

**KiwiRail Ltd**

# **SAFETY CASE**

This document supersedes KiwiRail document "Rail Safety Case, Issue 1".

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One	P J O'Connell (P)	WJ Peet	15 January 2009
Two	P J O'Connell (R, A)	JG Quinn	4 September 2009

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## 1. INTRODUCTION AND GENERAL

### 1.1 Scope

This document is the principal document defining the KiwiRail Ltd Rail Safety System which is designed to meet the requirements set out in the relevant legislation and NZ *Transport Agency (NZTA)* Guidelines. It supersedes the previously issued KiwiRail Rail Safety Case, Issue 1.

### 1.2 Definitions and Abbreviations Applicable to this Document

#### 1.2.1 Definitions and Explanations - General

“**KiwiRail**” means KiwiRail Ltd.

“**KiwiRail Ltd**” is a rail operating (freight and passenger) and rail mechanical engineering Company owned by New Zealand Railways Corporation.

“**NZRC**” means New Zealand Railways Corporation.

“**NETWORK**” is a Business Group name for ONTRACK, a division of the New Zealand Railways Corporation who are the infrastructure owner and manager (Access Provider) of the National Rail System.

“**NZTA**” means New Zealand Transport Agency.

#### 1.2.2 Definitions and Explanations - Heritage Support and Contracting Services

“**As Seen**” means the rail personnel, activities, equipment, components or documents in the form physically presented for inspection, assessment or consideration on the day of service provision.

- For engineering services “As Seen” does not include mechanical or electrical components that can only be assessed by xray, ultrasonic testing or other assisted means or components that can only be assessed by removal or strip down.
- For rail personnel “As Seen” does not include medical, physiological or psychiatric assessment.

“**Contracting Party**” means the party who is contracted with KiwiRail for the supply of services for all or part of the engineering and or operational requirements of a heritage rail service.

“**Equipment Type Rating**” means assessment and certification as competent to operate a rail vehicle (by rail vehicle class).

“**Heritage Charter Services**” and “**Heritage Operator**” are described in *NRSS 1 / Definitions*.

“**Heritage Engineering**” means mechanical testing, inspection or certification services.

“**Heritage Operations**” means supply (hire or contracting) of rail personnel by KiwiRail to a third party for provision of heritage services.

“**Heritage Training and Assessment**” means on the job training (OJT), supervision, road knowledge certification, equipment type rating, competency assessment, safety observation and theory knowledge assessment services provided to heritage operators.

“**Rail License**” means a license issued by NZTA under the provisions of the Railways Act 2005.

“**Safety Case**” means the safety system of a Rail Licence holder as described under the provisions of the Railways Act 2005.

“**KiwiRail Volunteer**” means a KiwiRail Employee who provides services directly to a third party (both paid and unpaid services) when KiwiRail is not contracted to supply the services.

Other definitions applicable to this document are listed in the document “National Rail System Standard / 1 “Definitions”.

### 1.2.3 Abbreviations

- HSE – Health, Safety and Environment
- HSE Act – Health & Safety in Employment Act 1992
- NRSS – National Rail System Standard
- NZRC – New Zealand Railways Corporation
- NZTA – New Zealand Transport Agency
- RORP – Rail Operating Rules, Procedures & Local Network Instructions (Network)
- ROC – Rail Operating Code (KiwiRail)
- RSC – Rail Safety Case
- RV – Rail Vehicle

### 1.3 Access Agreements

Access Agreements and agreements that allow one Operator to operate under another Operators licence provide a legal and commercial framework, including dispute resolution, to allow Operators access to the National Rail System. Refer also to section 4.4, Interoperability.

Access agreements detail procedures for dealing with:

- Timetabling and access
- Network delays
- Access to codes
- Rights of Network to undertake rail vehicle inspections
- Rail network safety
- Commercial risk sharing
- Disputes resolution.

**To the extent of any inconsistency between any Access Agreement and this document, the Access Agreement prevails.**

Refer also to section 4.5, Interoperability between Operators.

### 1.4 Rail Activities

KiwiRail is the primary Operator using the National Rail System. It has three principal operating Business Units (BU):

- Freight, responsible for rail freight activity and Auckland Metro Services (Driver Hire and Auckland Metro Maintenance - AMM)
- Mechanical Services, responsible for rail mechanical engineering standards, depots and workshops (except passenger depots)
- Passenger, responsible for Tranz Metro Wellington, Tranz Scenic including passenger maintenance depots, Passenger BU rail personnel, rolling stock hire and the lease or charter of services to or from third party operators and heritage rail vehicle providers.
- *KiwiRail Ltd is the Siding Site Controller for its Operator Controlled Territory.*

Other Operators may interface with KiwiRail including (without limit):

- Veolia Transport Auckland, the Operator of the Auckland metro passenger services between Pukekohe and Helensville
- Taieri Gorge Railway
- Heritage Operators
- *Industrial Operators.*

Network operates under a separate safety case and *licence and* is responsible for:

- controlling the operation of rail vehicles on the Controlled Network, and
- *inspecting and* maintaining track that it owns which, for the avoidance of doubt, is all track owned by NZRC including the Controlled Network and all Operator Controlled Territory under KiwiRail control
- inspection, certification and maintenance of private sidings and other private track by agreement with the owners
- renewals to be managed through contracts as required
- additional inspections in accordance with the Access Agreement

## 1.5 Changes to the Safety Case

Changes and updates to this document will be the responsibility of “National Manager, Health Safety Quality and Environment – KiwiRail Freight”, or delegated person.

The Group Chief Executive, KiwiRail, must approve any amendments (or assign authority for approval).

Changes will then be submitted to the NZTA as either a change variation (refer Appendix C) or change notification to the KiwiRail Safety Case.

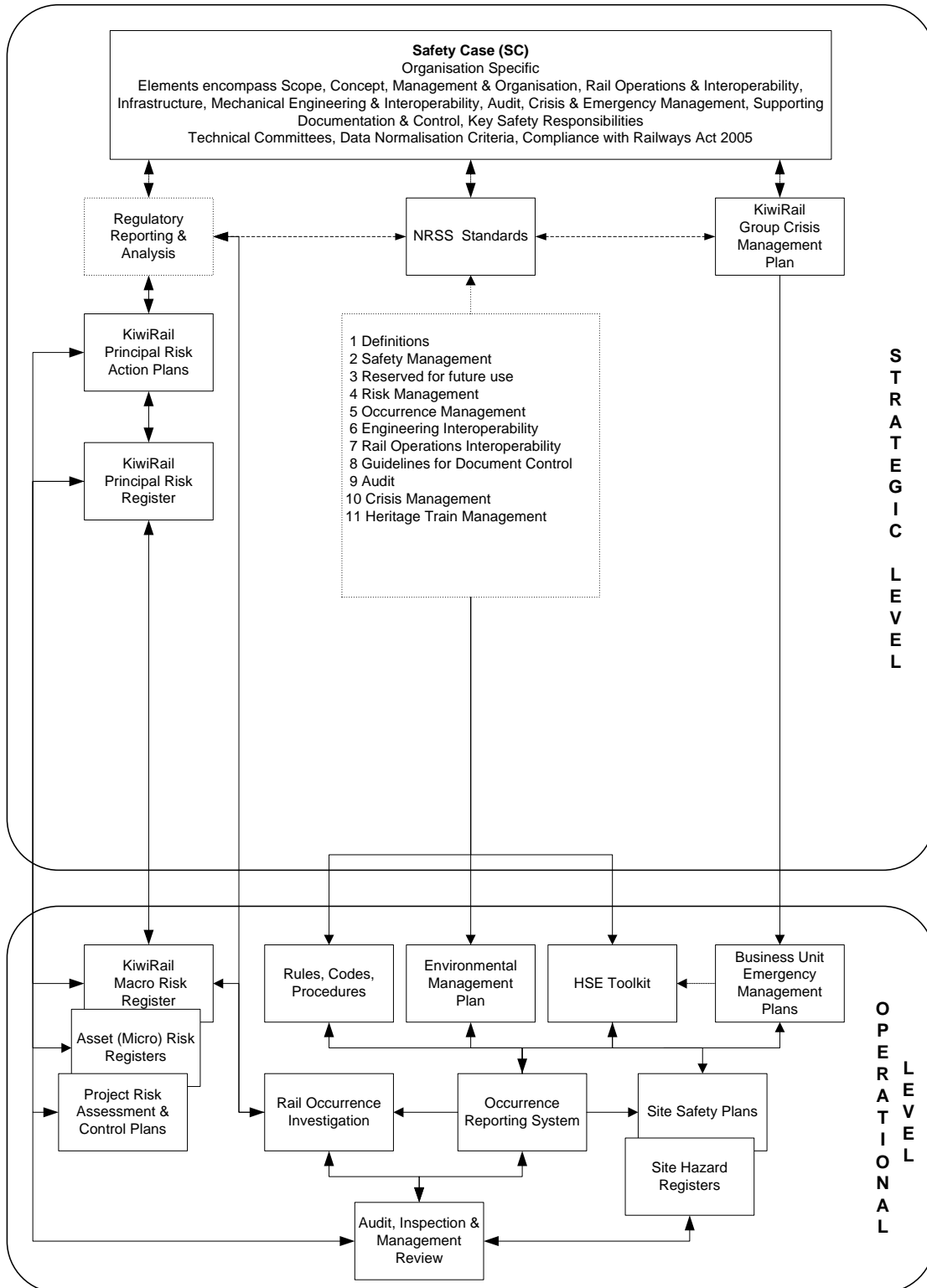
Any planned changes to this document should take into account the need for other affected parties to alter and or update their Safety Case. However this does not require KiwiRail to obtain an affected party’s consent to any changes that KiwiRail proposes to make to this document.

## 2. RAIL SAFETY SYSTEM

### 2.1 Concept

A multi level approach to safety management has been implemented. The separation into the strategic and operational levels together with the linkages between various *rail safety* system elements, are illustrated in Figure 1.

FIGURE 1



## 2.2 National Rail System

### 2.2.1 Extent

The term “National Rail System” (NRS) is defined in document NRSS/1. The NRS consists of a nationwide network of rail track comprising;

- principal lines (also known as trunk routes)
- secondary lines
- branch lines
- station yards and sidings
- short industrial sidings
- private sidings for specific users, port company’s, etc

All lines and some tracks in station yards and sidings (eg loops, arrival roads) are classed as Controlled Network where occupancy and train movement by rail vehicles is under the control of Network.

All other track is classed as Operator Controlled Territory where an Operator or other designated Rail Participant is responsible for the occupancy and movement of Rail Vehicles.

Refer to Appendix F for maps showing the extent of the NRS network of railway lines.

Geographical features of infrastructure and details, including the network of lines and kilometrages, is further described in the Network Rail Operating Rules, Procedures & Local Network Instructions

Signalling and Interlocking for the Controlled Network is depicted in S&I Diagrams issued by Network.

Demarcations between the National Rail System and other lines are described in this document (refer to section 4.5 Interoperability between Operators).

### 2.2.2 Principal Parameters

The following principal parameters apply to the National Rail System;

- Track gauge – 1068mm nominal (historically identified as 3ft 6 ins)
- Axle loads – rail vehicles with a maximum 18 tonnes axle loads travelling at 80 km/h have running rights on most principal lines on the Controlled Network.
- Compliance with the standard Rail Vehicle static gauge (refer NRSS/6 s5) will allow general operation over most lines comprising the Controlled Network. (Some exceptions apply including the Johnsonville Branch, a number of industrial lines and sidings and some loops.)
- Fixed structure gauge requirements for main lines and sidings (showing minimum dimensions for new construction) are specified in the Infrastructure Engineering Handbook (Network document T:200)

## 2.3 National Rail System Standards

### 2.3.1 Objective

The objective of National Rail System Standards is to provide *the* generic framework for the management of the critical elements within *the* Safety Case and the *safety* systems of other Rail Participants (Access Provider and *Rail Operators*) *associated with the* National Rail System (*NRS*).

