medication list

There were mixed views about the establishment of an approved list of drugs. It was agreed not to progress with such a list given the difficulty in maintaining it accurately.

Forms

A stakeholder requested that space for drug and alcohol testing be included on the forms to accommodate testing results at preemployment or change of grade. The model forms are flexible and may be changed to meet the needs of individual operators.

Implications of drunk driving convictions

It was noted that and multiple drink-driving convictions may be indicative of substance abuse or dependency and should be investigated further. It was agreed that this would be included in the definitions section of the chapter but that it did not warrant specific action to be identified in the criteria. .

[12] Office of the National Rail Safety Regulator. Preparation of a rail safety management system https://www.onrsr.com.au/__data/assets/pdf_file/0015/1923/Preparation_of_a_Rail_SMS.PDF

Implications for stakeholders

Rail transport operators

The chapter provides greater clarity around the interface between organisational drug and alcohol programs and the Safety Critical Worker health assessments, which should support management of workers.

Clarity in relation to the management of substance misuse along the continuum of severity should also support management and safety.

Health professionals

Clarity in relation to the management of substance misuse along the continuum of severity and the monitoring for remission should also support management.

Rail safety workers

Clarity around the management of substance misuse along the continuum of severity should support consistent and fair management.

3.9 Musculoskeletal

Inputs

The musculoskeletal requirements of rail safety work vary considerably from driving, thus the review of *Assessing Fitness to Drive* has been of limited relevance to the review the rail Standard. A number of stakeholders provided submissions to the rail review (refer to table).

Stakeholder submissions
Rail transport operators
• Pacific National
• Yarra Trams (Vic)Sydney Trains
• KDR Gold Coast

Issues and recommendations

This chapter underwent extensive revision for the 2012 edition, resulting in a standard that focused on functional capacity to undertake various types of Safety Critical Work rather than an anatomical-pathological approach.

It was emphasised at that time that musculoskeletal requirements were task specific and that operators would need to determine the inherent requirements of jobs and provide this information to Authorised Health Professionals and/or familiarise them with the jobs.

For health professionals this approach also required more professional judgement and relied on an understanding of the rail tasks.

It was identified in that review that practical and simulated assessments can be helpful for gauging the fitness of rail safety workers with musculoskeletal disabilities. The place, design and conduct of these assessments are described in the Standard. It is noted that they are an aid to clinical decision making not a replacement for it.

Inputs into the current review indicate a need to emphasise to operators and health professionals that task specific requirements need to be identified and documented for the assessments to be carried out appropriately.

Inputs also point to a tendency for operators to expect the health assessments to address occupational health and safety requirements, which is not the role of the Standard.

The Musculoskeletal chapter includes examples of the types of tasks that might be undertaken by various workers. It is intended to be indicative only and not to substitute a task description to guide the musculoskeletal assessment. That said, suggestions for inclusion of further task examples have been incorporated. The list is also now duplicated in Part 2 to further emphasise and inform the need for risk assessment of rail safety tasks.

Implications for stakeholders

Rail transport operators

There have been no material changes to the medical criteria or the chapter. Operators are reminded that the musculoskeletal requirements of rail safety tasks need to be individually identified as part of the risk assessment.

Health professionals

There have been no material changes to the medical criteria or the chapter. Health professionals are reminded that the musculoskeletal requirements of rail safety tasks need to be individually identified and communicated to them by the operator.

Rail safety workers

There have been no material changes to the medical criteria or the chapter.

3.10 Hearing

Inputs

The hearing requirements of rail safety work vary considerably from driving, thus the review of *Assessing Fitness to Drive* has been of limited relevance to the review the rail Standard.

A number of stakeholders provided submissions to the rail review (refer to table).

Stakeholder submissions
Rail transport operators / industry
• Australian Rail Track Corporation • KDR Gold Coast
Regulators and government departments
• None
Health professionals
• Individual audiologist

Issues and recommendations

Interface with noise induced hearing loss

A stakeholder requested that assessment and reporting of noise induced hearing loss be integrated into the assessment. Part 1 of the Standard and the Hearing chapter already highlight that the Standard does not address surveillance for noise induced hearing loss but should integrate with it and operators should include as required.