*NRS* Standards:

- are designed to meet the requirements set out in the relevant legislation and *NZTA* document “Rail Safety Licensing and Safety Assessment Guidelines”, *and* .
- National Rail System Standards should be read in conjunction with this Safety Case and other applicable or relevant Standards.

### 2.3.2 Application

National Rail System Standards apply to users of the National Rail System. The terminology used in National Rail System Standards has been chosen to apply to the National Rail System. For guidance reference should be made to National Rail System Standard / 1 – Definitions.

### 2.3.3 National Rail System Standards Adopted

The following National Rail System Standards form key elements of KiwiRail's Approved Safety System as described in Figure 1.

- National Rail System Standard / 1 - Definitions
- National Rail System Standard / 2 - Safety Management
- National Rail System Standard / 4 - Risk Management
- National Rail System Standard / 5 - Occurrence Management
- National Rail System Standard / 6 - Engineering Interoperability
- National Rail System Standard / 7 - Rail Operations Interoperability
- National Rail System Standard / 8 - Guidelines for Document Control
- National Rail System Standard / 9 - Audit
- National Rail System Standard / 10 - Crisis Management
- National Rail System Standard / 11 - Heritage Train Management (reference only)

National Rail System Standards are controlled documents. Change to a National Rail System Standard is made in accordance with the procedures described in National Rail System Standard / 2– Safety Management.

## 2.4 Supporting Documents

Supporting Documents are those identified as supporting the *NZTA "Approved Safety Case"* at the operational level. They comprise a suite of documents consisting of rules, codes and procedures and are generically described in Section 9, Table 2.

## 2.5 Statutory Requirements

This includes all relevant legal obligations related to safety specified in Acts and Statutory Regulations. Key Acts and Regulations are listed in document National Rail System Standard / 2 - Safety Management.

Copies of Acts and Statutory Regulations can be directly downloaded from the web site [www.legislation.govt.nz](http://www.legislation.govt.nz). Currency of any paper copies held can be readily verified by reference to this web site.

## 2.6 Control and Management of the Rail Safety System

Roles and responsibilities of key management are detailed in Appendix A.

Responsibility for control and management of the documentation associated with the *Rail Safety System* is specified in s9, Table 2 and Appendix A.

Appendix C details obligations to notify the NZ Transport Agency of any significant variations to the KiwiRail Safety Case and supporting Rail Safety System.

## 2.7 Document Control

Document control measures are in accordance with National Rail System Standard / 8 - Guidelines for Document Control. In addition supporting documentation specifies discipline specific requirements.

The following documents may be electronically posted in "read only" format on KiwiRail's Intranet;

- this Document
- National Rail System Standards (these are also publicly available on the Network internet site)
- selected supporting documents (may also be issued in paper form).

Most electronic documents will not normally be issued in paper format. Once printed, electronic documents become uncontrolled. The holder is responsible for ensuring currency of all printed material..

The following documents are formally issued in paper form as Controlled Documents;

- Network, Rail Operating Rules, Procedures and Local Network Instructions,
- Network, S&I Diagrams (also available electronically)
- KiwiRail, Rail Operating Code (also available electronically)
- Bulletins\*, Site Specific Local Operating Instructions and Joint Operating Plans
- Engineering Codes, Code Supplements, Task Instructions, Significant Information Notices
- Standard, site specific and special drawings.

\* Prior to formal issue, bulletins may be issued verbally or electronically.

Some of these documents may progressively be converted to electronic issue only.

## 2.8 Safety Policies and Objectives

KiwiRail's HSE Toolkit in conjunction with this Safety Case provide the framework for HSQE management. Safety is specified within the framework of these documents.

Related policies that are applicable across KiwiRail have been approved by the Group Chief Executive.

Specific Safety policies applicable to rail occupational and operational safety include:

- Alcohol and Drug Policy
- Health, Safety and Environment Policy

These policies are implemented by Management as a part of their responsibilities, as detailed in Appendix A, to meet all Organisation defined standards, procedures and statutory requirements.

The KiwiRail Collective Employment Agreement with the Rail and Maritime Transport Union also promotes an employment policy of a healthy and safe workplace.

### 3. MANAGEMENT AND ORGANISATION

#### 3.1 Organisation Scope

KiwiRail supplies rail *operations*, rail mechanical engineering, rail vehicle design, logistics and shipping services to freight and passenger customers.

The *KiwiRail Group* Corporate Team provide board, legal, land, IT, HR, HSE, public policy support & oversight.

KiwiRail's Executive Management Team has primary responsibility for managing the KiwiRail Safety System. Key responsibilities of the Executive Team are:

- Commercial & Marketing
- Operations (train planning, scheduling, cargo, crewing, operations control and regional management oversight)
- Engineering (design, build and maintain)
- Health, Safety, Quality & Environment (risk, audit, investigation, codes, standards & regulatory compliance)
- Human Resources (employee well being, performance and employment contracts)
- Finance

KiwiRail's day to day operations are further organised into either national or regional lines of business. e.g. Freight have appointed Northern, Central and Southern Regional Managers responsible for rail freight activities within their geographical boundary. This includes liaison with other Operators, Maintenance Providers (including Network) and Territorial Local Authorities.

KiwiRail's Safety Case supports the following rail activities (by Business Group):

Freight:

- Operation of freight trains and hook and tow of passenger trains on the National Rail System.
- Provision of shunting and marshalling services on the NRS and at some private sidings.
- Provision of mechanical maintenance services for Vieola Transport Auckland, Network and third parties e.g. contracted inspection services for heritage groups.
- Operation of rail-engineering workshops at Hillside (Dunedin) and Woburn (Lower Hutt).
- Hire / lease of rail personnel and / or equipment to / from third parties.
- "Hook and Tow" services for Passenger, Mechanical Services and Network.

Passenger:

- Provision of shunting and marshalling services for passenger services in Wellington.
- Provision of mechanical maintenance services for the Passenger rail vehicle fleet.
- Operation of Tranz Metro Wellington passenger services.
- Operation (onboard) of Tranz Scenic long distance passenger and charter services on the National Rail System.
- Hire / lease of rail personnel and / or equipment to / from third parties.

Mechanical Services:

- Provision of shunting services maintenance depots and workshops.
- Provision of mechanical design and maintenance services for the rail vehicle fleet.
- Hire / lease of rail personnel and / or equipment to / from third parties.

Applicable organisation charts are held internally.

### 3.2 Management Responsibility

Key rail safety responsibilities are covered in Appendix A. Responsible persons will assign a suitable person to deputise in their absence, or will ensure management control is effectively maintained by remote communication. (i.e email, cellular phone roaming, text message notification systems).

All managers, particularly line managers, have a responsibility to ensure that all work carried out by their work teams meets all defined KiwiRail Rail Safety System standards, procedures and statutory requirements affecting rail safety. This is accomplished through established business processes. i.e. hazard assessment, risk screening and performance monitoring.

Areas of rail safety responsibility for individual managers and key personnel, including responsibilities for safety, are defined in Position Descriptions (PD), and/or as specifically assigned by the listed management personnel in Appendix A.

Managers are responsible for ensuring that, within their work group(s), there is complete assigned coverage of all necessary safety aspects and that it is clearly defined across all the Position Descriptions (PD) for their work group(s).

Areas of responsibility (including safety obligations) for general personnel will be either specified in individual PD's or generic PD.

KiwiRail has PD's for key roles that align with the responsibilities detailed in Appendix A.

### 3.3 Reserved for Future Use

### 3.4 Contractors

KiwiRail may make use of various agents and contractors (including consultants) to assist in rail engineering and rail operational work.

Responsibility for maintenance functions and delivery of these is currently performed within the wider KiwiRail Group as follows:

- Mechanical (Rail Vehicles)  
Managed by Mechanical Services and Passenger Business Groups (as applicable).
- Infrastructure  
Network manages day to day maintenance of all KiwiRail NRS track and supporting infrastructure. Network hold a separate Rail Licence issued by NZTA.

The Access Agreement between Network and KiwiRail provides for the supply of services to each other.

The significant maintenance functions that one party will provide for the other are listed in Appendix E.

### 3.5 Personnel Assessment, Training and Competence

Company document Q022 Medical Standards defines requirements for:

- Pre-employment medicals
- Regular or special medical re-examinations
- Drug and alcohol testing
- Particular initial and ongoing requirements for Rail Vehicle drivers and other rail operating personnel

Training, certification and re-certification requirements are specified in the Network Rail Operating Rules, Procedures & Local Network Instructions and KiwiRail, Rail Operating Code for the following:

- All rail operating personnel
- Requirements for other Rail Personnel working on or adjacent to the rail corridor

Training and certification requirements for maintenance personnel are detailed in the relevant Codes and supporting documentation. Where requirements for maintenance personnel are not specified (or inadequately specified) it is the responsibility of the relevant discipline specific Technical Committee to oversee and approve (or ratify a decision by the GM *Mechanical Services*) any special requirements.

Training and competence assessment for engineering personnel, where not specified in the codes or supporting documentation, will be the responsibility of the GM Mechanical Services. The assignment of engineering responsibility will be either by PD, or individual assignment by the GM Mechanical Services, or it may alternatively be as agreed by the discipline specific Technical Committee.

Review of competency will be either by;

- Formal means specified in documentation
- Line Manager in consultation with appropriately experienced discipline specific person

### 3.6 Risk Management and Hazard Analysis

#### 3.6.1 Risk Management Systems

Risk Management (including change management) within each element of KiwiRail is carried out as defined in the following documents;

- KiwiRail - Health, Safety and Environment Toolkit
- KiwiRail – Safety and Quality Management Guidance
- National Rail System Standard / 4 - Risk Management
- National Rail System Standard / 2 - Safety Management

KiwiRail have two approved tools for recording the outputs of risk screening and assessment.

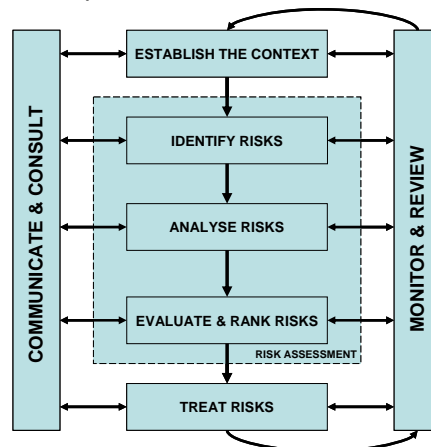
Either the EXCEL risk worksheet or QUANTATE application may be used for conducting and capturing qualitative risk screening and assessment data.

Where appropriate, procedures applied (including the use of risk registers) will be in general accordance with the Australian/New Zealand Standard “Risk Management” (AS/NZS 4360:2004), by those responsible for managing risks.

Managers with key safety responsibilities (see Appendix A) are responsible for ensuring that appropriate safety management review is periodically carried out, risk registers and principal risk action plans are in place, and that any necessary corrective action is implemented.

KiwiRail’s risk management process comprises the traditional steps of:

- Establishing the Context
  - Identifying the Risks;
  - Analysing the Risk
  - Evaluating the Risks;
  - Treating/Controlling the Risks; and
  - Monitoring and Reviewing the Risks
- } Risk Assessment



The analysis of risks can be achieved using a number of methodologies. These are generally categorised as qualitative or quantitative. KiwiRail uses the following risk analysis methodologies:

**Qualitative Analysis** – Risks are assessed for consequence and likelihood against predefined descriptive scales and assigned a risk rating in accordance with a risk matrix. NRSS 4 describes the industry accepted risk assessment matrix. KiwiRail uses qualitative risk analysis techniques for the initial screening of risks and for specific project risk assessments and for maintaining a Macro Risk Register (MRR).

Rating	1	2	3	4	5
<b>Media Reputation</b>	Unnoticed by public & media	Limited or minor media comment	Local adverse media coverage	Short term adverse national media coverage	Sustained national or short term international media coverage
<b>Financial Damage</b>	<\$10,000	\$10,000 to \$100,000	\$100,000 to \$1 million	\$1 million to \$10 million	>\$10 million
<b>Safety</b>	No medical treatment by professional medical personnel	Lost Time injury	Possible fatality; severe injury	One fatality	More than one fatality and/or multiple severe injury

		CONSEQUENCE				
		Negligible	Minor	Major	Critical	Catastrophic
LIKELIHOOD	Improbable	1	2	3	4	5
	Remote	2	4	6	8	10
	Occasional	3	6	9	12	15
	Probable	4	8	12	16	20
	Frequent	5	10	15	20	25

Rating	Return Period	Definition
1	40 Years	Unlikely to occur but possible, it can be assumed the hazard may exceptionally occur
2	20 Years	It can be reasonably expected for the hazard to occur
3	5 Years	Highly possible for the hazard to occur
4	1 Year	(Almost certain) The hazard can be expected to occur frequently
5	0.25 Year	Hazard is certain to occur or already has/exists

Quantitative Analysis – Risks are quantified in terms of an industry accepted metric – such as Deaths per Annum (DPA) or Fatal Accident Rate (FAR). This type of analysis requires that numerical data relating to specific risks is available for analysis. KiwiRail's Principal Risk Register uses DPA, based on previous incidents, to categorise and prioritise the principal safety risks.

The selection of which risk assessment methodology to use depends on a number of factors including the availability of analysis data, level of risk assessment required, the type of output required and the target audience. For complex projects, often several different assessment tools will be used.

The primary safety risk register is the Macro Risk Register. This register is a prioritised listing of KiwiRail's safety risks described at a macro level (eg fall from moving rail vehicle, level crossing collision etc). The Macro Risk Register is derived through a combination of qualitative analysis, to first screen risks, and quantitative analysis. The basis of the quantitative analysis is the determination of Deaths per Annum metrics.

A subset of the Macro Risk Register containing the highest of the prioritised risks is the basis of the Principal Risk Register and the focus of KiwiRail's primary safety risk intervention efforts. The Principal Risk Register contains the top level safety risks plus a number of risks which have high profile from a commercial and public safety perspective. The Principal Risk Register forms the basis of reporting to the KiwiRail Executive. Risks on the Principal Risk Register are allocated owners who are responsible for the development and management of intervention strategies. The KiwiRail Safety Standards Committee reviews the Principal Risk Register periodically to confirm the prioritisation of the risks (based on recent incident history) and identify new risks for inclusion in the register.

Lying below the Macro Risk register sit a number of project risk registers and site specific hazard registers varying in detail and content.

Project Risk Control Plans are reviewed by KiwiRail HSQE, where a new risk that is introduced to the business on a long-term basis is identified it is reassessed and added to the Macro Risk Register.

Examples of project risk assessments carried out include Steam on the Overlander, Midland Steam excursions, thirty wagon coal trains through the Otira tunnel, increased Veolia Services in the Auckland metro area, and, introduction of new rail vehicles. These risk assessments involved multiple rail industry stakeholders and resulted in risk registers with various stakeholders being assigned a range of risks to manage.

At the operational level KiwiRail's processes are designed to manage risk. The recording of rail incidents and management of corrective actions through the KiwiRail RISC software application, and the weekly safety meetings to review these incidents, all form part of KiwiRail's process to manage operational safety risks. At the job site level, risk has been controlled by development of operational procedures to eliminate, mitigate and minimise risk. In addition, the conduct of ACC Partnership Program (internal & external) Audits and routine safety observations are all designed to minimise the risks to KiwiRail's personnel working on the NRS.

The identification of risks is just the beginning of the management process. Assigning responsibility for management of individual risks, developing pragmatic treatment strategies, reviewing the risks regularly and communicating these risks and treatment plans to the stakeholders (including affected Rail Participants) are all important steps in the process. The development and implementation of safety risk control measures (ie. treatments), is carried out in a consultative manner. Treatment strategies can be categorised as follows:

- Avoidance – Ceasing the activity to avoid the risk completely
- Reduction – Reducing the likelihood or consequence of the risk.
- Transfer/Share – Transferring the risk to another party (eg insurance) or sharing the risk
- Acceptance – Accepting those risks that fall within our tolerable risk region.

For KiwiRail's safety risks the most common treatment strategy involves reduction - reducing either the likelihood or consequence of the risk. Typical strategies might take the form of immediate operating solutions (eg. closure of a road in a yard or siding), engineering solutions (eg asset upgrades or refurbishments), process changes (eg more frequent inspections, shift roster changes etc) or the introduction of new technologies (eg Remote Controlled Shunting). A number of these strategies are undertaken in collaboration with other Rail Participants amounting to a sharing of the risk exposure.

KiwiRail's risk management processes aim to ensure that the following key elements to successful risk management are achieved:

- The principles of risk management are understood by rail personnel responsible for managing risk
- Stakeholders are engaged at appropriate levels
- A simple approach to the problem is adopted where possible
- Practical approaches and solutions are applied throughout the process
- Ownership and responsibility for the management of individual risks is clearly assigned
- Risk management is a culture
- Risk management is ingrained in the KiwiRail culture.

KiwiRail sees the management of risk as a process which is ongoing and dynamic within the organisation. A safety risk culture has been firmly established within KiwiRail and is progressively being reinforced. Risk and hazard register are "live" documents, which are subject to ongoing review.

Key phases in the risk management process are target setting, reporting, recording, monitoring, review and continuous improvement.

Risk Assessment is the process by which KiwiRail mitigates and controls hazards that have the potential to cause harm to customers, rail personnel, the public, shareholders and the Company.

The Managers listed in Appendix A are responsible for ensuring that appropriate discipline specific safety management reviews are periodically carried out, risk registers and principal risk action plans are in place, and that any necessary corrective action is implemented.

### **3.6.2 Principal Safety Risks (Top Twenty)**

The principal safety risks identified by KiwiRail's risk management processes may be extracted as required from the MRR into a Principal Risk Register (PRR). This register will include existing control measures and proposed treatments to mitigate each risk. The register will be focussed at a macro level noting that the micro risk registers (sites hazard and asset risk registers) change regularly as individual site and asset risks are addressed or new ones arise. Nevertheless the PRR would indicate the focus of KiwiRail's risk management activity at that time.

## 3.7 Management of Accidents and Incidents

### 3.7.1 Key Documents

The management of accidents and incidents is covered by the following documents;

- National Rail System Standard / 5 - Occurrence Management
- KiwiRail - Health, Safety and Environment Toolkit
- KiwiRail - Rail Operating Code
- Network - Rail Operating Rules, Procedures & Local Network Instructions

### 3.7.2 Specific Requirements and Processes

Additional specific requirements and/or procedures are also specified in the following documents;

- National Rail System Standard / 6 - Engineering Interoperability
- National Rail System Standard / 7 - Rail Operations Interoperability
- Engineering codes (mainly Mechanical, Track, Signals Telecommunications Electrical (STE) and supporting documents)
- Individual Local Operating Procedures / Local Instructions and Joint Operating Procedures issued where applicable (Note - these may be issued by Network, KiwiRail or another Operator)

### 3.7.3 Notification to NZTA

*The Railways Act 2005 requires the notification of all accidents and incidents to the NZTA.*

NRSS / 5 details reporting responsibilities for KiwiRail and the Access Provider (Network) and provides guidance on reporting responsibilities to the NZTA.

*Appendix D details obligations to notify the Land Transport NZ of Normalising Data.*

### 3.7.4 Linkage to Incident and Crisis Management Plans

Major occurrences, including those which cause wide spread disruption to train services, may trigger the implementation of the KiwiRail Business Unit Incident Management Plans and / or the KiwiRail Group Crisis Management Plan (refer National Rail System Standard / 10).

### 3.7.5 Occurrence Records Management

KiwiRail has a software system (RISC) for the day to day management of incidents and the actions arising from them. RISC is used to provide company wide and external notification of rail occurrences. RISC records all information relating to an occurrence, generates notifications to affected Rail Participants and other interested parties (such as NZTA).

RISC is being reengineered to provide the capacity to manage actions arising from all investigations and audits (both internal and external) and provide reports for management review. Once complete RISC will be fully compliant with the requirements of NRSS 5 – Occurrence Management and NRSS 9 – Audit. Corrective Actions will be fully migrated from excel spreadsheets to the RISC platform as further modules are developed.

### 3.8 Occupational Safety and Health

Occupational safety and health requirements applying to Rail Personnel and the rail environment are detailed in:

- The Health and Safety in Employment Act 1992.
- KiwiRail policies covering;
  - Health Safety and Environment
  - Drugs and Alcohol
- Procedures and processes applicable to KiwiRail and contractor employees
- Network, Rail Operating Rules, Procedures & Local network Instructions
- KiwiRail, Rail Operating Code, Engineering Codes and KiwiRail Medical Standards (Q022)
- KiwiRail, Health and Safety Toolkit

These documents cover the following;

- HSE company policies and goals
- General health & safety rules (including protocols for site visitors, drugs and alcohol)
- Safety committees and action teams
- Hazards (including the use of personnel protective equipment and high visibility clothing)
- Accidents and incidents – including reporting, investigation and corrective action
- Health & safety training
- General emergency procedures
- Procedures applicable to contractors
- Procedures for HSE audit, site safety inspections and safety observations
- Injury management including ACC notification and rehabilitation
- “Fitness for Work” including training, review, fatigue management, health and well being
- Job planning and implementation, including:
  - hazards identification & mitigation
  - the use of correct personnel protective equipment and high visibility clothing
  - rail corridor protection
  - management of contractors and site visitors
  - emergency procedures

KiwiRail has implemented an integrated Health & Safety system (RISC) for the recording and management of workplace incidents, accidents and rehabilitation activities. RISC records and manages all reported HSE incidents under the following categories:

- Lost Time Injuries
- Medical Treatment Injuries
- First Aid Treatment
- Close Call (Near Miss)
- Environmental Incidents
- All other rail related Occurrences

KiwiRail Business Groups maintain registers of hazards applicable to the each business group. Where applicable, these include rail interface hazards. As part of the job planning process common and task-specific hazards are reviewed. New (site-specific) hazards where identified are recorded, assessed and managed. Safety Data Sheets are maintained at site level.

The Health and Safety in Employment Act 1992 and *the* Railways Act 2005 detail the requirements for the recording and notification of accidents *and incidents*. Specific requirements for the notification of accidents, incidents and serious harm injuries are detailed in National Rail System Standard / 5 - Occurrence Management.

All occupational health and safety requirements are designed to ensure a safe rail system for rail personnel, customers, passengers and other public that interface with the rail network.

The arrangements for KiwiRail Health and Safety Action Teams are detailed in section 3.12.