Tram drivers and tinnitus

A stakeholder requested that tinnitus be examined for in medical testing to avoid worsening of condition and workcover claims. This was considered an occupational health and safety issue and therefore out of scope (refer Section 5 Out of scope issues).

Terminology / definitions

A stakeholder sough clarification regarding the Decibel scales referred to in the standard:

- dB SPL (decibels sound pressure level), which is the most likely one to apply here;
- dBA (SPL A-weighted), which is a common way of expressing measurements done with speech in noisy places using the A weighting on a sound level meter); and
- dB HTL (decibels hearing threshold level), which relates the readings to those of normal hearing, as used on audiograms but also sometimes for speech measurements.

Advice from hearing expert Ross Dineen has been previously sought on this issue and it was recommended that the simpler expression of the scales was sufficient.

Implications for stakeholders

Rail transport operators

There have been no material changes to the criteria or the chapter.

Health professionals

There have been no material changes to the criteria or the chapter.

Rail safety workers

There have been no material changes to the criteria or the chapter.

3.11 Vision and eye disorders

Inputs

A number of stakeholders provided submissions to the review of *Assessing Fitness to Drive* (refer *Review of Assessing Fitness to Drive Project Report 2016*) and a working party was formed representing the Royal Australian and New Zealand College of Ophthalmologists (RANZCO), Optometry Australia and orthoptists at University of NSW to consider the various inputs and to make recommendations for chapter amendments.

No further specific submissions were received for the rail Standard; however some issues were identified by the Advisory Group.

Issues and recommendations

Changes for Assessing Fitness to Drive

Various changes in the text have been incorporated from the Assessing Fitness to Drive Review as deemed relevant:

- The following text has been deleted due to lack of rational: “In the case of corneal surgery, corneal pathology or a cataract, acuity should be assessed with a dilated pupil in the presence of a glare source”.
- The explanation of field testing has been updated to largely align with AFTD.
- The text regarding telescopic lenses and electronic aids has been updated. These devices are no longer permitted as they may improve acuity at the cost of visual field. They are not an acceptable aid to meet the standards.

Colour vision

Use of the Farnsworth lantern has been removed in favour of the Rail LED Lantern for the testing of workers who fail the Ishihara. This will be applied at pre-employment and will not be grandfathered.

It was noted that there may be workers who have previously passed the Farnsworth lantern who will not pass the Rail LED Lantern, thus transition arrangements will need to be defined for workers who have been previously tested using the Farnsworth and are undergoing retesting for change of grade from Category 2 to Category 1.

Monocularity (one-eye)

The change to criteria in AFTD was not carried over to rail. After discussion within the industry it was agreed the inherent requirements of train driving differ appreciably from commercial vehicle driving because of the relative constancy and predictability of the track and route requiring less demand on visual fields as well as the height above the track permitting good scanning of the environment. Therefore the current standard was retained.

Implications for stakeholders

Rail operators

The criteria remain largely unchanged. The transition from the Farnsworth lantern to the Rail LED Lantern will need to be managed...

Health professionals

Extensive material has been provided on assessment of visual fields and interpretation of results, which should help better guide health professionals.

Rail safety workers

Improved definitions of loss of visual fields should improve decision-making by health professionals and hence lessen uncertainty and unfairness to drivers regarding fitness for duty.

4 Part 5: Category 3 workers

4.1 Background - proposal for expansion of health assessment and medical criteria for Category 3 workers

A detailed proposal to expand the level of health assessments conducted for Around the Track Personnel, Category 3 workers, was submitted for consideration during the 2012 review of the Standards. The proposed expanded standard included criteria relating to a number of additional medical conditions that could affect a worker's safety around the track, mainly through sudden incapacity or cognitive impairment.

The proposal was presented for public consultation (mid-2011), and the NTC sought specific feedback on whether it was appropriate to adopt the proposal.

The NTC received mixed feedback from stakeholders. Some acknowledged the potential long-term benefits for workforce health that would likely result from a more stringent assessment of Category 3 workers. Other feedback requested that a Regulatory Impact Statement be undertaken to determine the specific benefits and the extent of any additional costs to operators (including workers being classed as unfit for duty and the costs associated with more extensive medical assessments). Additionally the rationale for the expansion was questioned, particularly regarding available evidence of incidents that highlighted gaps in the current criteria.