### 3.9 Technical, Safety and Operational Committees

A structure of committees may be provided for in KiwiRail as follows;

- Executive
- Technical
- *KiwiRail Industrial Council*
- Health and Safety Action Teams

Inter-organisational committees applicable are specified in National Rail System Standard / 2 – Safety Management.

Executive committees may be convened to consider strategic and commercial implications of safety issues. They are not responsible for any discipline specific technical decision making or review.

Technical committees are responsible for the review and ratification of technical policy and technical documents. Appendix B provides an outline of their functions and responsibilities. These functions and responsibilities may be further defined in meeting minutes, design manuals or engineering office section procedures.

Standing KiwiRail technical committees are as follows;

- Mechanical Engineering
- Rail Operating Code
- Safety Standards Committee

The following issues are handled by committees referenced in National Rail System Standard/2.

- Network - Rail Operating Rules, Procedures & Local Network Instructions
- Engineering Interoperability

The *KiwiRail Industrial Council*, and Health & Safety Action Teams provide interface forums for specific issues to be discussed between management and employees. A brief summary of the safety responsibilities of these groups for KiwiRail is provided in Appendix A. More detailed information on the functions of these groups is provided in the Health, Safety and Environment Toolkit. The Councils and H&S Action Teams can refer technical problems through to the organisations designated Executive Management for further consideration and review for appropriate action.

Where necessary discipline specific rail technical issues must be referred to the GM Freight, Mechanical Services or Passenger (as applicable) for resolution.

#### 3.9.1 Modification or Change of NRS Standards

Issues that may require a modification or change to NRSS/6 or NRSS/7 must be referred to the relevant Joint Technical Committee referenced in National Rail System Standard / 2 for consideration and a recommendation to the NRSS Executive.

### 3.10 Safety Key Performance Indicators

KiwiRail measures its safety performance against a number of key performance indicators (KPI). Both Lead and Lag Indicators are used.

### 3.10.1 Lag Indicators

Lag Indicators are designed to monitor risk including the capability and stability of controls that have been deployed to mitigate risk. Key Lag Indicators are measured and reported to the KiwiRail Executive and Board monthly, including:

- a. Key Occurrences for the reporting month (by type)
- b. Cumulative totals for the financial year
- c. Previous years' monthly and cumulative totals
- d. Performance target lines

Four categories are reported, examples in each category include:

#### Operational

- a. KiwiRail Controlled Territory Derailments
- b. KiwiRail Controlled Territory Collisions
- c. Cargo Security
- d. SPAD A's
- e. Safe Working Irregularities – Occurrences where operational safe working practices are breached.

#### Engineering

- a. Controlled Network Derailments
- b. Train Partings
- c. Train Stallings
- d. SPAD B's where KiwiRail NZ services are affected.

#### Public Safety

- a. Level Crossing Collisions – collisions at public level crossings
- b. Controlled Network Collisions

#### Occupational Health & Safety

- a. Lost Time Injury Frequency Rate – The number of lost time injuries x (1,000,000 / hours worked).
- b. Medical Treatment Injury Frequency Rate – The number medical treatment injuries x (1,000,000 / hours worked).
- c. Injury Severity Frequency Rate – The number of days lost x (1,000,000 / hours worked).

### 3.10.2 Lead Indicators

Lead Indicators are being progressively developed and reported quarterly. Lead Indicators are designed to monitor those business processes, which are critical for determining rail personnel performance (behavioural) and rail asset condition (performance orientated). Lead Indicators provide assurance that these business processes are stable and assessment currency is achieved.

Examples of Lead Indicators that may be used are:

- a. Currency of Safety Observation & Theory Assessments
- b. Currency of KiwiRail Controlled Territory track inspections.
- c. Currency of site inspections
- d. Compliance with key safe working practices. i.e application of handbrakes

### 3.11 Change Management

Changes to the organisation structure, personnel, rules, standards and procedures likely to significantly affect the rail risk profile of KiwiRail are carried out within the guidelines provided by NRSS/2 and NRSS/4. NRSS/4 section 9.5 provides an example of generic documentation for an organisational change.

### 3.12 Change Consultation with Employee Representatives

KiwiRail has established arrangements to ensure that representatives of employees (including unions) are consulted where a change that will or is likely to affect its rail personnel is proposed to KiwiRail's Rail Safety System, i.e changes to work practices, codes and procedures.

The union covering the vast majority of non-management staff (or other staff exempted from Collective Employment Agreement coverage) who are subject to the provisions of the Railways Act 2005 is the Railway and Maritime Transport Union (RMTU).

The consultation arrangements are:

- a. KiwiRail consults with the RMTU through:
  - The *KiwiRail Industrial Council* comprising RMTU and Management representatives (see below)
  - Health and Safety Action Teams - these Teams are a primary means of consultation with employee representatives for occupational health, safety, environment and related issues (see below)
  - Direct consultation by management with staff representatives on rail safety, technical and operational matters. Specific committees also exist as set out below.
- b. Direct consultation at management level with RMTU management also takes place for changes on a case by case basis.
- c. The Collective Employment Agreement between KiwiRail and the Rail and Maritime Transport Union also specify consultation policy to apply for employment related matters, including the introduction of new and improved work methods, arrangements, processes, equipment and technology.
- d. KiwiRail also has a policy of consulting with other Rail Participants (primarily Network and Veolia Transport Auckland) where it is deemed that proposed changes could affect their own Rail Personnel. In this case it is the responsibility of the Rail Participants to consult as they consider necessary, with the representatives of their own Rail Personnel, including unions, and pass back to KiwiRail any comments and recommendations.
- e. Where necessary KiwiRail will provide special briefings to employees as required, these briefings will also cover rail personnel who are not part of any Collective Employment Agreement.

#### 3.12.1 Health and Safety Action Teams

A tiered structure of HSE committees representing area and national interests, and also KiwiRail / Network railway industry interests, is in place as follows;

Site based H&S Action Teams are operative in each Manager's functional area and include local RMTU representation. The Regional Health, Safety and Environment Managers monitor the activities of these teams.

Health and Safety Action Teams may raise technical issues that can be referred on to the KiwiRail Industrial Council, Internal Technical Committees or the Joint HSE Executive for further action and resolution.

### 3.12.2 KiwiRail Industrial Council (KIC)

The KiwiRail Industrial Council comprises representatives from the operational disciplines within KiwiRail. The purpose of the KIC is to engage employee representatives in formal discussion for matters involving shunting terminals, CT Terminals, locomotive running and activities therein.

### 3.12.3 Joint HSE Executive (KiwiRail / Network / Veolia / RMTU)

This group provides a nationwide industry strategic overview of HSE issues.

This committee comprises of representatives from;

- executive management from KiwiRail, network and Veolia
- senior safety management from each organisation
- RMTU National Office.

### 3.12.4 Rail Safety, Technical and Operational Consultation

Rail safety, technical and operational consultation also takes place on a routine basis between management and rail personnel. Some specific committees exist to address particular issues as listed below;

#### Networks - Signal Sighting Committees

KiwiRail Operations Management and Employee Representatives participate when these are convened for any new or changed signal positions.

#### Working Parties

These are formed as required to address significant and specific occupational safety issues affecting rail personnel, and comprise representatives of affected rail personnel and management.

### 3.12.5 Variations to Rail Safety System documentation

Consultation *over safety system changes* takes place with the representatives of Rail Personnel, either locally, as discipline specific groups (KIC) or at RMTU National Office level as deemed necessary by KiwiRail for the situation.

Consultation may also take place with relevant Rail Personnel, their representatives where appropriate, and other Rail Participants, during the development of Safety Case variations.

Where relevant, RMTU are provided with a copy of a Safety Case variation covering letter when the variation is submitted to NZTA.

## 3.13 Other Obligations

On any other matters that may be prescribed by the rules, or that the NZTA considers appropriate in the interests of safety (ie. matters that are not covered in sections 30(1)(a) to 30(1)(m) inclusive of the Railways Act 2005), KiwiRail is obligated to;

- respond to any correspondence from the NZTA
- comply with any rules made
- comply with any other requirement that the NZTA considers appropriate.

### 3.14 Dangerous Goods

Rail haulage and rail handling requirements for dangerous goods are specified in the Network - Rail Operating Rules & Procedures and the KiwiRail - Rail Operating Code.

Statutory requirements (e.g. Dangerous Goods Regulations) also apply for handling and storage.

The Health, Safety and Environment Toolkit also provides guidance on statutory requirements and procedures to apply.

## 4. RAIL OPERATIONS

### 4.1 Rail Operating Principles

Network Rail Operating Rules, Procedures & Local Network Instructions provide a comprehensive rules framework for safe railway operations including:

- General and operating requirements
- Signals rules (including the meaning of the various signal aspects used)
- Train Control operating systems in use (Centralised Traffic Control, Double Line Automatic Signalling, Single Line Automatic Signalling, Track Warrant Control)
- Air Brake requirements
- Engineering requirements (track occupancy and protection for maintenance, inspection and works activity)

Procedures for safe rail operation and working are also included.

### 4.2 Operating Limits

The Network Rail Operating Rules, Procedures & Local Network Instructions specifies the following for each line:

- Maximum speeds
- Accommodation at stations (crossing lengths and equipment provided)
- Relevant loading gauge restrictions (clearances)
- Permitted types of rail service vehicles (running rights for maintenance vehicles)
- Other running restrictions applicable

The KiwiRail, Rail Operating Code specifies the following for each line:

- Maximum lengths of trains
- Permitted types of rail service vehicles (running rights for commercial vehicles)
- Other running restrictions applicable
- Operating Instructions for KiwiRail Controlled Territory

The Freight Handling Code specifies:

- Limits and methods for the loading of rail vehicles to be used by rail personnel and customers.

National Rail System Standard / 6 - Engineering Interoperability specifies:

- The standard static gauge applicable to the National Rail System.
- Where loads exceed the standard static gauge, an overgauge load permit system for the particular journey applies unless specially exempted by *Network Rail Operating Rules, Procedures & Local Network Instructions* for any particular line.

AMICUS (KiwiRail's computerised freight and train management system) specifies:

- Loading capacity for individual rolling stock classes.

Control of train movements, hi-rail vehicles and track occupancies on the Controlled Network is carried out by Network's National Train Control Centre (NTCC) located in Wellington, supplemented by a number of local Signalbox's which are under the jurisdiction of the relevant NTCC Train Controller.

### 4.3 Train Control

Network Rail Operating Rules, Procedures & Local Network Instructions define:

- Train Control systems in use for each segment of the National Rail System
- Communication systems in use on the National Rail System (including radio)
- Operational issues affecting level crossings
- Instructions for use of radio equipment.

Signalling and interlocking in use on the Controlled Network portion of the National Rail System is specified on Network S&I diagrams with special operating features and instructions specified in the *Network Rail Operating Rules, Procedures & Local Network Instructions*. S&I Diagrams depict the limits of the Controlled Network.

### 4.4 Scheduling of Train Movements

Timetabling of train movements will be done in accordance with the relevant Access Agreement and Common Access Terms.

### 4.5 Interoperability between Operators

Formal agreements allowing one Operator to operate under another Operators licence can be entered into between Operators and other parties where appropriate, *when an exemption under the Railways Act 2005 s15(3) has been granted by NZTA*. Specific requirements are detailed in document *National Rail System Standard / 7 - Rail Operations Interoperability*.

Demarcations between the Controlled Network and any affected private track not part of the National Rail System, will be specified by the *Network Rail Operating Rules, Procedures & Local Network Instructions* and/or S&I Diagrams.

Demarcations between sidings forming a part of the National Rail System and private track, or track leased for the exclusive use of a third party (e.g. heritage groups), will be listed in the *Network Rail Operating Rules, Procedures & Local Network Instructions*, and/or in a site specific Joint Operating Plan.

Procedures where necessary, covering the safe operation of Rail Vehicle interchange at these demarcation points will be listed in the *Network Rail Operating Rules, Procedures & Local Network Instructions* or in a site specific Joint Operating Plan.

The KiwiRail, Rail Operating Code may also specify specific requirements for use by Operators.

## 4.6 Heritage Support Services

### 4.6.1 Heritage Engineering Services – scope and intent

KiwiRail may provide inspection and certification services of Equipment on an “As Seen” basis. Check sheets must clearly specify what was seen and the compliance of each element to approved mechanical engineering codes and standards.

### 4.6.2 Heritage Training and Assessment – scope and intent

KiwiRail may provide training, supervision, certification and ongoing assessment services for rail personnel on an “As Seen” basis. Log books and training records must clearly specify what was seen and the compliance of each element to relevant KiwiRail / Network rules, codes and procedures.

### 4.6.3 Equipment Type Rating

KiwiRail may provide Equipment Type Rating services for rail personnel on an “As Seen” basis. Log books and training records must clearly specify what was seen and the compliance of each element to relevant KiwiRail / Network rules, codes and procedures.

### 4.6.4 KiwiRail Employees Volunteering to work for a Third Party

Where rail personnel employed by KiwiRail Volunteer to work for a third party (including heritage organisations) they are not KiwiRail employees while undertaking these duties.

To ensure that existing employment obligations are met and *the* KiwiRail Safety Case is complied with, the following provisions apply to KiwiRail employees when they are undertaking voluntary work for other parties.

Employees are responsible for:

Advising their manager (crew roster centre for locomotive engineers) of the days and hours to be worked in advance of the work and confirming the actual hours worked after each work period,

- Ensuring that they do not breach hours of service parameters and requirements for off duty time between shifts as defined in the KiwiRail Rail Operating Manual and Collective Employment Agreement, and
- Ensuring that their volunteer work does not impact on their primary contractual arrangements with KiwiRail. This includes notifying KiwiRail of any *occurrences* that may affect their operational certification or fitness to work (including without limitation drug or alcohol incidents, medical fitness, accidents or operational incidents).

Managers (Crew Roster Centre for Locomotive Engineers) are responsible for:

- Advising employees when planned Volunteer work will impact on KiwiRail requirements,
- Capturing Volunteer work on the roster key / daily alteration sheets when advised by the employee,
- Monitoring hours worked and advising employees when planned Volunteer work will breach hours of service parameters defined in the Rail Operating Manual, and
- The Crew Roster Centre is specifically responsible for advising KiwiRail Managers of any breach of service parameters defined in the Rail Operating Manual or Collective Employee Agreement.

Line Managers are responsible for:

- Intervening when an employees planned or actual Volunteer work impacts on KiwiRail business requirements,
- Intervening when an employees planned or actual Volunteer works will breach or has breached hours of service parameters as defined in the Rail Operating Manual and Collective Employment Agreements, and
- Advising the Rail Licence Holder for which the employee has volunteered of any known breach of the hours of service parameters defined in the Rail Operating Manual or Collective Employment Agreement.

#### 4.6.5 Incident or Accident

##### Employees providing services as Volunteers

When KiwiRail employees volunteer for a third party (including a heritage organisation) such rail personnel are not employees of KiwiRail when carrying out any tasks in that volunteer capacity. KiwiRail shall not be responsible for action, inaction, accidents or incidents caused or contributed to by the Volunteer or any costs associated with accident, injury or illness to that person or any other person while they are acting in a volunteer capacity. Any indemnity provisions made in Employee Agreements do not apply when KiwiRail employees are working in a volunteer capacity.

##### Employees Contracted by KiwiRail

When KiwiRail employees are provided on a contract basis to third parties under KiwiRail rail personnel hire or other arrangements, these employees will continue to be KiwiRail employees and be covered by indemnity provisions provided in Employee Agreements.

#### 4.6.6 Risk Screening

The Contracting Party is responsible for ensuring risk screening is completed in accordance with National Rail System Standard 4.

#### 4.6.7 Right of Refusal

KiwiRail retains the right to decline provision of heritage services where commercial viability, risk management controls or equipment / personnel availability are not acceptable to KiwiRail.

### 4.7 Other Operations

#### 4.7.1 Contracting of Rail Personnel

Commercial arrangements for the contracting of rail personnel holding operating Certificates of Competence may be entered into between KiwiRail and other parties including Heritage Operators holding a NZTA Rail Licence. When this occurs safety system management responsibilities are split between the parties.

The party providing the rail personnel remains responsible for ensuring that:

- all required technical qualifications are held for the service to be performed, and
- safety observation and theory assessments are current and remain so during the period of service supply, and
- that medical fitness is current and remains so during the period of service supply, and
- any corrective actions identified as a result of any occurrence, audit or review involving the rail personnel supplied under the terms of any such contract are acted upon and the status of any such corrective action is advised to the other party to provide assurance that deficiencies have been corrected.

The party engaging the contracted rail personnel remains responsible for ensuring that:

- the physical operation of the service/s are conducted in accordance with its NZTA approved Safety Case; and
- those rail personnel are appropriately managed and instructed whilst operating under the Rail Licence of the party operating the rail service; and
- investigation of occurrences and initiation/closure of identified corrective actions involving those rail personnel are conducted in accordance with its NZTA approved Safety Case, and
- the party supplying the rail personnel is immediately notified of any occurrence involving the Rail personnel supplied under the terms of any such contract and is, where appropriate, involved in the investigation process; and
- to notify KiwiRail of any concerns they have in relation to rail personnel supplied including, if appropriate, requesting report back on the status of corrective actions where these have been identified as relating to these rail personnel as a result of any investigation, audit or review of the arrangements.

#### 4.7.2 Hire / Lease of Rail Vehicle/s

Commercial arrangements for the hire / lease of rail vehicle/s may be entered into between KiwiRail and other parties. When this occurs safety system management responsibilities are split between the parties.

The party providing the rail vehicle/s remains responsible for ensuring that:

- all required technical certifications, warranties and operating approvals for the National Rail System are held for the service to be performed, and
- technical inspections and checks are current and remain so during the period of service supply, and
- that mechanical fitness is current and remains so during the period of service supply, and
- any corrective actions identified as a result of any occurrence, audit or review involving the rail vehicle/s supplied under the terms of any such contract are acted upon and the status of any such corrective action is advised to the other party to provide assurance that deficiencies have been corrected.

The party operating the hired / leased rail vehicle/s remains responsible for ensuring that:

- the physical operation of the rail vehicles is conducted in accordance with its NZTA approved Safety Case; and
- the rail vehicles are appropriately operated and managed whilst operating under the Rail Licence of the party operating the rail service; and
- investigation of occurrences and initiation/closure of identified corrective actions involving the rail vehicle/s are conducted in accordance with its NZTA approved Safety Case, and
- the party supplying the rail vehicle/s is immediately notified of any occurrence involving the rail vehicle/s supplied under the terms of any such contract and is, where appropriate, involved in the investigation process; and
- the Supplier is notified of any concerns they have in relation to rail vehicle/s supplied including, if appropriate, requesting report back on the status of corrective actions where these have been identified as relating to the rail vehicle/s as a result of any investigation, audit or review of the arrangements.

#### 4.7.3 Responsibilities of Licence Holders

The following may operate under the KiwiRail approved Rail Licence;

- Heritage Rail Vehicles holding current or special temporary registration by Network for operation on the NRS (including those owned by KiwiRail and leased to other parties).
- Non-heritage Rail Vehicles owned or leased by other parties holding current approval by Network for operation on the NRS.
- Commercial access arrangements are defined in Access Agreements. Refer also to National Rail System Standards / 6 and / 7 for other requirements.

The procedure for the operation of unregistered rail vehicles is contained in NRSS/7.

#### 4.8 Hook and Tow

Where hook and tow operations conducted by KiwiRail involve more than one rail licence holder, the following arrangements will apply;

- KiwiRail is responsible for the mainline driving activity (physical operation) of the train consist, which may from time to time include vehicles from other Operators and Network. i.e. Work Trains, KiwiRail Passenger steam hauled services
- The other licence holder remains responsible (as owner or controller of the vehicle) for the physical condition of their vehicles including compliance with all relevant mechanical standards (refer NRSS 6 & 7) when they are a part of a KiwiRail train consist.

In some circumstances KiwiRail may have contracted to supply Rail Personnel and / or hired / leased Rail Vehicles including locomotives to a third party in accordance with Sections 4.7.1 and 4.7.2 of this Safety Case. For avoidance of doubt such arrangements are not considered to be "Hook and Tow".

## **4.9 Shunting**

Procedures for shunting (including general safe procedures and remote control operation) are detailed in the Rail Operating Rules and Procedures and Rail Operating Code.

The safe working of trains in terminals and sidings, and the exchange of Rail Service Vehicles between Operators and/or a Maintenance depot/Private Sidings, are detailed in the relevant Local Operating Plan, Local Instructions and Joint Operating Plan.

Procedures for the safe use of road vehicles used to move rail vehicles are detailed in the Rail Operating Code and site specific safety plans. Such movements are strictly confined to terminals, depots and designated sidings.

## **4.10 Passenger Safety**

The management of passengers and procedures to ensure their safety are detailed in KiwiRail's Passenger Operations and Train Attendant Manuals and the KiwiRail, Rail Operating Code.

Safety procedures for train failures on the National Rail System including in tunnels are detailed in the Network Rail Operating Rules, Procedures & Local Network Instructions. Specific plans have been developed for Otira and Rimutaka tunnel, which are controlled by Network.

Requirements for passenger safety management in heritage excursions operated by KiwiRail are specified in National Rail System Standard / 7 - Rail Operations Interoperability and NRSS /11 – Heritage Train Management.

## **4.11 Site Visitor Safety**

Contractors and third parties entering rail land for any reason including carrying out work on rail land require a "Permit to Enter" issued by Network. Where necessary the "Permit to Enter" will specify site specific requirements including the need to obtain permission from the rail site controller.

Additional requirements for excursion trains are covered in National Rail System Standard / 7 - Rail Operations Interoperability.

The KiwiRail, Rail Operating Code, s3, and Health, Safety and Environment Toolkit specify additional procedures for entry into a rail operating site or rail terminal controlled by KiwiRail.

## 5. INFRASTRUCTURE

### 5.1 Track and Formation

The Network Track Code and Infrastructure Engineering Handbook cover track construction, maintenance and inspection standards for the National Rail System including:

- Track geometry standards and tolerances
- Inspection requirements and frequencies
- Formation and drainage
- Actions to be taken if defective track and formation are found.

Where necessary, special engineering designs apply.

Purchasing requirements for safety critical track components are detailed in Specifications and/or standard/special plans.

### 5.2 Private Sidings

Liability for maintenance of private sidings including any remedial work necessary to meet minimum code standards, is specified by the applicable private siding agreements (see clause 5.3 below).

### 5.3 Inspection and Maintenance of Retained Track and Other Track Owned or Managed by KiwiRail

Network is responsible for the inspection and certification of track and associated infrastructure in accordance with the Network Track Code (and other relevant infrastructure Codes) of:

- all KiwiRail track on Retained Land (ie. track owned by KiwiRail)
- any other track where agreed by the parties
- Interfaces with track owned by other parties

KiwiRail is responsible for ensuring appropriate maintenance and replacement is carried out on the following track and associated infrastructure;

- KiwiRail owned track on Retained Land
- on private sidings where KiwiRail has an agreement with the land owner to undertake maintenance and replacement works.