The NTC elected not to include the proposed extension of Category 3 assessments as a result of the feedback received. It was noted in the final report for the last review that "any future extension of the Category 3 provisions will only be undertaken if it can be justified by a business case".

4.2 Inputs from stakeholders

Two stakeholders provided comments relating to the proposed expansion of the medical criteria for Category 3 workers (see list below).

Stakeholder feedback
Industry stakeholders
• Metro Trains (Victoria)
• Sydney Trains (New South Wales)

4.3 Issues and recommendations

The stakeholders requested that the expansion of the Category 3, as presented at the previous review, be included for consideration in the current review. The proposal was based on concerns that the current standard does not provide sufficient clarity on the conditions that may affect worker safety, and that this is leading to inconsistency in implementation, potential disadvantage for rail workers and potential safety issues.

A draft standard was provided for consideration by the Advisory Group, based on *Assessing Fitness to Drive*, and including criteria for a range of health issues that might impact on safety around the track. This would be accompanied by a more detailed Health Questionnaire for Category 3 workers.

It is noted that the current standard for Category 3 workers states:

> "Although the medical criteria for health assessments of Category 3 workers relate only to hearing, vision and musculoskeletal capacity, it is recognised that a number of other conditions may affect their safety around the track. Rail operators should ensure that workers are advised to notify their supervisor and/or request a triggered health assessment if they develop a condition that could lead to collapse on track; if they incur serious injury or illness to their eyes, hearing or limbs; if they suffer a serious brain injury; or if they develop a cognitive or psychiatric disorder. Substance abuse should also be declared in accordance with the employer's drug and alcohol policies. Workers making such notifications should be referred for a triggered assessment to assess implications for safety

around the track and action should be taken accordingly, including job modification as required."

While this is outlined at the start of the section on Category 3, it is not well reflected in the forms, thus examining health professionals may not be receiving adequate prompts to consider these conditions.

The Advisory Group recommended, in light of this considerable impact of introducing a more comprehensive standard for Category 3 workers, that an administrative approach involving adjustment to the forms be implemented in the first instance. In addition they recommended that this aspect be emphasised in the training for AHP's so as to improve consistency in the management of Category 3 workers who suffer an illness that may impact on their ability to work safely.

5 Out-of-scope issues

5.1 Introduction to out-of-scope issues

Stakeholders provided a number of comments relating to the Standard that were considered out of scope for the current review, and some in particular related more to occupational health and safety issues.

The out of scope comments are addressed below.

5.2 Part 1-3 and general issues

There were no comments made on Parts 1-3 of the Standard which were considered out of scope. All comments relating to these Parts are discussed in Section 2 of this report.

5.3 Medical issues

Cardiovascular conditions

Applicability of cardiac tests to Category 2 workers

In addition to the standard clinical examination for Category 1 and 2 workers, Category 1 workers undergo more specific assessments that help to identify the risk of cardiovascular disease, including pathology and a resting electrocardiograph.

A stakeholder commented that these extra assessments have applicability for Category 2 workers, such as tram divers, where sudden incapacity may result in a high consequence outcome.

Categorisation of Safety Critical Workers is decided following a full risk assessment of an individual's job requirements. The comment made is related to these risk assessments, rather than the health assessment requirements of the Standard. If sudden incapacity is likely to result in a high consequence outcome, then these workers would generally be classified as Category 1, and would undergo a full assessment for risk of cardiovascular disease.

Testing for cardiovascular fitness

A stakeholder made a comment relating to cardiovascular fitness and weight (BMI) to be considered for assessment of Category 3 workers. The comment referred specifically to pre-existing conditions that could be identified so that a worker is not put at risk of aggravating such conditions, and to assist employers in making decisions to hire workers.

Category 3 workers are non-safety critical, and their health assessments currently involve vision, hearing and musculoskeletal tests to ensure their ability to move out of the way of rolling stock when working on and around the track.