KiwiRail has contract arrangements in place with Network to carry out day to day maintenance work on request. KiwiRail will arrange all replacement and renewals work outside the scope of this agreement.

## 5.4 Bridges and Structures

Any bridges and structures (including any tunnels and culverts) owned by KiwiRail and inspected by Network are listed on the Network Infrastructure database with details of type, size, construction detail, and inspection records. Note that the relevant bridges and structures associated with track specified in clause 5.3 are deemed to be a part of the “associated infrastructure”.

Applicable Network documents specifying design, construction, maintenance, inspection and testing requirements are detailed in the following Network documents:

- Structures Code
- Structures Supplements
- Structures Inspection Guidelines
- Timber Inspection Guidelines
- Infrastructure Engineering Handbook

Actions to be taken due to flooding, earthquake or other weather related event are detailed in the above documentation.

Structure clearances for new works are specified in the Infrastructure Engineering Handbook. Structure clearance diagrams showing the worst case clearance envelope for each line are held and are used by Network for the assessment of “overgauge load permit” requests.

## 5.5 Station Platforms and Access Ways

Network are responsible for all station platforms and associated passenger access ways within the station precinct, with the exception of those subject to specific legal or lease agreements with other parties.

The following general demarcations apply;

- Pedestrian overbridges and subways associated with access to a station precinct are the responsibility of the party who has the platform maintenance responsibility.
- Pedestrian overbridges and subways not associated with direct pedestrian access to a station platform are the responsibility of Territorial Local Authority.

Network advise on all land demarcations and building / structure asset ownership where any demarcations need to be resolved.

Refer to section 5.4 for applicable maintenance and inspection standards.

## 5.6 Signalling System

The types of signalling systems in use on the National Rail System are specified in the Rail Operating Rules & Procedures.

All signalling including any that encroaches onto land owned by KiwiRail is owned, inspected and maintained by Network. Any level crossing alarm systems on Retained Track will be inspected and maintained by Network to standards and procedures referenced in the Network Rail Safety System Manual.

Requirements for level crossings including the provision of alarms are covered in Network General Code Supplement CSG 417.

## 5.7 Communication Systems

Network provides a Train Control radio system with almost full coverage of the National Rail System for communication with Train Control. This encompasses the E band channels 1, 2, 3 and 4, the C band for tunnel repeater systems and some F band channels.

Other radio frequencies are provided for:

- Shunting (ASP channels used by KiwiRail)
- Other station, yard and movement control (channels 45, 46 as well as channel 1) used by KiwiRail and others.
- Rail corridor maintenance and selected movement control (channel 5) used by KiwiRail and others
- Remote control shunting (KiwiRail loco controls)
- Train end monitors (TEM's) used on KiwiRail trains.

The scope, operation and use of the systems are detailed in the Network Rail Operating Rules, Procedures & Local Network Instructions, and/or the technical documentation held by the user Organisation.

Inspection and maintenance standards for all systems (except equipment for shunting by loco remote control and TEM equipment) are detailed in the following Network documents:

- STE Code
- Code Supplements
- SIN's
- Manufacturers manuals
- Communications instructions
- Communications Technical Information circulars

Inspection and maintenance regimes for TEM's and equipment for shunting by loco remote control are covered in the Mechanical Code (M2000) and supporting documentation.

KiwiRail is responsible for the design, installation, inspection, certification and maintenance of the following equipment;

- Train End Monitors
- Loco remote control shunting equipment.

KiwiRail has contract arrangements in place with Network for Network to carry out day to day inspection, certification and maintenance of the following equipment;

- all on-board train control radios fitted to Locomotive and other KiwiRail self propelled vehicles
- radios used for shunting and other local rail operation radio communications equipment owned by KiwiRail.

KiwiRail will arrange all other maintenance, replacement and renewals work outside the scope of this maintenance agreement.

## 5.8 Electric Traction Systems

Two systems are provided as follows:

- 1600v DC system in the Wellington metropolitan area extending as far as Paraparaumu, Johnsonville, Melling and Upper Hutt for passenger Electric Multiple Unit (EMU) operation.
- 25kV AC system on the NIMT between Palmerston North and Hamilton for locomotive hauled freight and passenger train operation.

The traction overhead, substations and system controls (including any that encroaches on land owned by KiwiRail) are owned, inspected and maintained by Network to standards and procedures referenced in their Rail Safety System Manual.

KiwiRail are responsible for the inspection and maintenance of Rail Vehicle on-board electric traction equipment.

Specific Electrical Awareness training and certification requirements apply for rail personnel who work in either electrified area.

## 5.9 Yard and Station Platform Lighting

Key design, inspection and maintenance standards are detailed in the following documents:

- Network STE Code
- Network STE Code Supplements
- Network Lighting design guidelines

Responsibilities for the provision and maintenance of lighting are generally divided as follows;

### Network

- Yard lighting of Track on the Controlled Network (including yard arrival/departure roads), and also yard and siding tracks owned by Network
- Station platform lighting on lines where KiwiRail do not operate passenger trains
- Maintenance of designated terminal and siding area lighting owned by KiwiRail, and provided for the night-time safety of shunting and other train operations

### KiwiRail

- Provision of Yard lighting on KiwiRail owned yard and siding tracks
- Maintenance of terminal and siding area lighting not carried out by Network
- Station platform lighting when a station is used as a stop for the operation of KiwiRail Passenger services, with the exception of the Auckland Metro Area.

Special arrangements apply for the Auckland metro area (Pukekohe to Waitakere inclusive).

NZRC Corporate advises on all land demarcations and building / structure asset ownership where any demarcations need to be resolved.

## 6. MECHANICAL ENGINEERING

### 6.1 Rolling Stock Fleet

The service status of KiwiRail and most Network rail vehicles (locomotives, wagons and other rail based equipment) at any given time on the National Rail System is managed through KiwiRail's asset management system (currently Amicus) and codified inspection regimes detailed in the KiwiRail Mechanical Code M2000. The Amicus information management system is shared on a restricted basis with Network and lists weights, lengths, volume/capacity, height, maximum allowable speed and other characteristics for freight vehicles.

Approximate numbers of rail service vehicles in use (as at April 2006) are as follows (all are KiwiRail owned):

- 161 main line diesel electric locomotives
- 17 main line 25kV AC electric locomotives
- 68 diesel electric shunting locomotives
- 19 small shunting locomotives (TR class)
- 21D and 16DM English Electric 1600v DC electric multiple unit cars
- 44 GANZ 1600v DC electric multiple unit 2-carriage sets
- 3 diesel electric railcars
- 634 passenger carriages
- 3198 wagons (freight)
- 40 service wagons

A small number of rail vehicles in use at any time may be on lease from other parties.

### 6.2 Design, Construction, Inspection and Maintenance

Standards and procedures for the design, construction, inspection and maintenance are detailed in the following KiwiRail documents:

- Mechanical Code (M2000)
- Mechanical Engineering Design Manual (M3000)
- Wheelset manual (M6000)
- Supplements and supporting documentation (M9000 series)
- Manufacturers manuals and other associated documentation
- Field Modification Instructions (FMI's) and SIN's

Relevant interoperability requirements are specified in document National Rail System Standard / 6 - Engineering Interoperability.

### 6.3 Locomotives and Other Self Propelled Vehicles

Locomotive loads over any section of line are specified on the "Locomotive Load Schedules" maintained by KiwiRail Linehaul Planning in-conjunction with Network.

Instructions for the use of safety devices and the provision of emergency equipment are detailed in the KiwiRail - Rail Operating Code and Network - Rail Operating Rules, Procedures and Local Network Instructions.

Minimum requirements for the provision of safety items (headlights, ditch lights, horns) are detailed in National Rail System Standard / 6 - Engineering Interoperability further supported by the Network - Rail Operating Rules, Procedures & Local Network Instructions.

## 6.4 Passenger Cars

Refer to section 6.2 (Design, Construction, Inspection and Maintenance) for design, construction, inspection and maintenance. Layout and equipment arrangements are detailed in drawings held by KiwiRail Mechanical Services.

Network Rail Operating Rules, Procedures & Local Network Instructions and KiwiRail Rail Operating Code detail operating instructions for special equipment and facilities.

Electrical safety requirements for 230/400 volt AC 50 Hz power supplies are detailed in National Rail System Standard / 6 - Engineering Interoperability and the Mechanical Code (M2000).

## 6.5 Freight and Service Wagons

Refer to section 6.2 (Design, Construction, Inspection and Maintenance) for design, construction, inspection and maintenance. Layout and equipment arrangements are detailed in drawings held by KiwiRail Mechanical Engineering.

Network Rail Operating Rules, Procedures & Local Network Instructions and KiwiRail Rail Operating Code detail operating instructions for special equipment and facilities.

## 6.6 Service Vehicles

Refer to section 6.2 for design, construction, inspection and maintenance. Layout and equipment arrangements are detailed in drawings held by Mechanical Engineering.

Network Rail Operating Rules, Procedures & Local Network Instructions and KiwiRail Rail Operating Code detail operating instructions for special equipment and facilities.

Service vehicles include the following:

- Network Wagons used for infrastructure maintenance and construction (e.g. ballast wagon)
- Network Rail cranes
- Network Infrastructure test vehicles (e.g. EM80, Radio Test Vehicle)
- Network Mobile plant with no road capability (e.g. Tampers)
- KiwiRail Mechanical Test Car
- KiwiRail Instrumented wagons with test loads
- KiwiRail Wagons used for mechanical maintenance (e.g. transport wheelsets, bogies, vehicle bodies and sand)

Specialist engineering equipment, e.g. Rail Cranes, may have additional instructions for use.

## 6.7 Heritage Vehicles

Where rail heritage vehicles owned by KiwiRail are leased to other parties, that party will normally be responsible for compliance with the Mechanical Code (M2000) and maintenance when running on the National Rail System, unless the lease agreement specifies that KiwiRail is otherwise responsible.

Maintenance and certification of KiwiRail owned rail vehicles operating on heritage sites not deemed to be part of the National Rail System, is not covered by this Safety Case.

## 7. AUDIT

Internal and external auditing to verify compliance effectiveness is carried out in accordance with National Rail System Standard / 9 – Audit. Additional audit rights and obligations are placed on the parties in the Common Access Terms forming a part of the relevant Access Agreement.

### Internal Audit

The Internal Audit Schedule (including any special audits) is managed by the Risk and Compliance Manager, KiwiRail *Freight*. This schedule includes auditing to ensure KiwiRail achieves and maintains compliance with the standards set internally and by *the* ACC partnership program.

Level 1 Corrective Actions are managed locally.

Level 2, 3 and Special Audit Corrective Actions *are* managed by the KiwiRail HSQE team.

### External Audit / Safety Assessments

The NZTA conducts a formal safety assessment of KiwiRail annually (*usually* during March). Corrective Actions Requests *are* generated and managed by the KiwiRail *Freight* HSQE team.

This is followed by a closure verification *assessment* (*usually* audit during the following September) to verify responses and effectiveness of corrective actions taken to rectify conditions that *were* raised during *the* annual safety assessment.

External Audit / Safety Assessment Corrective Actions *are* managed by the KiwiRail *Freight* HSQE team.

## 8. CRISIS MANAGEMENT PLAN

KiwiRail has developed a Crisis Management Plan in accordance with National Rail System Standard / 10 – Crisis Management. This plan forms a key element of the “Approved Rail Safety System” as described in Figure 1.