It is not the role of the Standard to address employment issues, or issues otherwise covered occupational health and safety legislation. If workers present with health issues outside of their usual periodic assessment, they should be send for a triggered health assessment to address this.

Neurological conditions – epilepsy

Alignment with the commercial vehicle driver standards in AFTD

A stakeholder made a comment during the review of AFTD, which was considered relevant to rail, pointing out that while the standard aligns with the commercial driving standard, the rail standard fails to specify the subsections as per the current driving standards.

The Standard does not include the numerous "exceptions to the default standard" that are included in AFTD as they relate only to private drivers. In all cases where a subsection is excluded from rail is because the default standard applies (to commercial vehicle drivers and to rail safety critical workers). For clarity of the chapter, only exceptions to the default standard are included.

Psychiatric conditions

Stress and workplace performance

A stakeholder commented that currently in the Standard there is no diagnostic tool that can qualify the potential for an employee to manage stress and/or stressful situations. The stakeholder also commented on an increase in WorkCover claims being made in relation to stress, which the organisation has the accountability to manage.

An individual's ability to manage stress and/or stressful situations is a complex issue and in most cases is best handled under workplace occupational health and safety policies. It is not the role of the Standard to manage worker's stress levels or to assess levels of resilience in a worker. Additionally, while some operators use psychometric testing for some neural and psychiatric conditions, the medical experts on the Advisory Group noted that there are no effective tools available to test for stress.

Hearing

Tram drivers and tinnitus

A stakeholder requested that existing tinnitus conditions need to be picked up during health assessments and reported to employers due to an increasing number of WorkCover cases being presented, particularly for tram drivers with reoccurring tinnitus.

It is not the role of the Standard to address WorkCover issues, which are the responsibility of employers. Any hearing loss associated with tinnitus is already covered by the existing hearing standard.

Musculoskeletal conditions

Pre-existing injuries and musculoskeletal conditions

A stakeholder commented that there should be greater testing for upper body strength and pre-existing neck/back/shoulder/arm injuries as required. Similarly to other out of scope issues, this related to WorkCover claims, which need to be addressed by operator policy under occupational health and safety.

Injury management, return to work and rehabilitation interface with rail safety worker health assessments, and should be part of operator policies under their Safety Management System. Any repeat injuries may trigger a health assessment under the Standard.

Furthermore, the Standards are minimum requirements, under the Rail Safety National Law, and do not preclude more comprehensive or more frequent health assessments.

6 Appendix

6.1 Advisory Group members

Dr Keith Adams	Occupational Physician
Mr Phil Allan	Australasian Railways Association
Mr Jesse Baker	Rail Industry Safety Standards Board
Ms Amanda Benton	Metro Trains (Victoria)
Dr Armand Casolin	Sydney Trains
Mr Alex Claassens	Rail Bus & Tram Union
Ms Louise Clayworth	Queensland Rail
Mr Paul Davies	National Transport Commission
Mr Peter Ford	Australian Tourist and Heritage Rail Association
Dr Bruce Hocking	Project Health/ Australasian Faculty of Occupational & Environmental Medicine
Ms Belinda Irwin	National Transport Commission
Ms Fiona Landgren	Project Health
Mr Patrick Maney	KiwiRail
Ms Melissa Radke	Office of the National Rail Safety Regulator
Dr Stuart Turnball	Occupational Physician
Dr Chris Walls	Occupational Physician (NZ)

6.2 Stakeholder submissions received during the initial issues gathering phase

Organisation
Government departments
Northern Territory Government Department of Transport
Office of the National Rail Safety Regulator
South Australian Department of Planning, Transport and Infrastructure
Industry (non-government, including unions)
Australian Rail Track Corporation
Aurizon (Queensland)
Carnarvon Heritage Group Inc. Heritage Rail Association
Illawarra Light Railway Museum Society Limited
KDR Gold Coast
Metro Trains (Victoria)
Pacific National
Queensland Rail
Sydney Trains
Yarra Trams (Victoria)
Health professional organisations
Australasian Sleep Association
Optometrists Association of Australia (Optometry Australia) (AFTD)
Businesses
Medmont Pty Ltd (AFTD)