## 9. SUPPORTING DOCUMENTATION (Table 2)

Supporting documentation for the operational level of the Approved Rail Safety System is detailed further in Table 2.

TABLE 2

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger (on board)
Network - Rail Operating Rules, Procedures & Local Network Instructions (RORP)	Embodies the principles for the safe operation and working of the National Rail System.  Provides parameters for route, equipment, (including running rights & restrictions) communications, route specific emergency plans and Standard Operating Procedures for the Controlled Network.	Joint Technical Committee	Network	X			
KiwiRail - Rail Operating Code (ROC)	Provides detailed instructions for rail operations activities.  Provides parameters for rail sites, equipment, (including running rights & restrictions) communications, location specific emergency plans and Standard Operating Procedures for the KiwiRail <i>Operator</i> Controlled Territory.	Technical Committee	KiwiRail	X			
Bulletins	Modify RORP and ROC provisions.  Provide safe-working instructions for circumstances not otherwise provided for.	Network  KiwiRail	Network  KiwiRail	X			
Freight Handling Code	Provides detailed instructions for safe loading and security of freight.	Technical Committee	KiwiRail	X		X	

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger
Rail Operating Manual	Embodies Industrial Agreements with RMTU including rostering principles and voice / locomotive log recording procedures.	Joint KiwiRail & RMTU	KiwiRail	X			
Long Tunnel Emergency Plans (LTEP's)	Specific plans in detail support RORP arrangements for Otira and Rimutaka tunnels.	Technical Committee	Network	X			
Joint Operating Plans (JOP's)	Provide arrangements to ensure conflict is avoided at the interface between KiwiRail and Third Parties.	Joint Review	KiwiRail and other Third Parties	X			
Local Operating Procedures	Provide local arrangements for safe operations.	Internal	KiwiRail Managers	X			
Work Site Safety Plans	Provide local arrangements for Health and Safety.	Internal	KiwiRail (Operations) Managers	X	X	X	X
Training Standards and Specifications	Detail requirements for competency.	Internal	KiwiRail (WTC & HSQE)	X	X	X	X
Network Code (general) Track Code Structures Code Signals, Telecoms and Electrical, Traction Codes	Embodies the principles for the safe operation and working of the National Rail System.  Provides construction and maintenance standards.  Provides parameters for inspection and testing.	Technical Committee	Network		X		
Mechanical Code	Embodies the principles for the safe operation and working of equipment on the National Rail System.  Provides construction and maintenance standards.  Provides parameters for inspection and testing.	Technical Committee  consultation externally as required	KiwiRail			X	

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger
Significant Information Notices	Modify provisions in Engineering Codes. Provide Engineering safe-working instructions for circumstances not otherwise provided for.	Engineering Managers	KiwiRail (Engineering Managers)		X	X	
Memorandums	Provide authorisations for minor changes where there are no changes to risk profiles.	Engineering Managers	KiwiRail (Engineering Managers)		X	X	
Technical Folders	Detail specific information for technical understanding.	Engineering Managers	KiwiRail (Engineering Managers)		X	X	
Manufacturers Equipment Manuals	Provide specifications and working instructions.	Referred to Manufacturer	KiwiRail (Engineering Managers)		X	X	
Design Manual (Mechanical)	Describes the processes of design and construction.	Relevant party	KiwiRail (Engineering Managers)			X	
Forms Index	Register of forms.	Relevant party	Relevant party	X	X	X	
Mechanical Operations Manual	Describes general and depot procedures and records.	Internal	KiwiRail (Engineering Managers)			X	
Wheelset Manual	Consolidates codes and instructions on wheelsets, bearings and associated practices.	Technical Committee	KiwiRail (Engineering Managers)			X	
Code Supplements	Provides detailed instructions in support of core codes.	Technical Committee	KiwiRail (Engineering Managers)	X	X	X	
Construction Drawings	All approved numbered drawings issued.	Internal	Relevant party		X	X	

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger
Passenger Operations Manual	Describes general procedures.	Internal	KiwiRail Passenger (Operations Managers)				X
Train Attendants Manual	Provides specific instructions for onboard personnel.	Internal	KiwiRail Passenger (Operations Managers)				X

## APPENDICES

### Appendix A Key Rail Safety Responsibilities (KiwiRail Ltd)

Management Level	Rail Safety Responsibilities – (KiwiRail Ltd)
Board of Directors KiwiRail	<ul style="list-style-type: none"> <li>• Overview and monitoring the overall Rail Safety System performance, consistent with corporate governance and due diligence requirements.</li> </ul>
Chief Executive (CE) KiwiRail Group	<ul style="list-style-type: none"> <li>• Rail Safety System accountability to the Board of Directors</li> <li>• Direct responsibility for the provision of a safe working environment for employees, customers, contractors, suppliers and the community in relation to company activities.</li> <li>• Responsible for the protection and conservation of assets including plant and property in a commercially sustainable manner.</li> </ul>
Joint Rail Industry HSE Executive Committee	<ul style="list-style-type: none"> <li>• Executive HSE Committee made up of senior KiwiRail, Network, Veolia Transport, Rail Maritime Transport Union and KiwiRail's outsourced maintenance contractor representatives</li> <li>• The Chair and Secretariat are appointed for a six month term. The Committee are responsible for monitoring safety and environmental performance of Rail Participants on the NRS, consulting on and agreeing safety and environmental policy and facilitating corrective action. The responsibility for making technical, engineering and operational rules, codes and standards is devolved to Joint Technical Committees.</li> </ul>
General Manager HSE KiwiRail	<p>Direct accountability to the CE for;</p> <ul style="list-style-type: none"> <li>• Health, safety and environment assurance covering all of KiwiRail activities.</li> <li>• Developing KiwiRail safety and risk management policies and procedures and promoting safety awareness within KiwiRail.</li> <li>• Oversight of the Company's compliance with statutory safety requirements, <i>rail licencing, rail safety assessment, ACC partnership program accreditation</i> / audit and internal audit requirements.</li> <li>• Ensuring sufficient audits are carried out to validate compliance with the Rail Safety System.</li> <li>• Overview and co-ordination of accident/incident investigation process and follow-up as it affects KiwiRail activities.</li> <li>• Managing executive HSE Interface with regulators, Access Providers and other parties.</li> <li>• Co-ordinates the Executive HSE Committee under the Chairpersonship of the Chief Executive.</li> </ul>

Management Level	Rail Safety Responsibilities – (KiwiRail Ltd)
<p>General Manager Freight</p>	<p>Direct accountability to the CE for;</p> <ul style="list-style-type: none"> <li>• Developing and approving the general strategic framework and direction for KiwiRail's risk management systems for rail safety, security, environment, network resources and rail terminal infrastructure.</li> <li>• The oversight and management of rail safety, occupational health and safety and environmental matters for KiwiRail Freight.</li> <li>• Monitoring the implementation and management of passenger related commercial contracts for Auckland Metro Services their interface with the licenced rail system and interoperability requirements.</li> <li>• Monitoring the management of reviews and the implementation of recommendations coming out of the company's compliance with statutory safety requirements, <i>external safety assessment</i> and internal audit requirements.</li> </ul>
<p>General Manager Passenger</p>	<p>Direct accountability to the CE for;</p> <ul style="list-style-type: none"> <li>• Development, management and implementation of rail safety, occupational health and safety and environmental matters for KiwiRail Passenger.</li> <li>• Ensuring the appropriate development and implementation of the licenced rail operating system for passenger services.</li> <li>• Managing audit and review of KiwiRail's passenger operations including managing the implementation of recommendations coming out of the company's compliance with statutory safety requirements, <i>external safety assessment</i> and internal audit requirements.</li> <li>• Monitoring the implementation and management of passenger related commercial contracts for Tranz Metro and Tranz Scenic and their interface with the licenced rail system and interoperability requirements.</li> <li>• Developing capital plans for passenger workshops and depot maintenance, setting maintenance priorities within KiwiRail passenger workshops and depots and providing Passenger Group input into Network Group's asset renewal and maintenance plans.</li> </ul>

Management Level	Rail Safety Responsibilities – (KiwiRail Ltd)
<p>General Manager Mechanical Services, KiwiRail</p>	<p>Direct accountability to the CE for;</p> <ul style="list-style-type: none"> <li>• The oversight and management of rail safety, occupational health and safety and environmental matters for KiwiRail Mechanical.</li> <li>• Management and safety of KiwiRail’s mechanical engineering functions, including the locomotive and rolling stock fleet, relevant infrastructure, outsourcing arrangements, engineering expertise and overall strategy.</li> <li>• Monitoring the development, implementation and management of commercial contracts covering the locomotive and wagon fleet and rail infrastructure projects in the areas of design, acquisition, modification and maintenance.</li> <li>• Procedures and Committees to manage the development, change and implementation of engineering standards and associated documentation that apply to KiwiRail operations and ensuring that key HSE business and operational interfaces have been considered.</li> <li>• Review and closure of engineering recommendations coming out of the company’s compliance with statutory safety requirements, <i>external safety assessment</i> and internal audit requirements.</li> <li>• Development and implementation of strategic rolling stock asset renewal plans.</li> <li>• Oversight of project management plans for new rail assets (mechanical sphere).</li> <li>• Developing capital plans for mechanical workshops and depot maintenance, setting maintenance priorities within KiwiRail Mechanical workshops and depots and providing Mechanical Services Group input into Network Group’s asset renewal and maintenance plans.</li> </ul>

Management Level	Rail Safety Responsibilities – (KiwiRail Ltd)
<p>General Manager Operations, KiwiRail Freight</p>	<p>Direct accountability to the GM Freight for;</p> <ul style="list-style-type: none"> <li>• Management and implementation of rail safety, occupational health and safety and environmental matters for KiwiRail's rail freight operations.</li> <li>• Implementation of and operational compliance with rail operational standards, rules, codes and procedures including Locomotive Engineer rostering agreements.</li> <li>• Managing internal audit and review of KiwiRail operations including managing the implementation of recommendations coming out of the company's compliance with statutory safety requirements, <i>external safety assessment</i> and internal audit requirements.</li> <li>• Monitoring the implementation and management of commercial contracts and their interface with the licenced rail system and interoperability requirements.</li> <li>• Oversight of project management plans for new rail assets (terminals and sidings).</li> <li>• The contractual relationship between KiwiRail Freight and KiwiRail Networks.</li> <li>• Developing capital plans for freight terminal maintenance, setting maintenance priorities within KiwiRail Freight terminals and providing Freight Group input into Network Group's asset renewal and maintenance plans.</li> </ul>

Management Level	Rail Safety Responsibilities – (KiwiRail Ltd)
<p>National Manager, HSQE, KiwiRail Freight</p>	<p>Reports to General Manager Freight and is responsible and accountable for:</p> <ul style="list-style-type: none"> <li>• Developing and maintaining KiwiRail's licensed rail safety system.</li> <li>• Developing and implementing KiwiRail's rail safety risk management policy and the co-ordination of the KiwiRail input into the development of an annual safety management plan and risk register.</li> <li>• Responsible for rail safety policy, rail safety licencing, and co-ordinating all licencing variation applications.</li> <li>• Ensuring the appropriate development and implementation of the licenced rail operating system including the setting and review of rail operational standards and procedures in the areas of train operations, dangerous goods management and train crewing.</li> <li>• KiwiRail's compliance to DoL (OH&amp;S) and environmental legislative obligations inclusive of licencing and <i>occurrence</i> reporting requirements.</li> <li>• Facilitating KiwiRail compliance with rail statutory safety requirements, <i>external safety assessment</i> and internal audit requirements.</li> <li>• Co-ordination of the occurrence investigation process and follow-up as it affects KiwiRail activities for Level 1 investigations.</li> <li>• Interface with regulators, access providers and other parties on rail safety issues.</li> <li>• Facilitates KiwiRail involvement in HSE Executive and provides guidance and assistance to KiwiRail operations and site HS Action Teams.</li> </ul>
<p>Line Managers</p>	<ul style="list-style-type: none"> <li>• Responsible for management and co-ordination of KiwiRail operations within their area of accountability including communications, distribution and maintenance of safety and environment policy, employee rostering, terminal and/or depot safety documentation systems, and assisting in employee competency development and assessment.</li> </ul>
<p>KiwiRail Industrial Council (KIC)  and  Health &amp; Safety Action Teams</p>	<ul style="list-style-type: none"> <li>• The Industrial Council reports to the GM Operations KiwiRail Freight or that position's nominated representative.</li> <li>• Site based HSE Action Teams report to Site Managers or that position's nominated representative.</li> <li>• The KIC and site based HSE Action Teams are responsible for monitoring and positively influencing safety and environment performance at their respective location and/ or for their functional employment groups. This responsibility includes raising general safety and environment awareness and working with management to identify potential site safety and environment hazards and recommending appropriate risk mitigation action measures in order to control all site and national safety and environmental risks.</li> </ul>

<b>Management Level</b>	<b>Rail Safety Responsibilities – (KiwiRail Ltd)</b>
All Rail Personnel	<ul style="list-style-type: none"><li>• Responsible for their own safety and that of other Rail Personnel, contractors, and visitors within their particular work environment.</li><li>• Responsible for the identification, reporting, and initial control of any safety and environment hazard identified within their area of responsibility.</li></ul> <p><b><i>Safety is the first priority of <u>all</u> Rail Personnel on the National Rail System.</i></b></p>

## Appendix B Technical Committees

### 1. Purpose

The purpose of the discipline specific committee is to primarily review and ratify;

- engineering policies, standards and principles
- ratify formal engineering documentation (see below).
- ratify use of new types of generic equipment and processes (where significant risk could be introduced if the introduction is not properly executed)
- where assigned, review failure and *occurrence* trends
- where assigned, review and ratify the recommendations from investigation reports into *occurrences* with a significant risk profile (e.g. signals wrongside failures, derailments, major bridge component failures, rolling stock chassis fatigue problems), and recommend further action where necessary.
- oversee discipline specific training and competency, and ratify competency levels of rail workers (where requirements are not adequately covered in standing documentation).
- oversee the quality of the engineering outputs.

### 2. Meeting Frequency

The committee should convene regularly to ensure continuity of healthy engineering risk review and management.

### 3. Quorum

Each committee will be responsible for establishing a quorum in conjunction with the discipline specific accountable manager, and confirming these arrangements in meeting minutes.

To ensure adequate representation the following guidelines apply;

- The KiwiRail discipline specific personnel are to be present.
- Discipline specific representatives (or suitable nominated deputising person) from major outsource maintenance providers to be present (when required for outsourced activities).
- Where necessary there must be a representative of the appropriate engineering discipline or area of speciality corresponding to the topics under discussion (e.g. bridging, traction, OHS).

### 4. Document Approval

The Technical Committee shall approve the following discipline specific documents before issue or reissue :-

- Codes
- Code Supplements/ supplements supporting codes
- Task Instructions
- Office Section Procedures/Design Manual
- Other designated instructions

The Technical Committee should also ratify Significant Information Notices (SINS) at the first meeting after their issue.

## 5. Standing Items

The following items should be considered standing topics for each meeting :-

- Previous Meeting Minutes
- Review failures and *occurrence* trends (where delegated)
- Review and ratify the recommendations from investigation reports (where delegated).
- Approval/Ratification of documentation tabled
- Other technical issues
- Review Outstanding items from previous minutes (where applicable).

## 6. Minutes

A record of each meeting shall be made, circulated to all attendees and other relevant people. An official hard copy is to be held on file so that it is readily retrievable at a later date if needed for evidence (e.g. for any external investigation by a government regulator).

An electronic copy should also be stored in an appropriate place on the organisation's computer storage system(s).

## Appendix C Safety Case - Significant Variation Criteria

Significant Variations are changes which could significantly increase KiwiRail's risk profile, or that are necessary in the interest of avoiding a significant risk of death or serious injury. KiwiRail will notify NZ Transport Agency of significant variations using the criteria herein.

### **Areas of Potential Significant Variations for the Purposes of this Rail Safety Case could arise in the following areas:**

- 1 Changes to organisation structures involving significant changes to staff safety or inspection responsibilities.
- 2 Network – New lines, major alterations to layouts, and abandoned lines.
- 3 Increased line operating speeds and axle loads over any part of the network.

### **Changes to operating procedures requiring significant changes to the Operating Codes when the change will increase the risk profile.**

- 4 Changes to signalling principles or safe working system procedures over any part of the Network (including work site protection)
- 5 Changes to safety critical inspection procedures – this includes track patrols, track inspection frequencies, bridge examination procedures and frequencies, structure inspections and traction overhead inspection.
- 6 Changes to safety critical code requirements for examination and maintenance frequencies of signalling equipment and rail service vehicles.
- 7 Alterations to Track Code standards with respect to material specifications, geometric shape, tolerances and installation procedures, etc.
- 8 Alterations to Bridge and Structure Code standards with respect to loadings, material specifications and clearances.
- 9 Introduction of new locomotives, electric and diesel units (including second hand) that require additions and/or changes to existing standards and/or operating procedures.
- 10 Introduction of new or substantially changed rolling stock (including second hand) that require additions and/or changes to existing standards and/or operating procedures.
- 11 Changes to interoperability agreements with other parties for running rights.

## Appendix D Rail Safety Statistics - Data Normalisation Criteria

### Performance Normalises

The following parameters are to be used for normalisation of rail safety statistics by KiwiRail and NZ Transport Agency.

Data will be provided to NZTA on request to enable NZTA to perform their own statistical analysis:

- Million passenger journeys per month:  
(Suburban and long distance)
- Total train kilometres per month
- Thousand employees
- Kilometres of mainline track
- Freight train gross and net tonne carried per month
- Freight train gross and net tonne kilometres per month

## Appendix E Key Maintenance Responsibility Interfaces between KiwiRail and Network affecting elements of the Rail Safety System

Key maintenance and engineering interfaces between KiwiRail and Network (where the specialised resource may not reside with the organisation owning the asset) are listed below. Each will be subject to a Service Level Agreement (SLA) on fair and reasonable terms that defines the scope of the work and also commercial and other conditions applicable.

KiwiRail responsibilities:

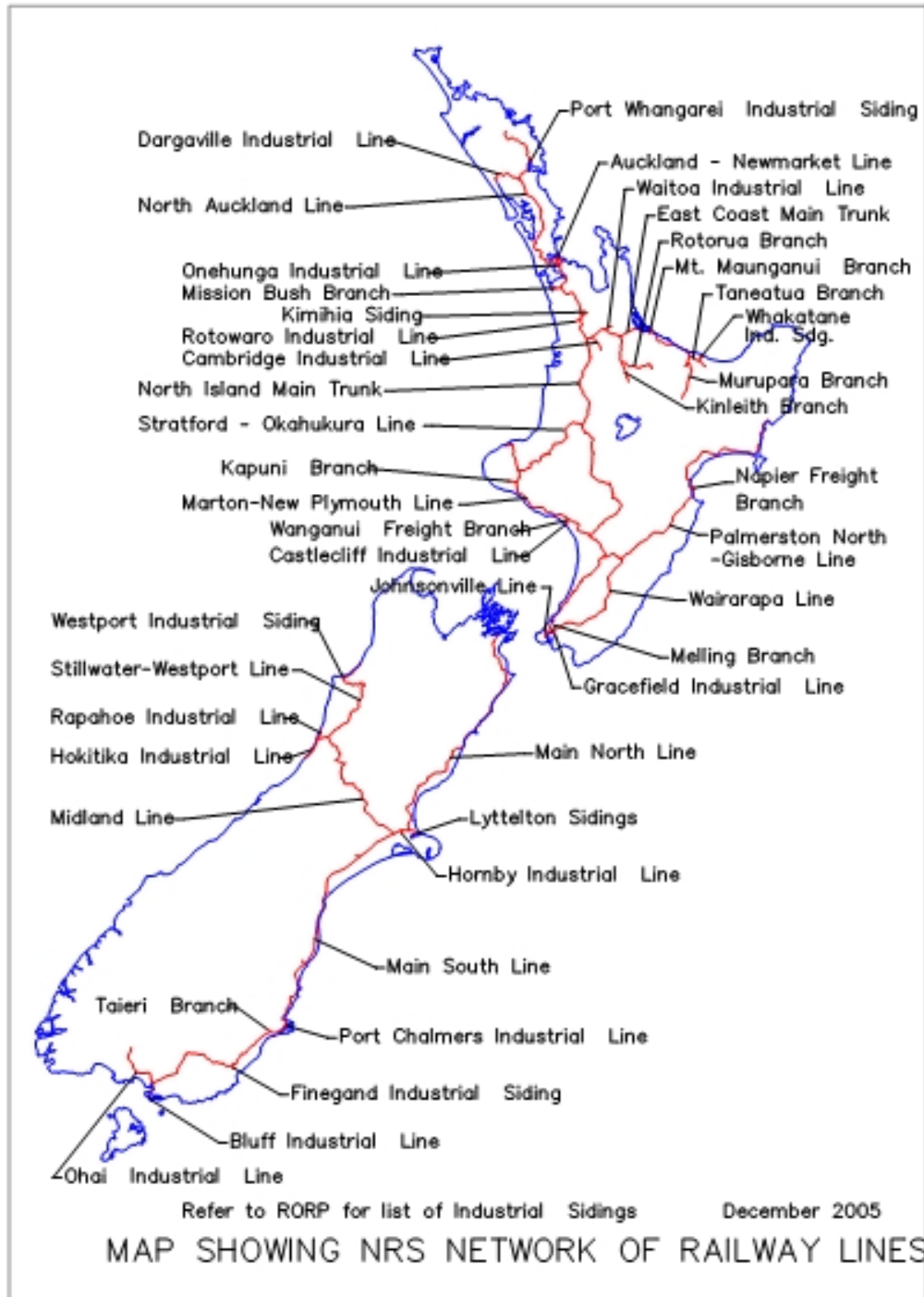
- Inspection, certification, operation and maintenance of designated Service Vehicles, controlled by Network, and also for the operation of work trains (refer clauses 4.6 and 6.6).
- Rules and Regulations training for Network, and its agents and contractors.
- Specialist engineering support for rail related components of Hi Rail vehicles, Mobile Track Maintenance Vehicles, and special plant on service vehicles.

Network is responsible for the inspection, certification and maintenance of:

- KiwiRail owned or managed track (refer clause 5.3).
- On-board train control radio fitted to Locomotive and other self-propelled vehicles including fit out but excluding hi-rail vehicles.
- Radios used for shunting and other local rail operation radio communications requirements.
- Designated terminal and siding area lighting provided for the night-time safety of shunting and other train operations.
- Designated shore power supplies (directly fed off their power reticulation system) provided for passenger carriages and any other RV's.
- Designated shunt alarm systems associated with rail operations on or adjacent to the Controlled Network.

These responsibilities may change from time to time. Any changes, including termination of SLAs, will be in writing with sign-off from both parties, with amendments made to this manual and notified to the NZ Transport Agency as required.

## Appendix F Map showing NRS network of Railway Lines



## Appendix G Compliance with Railways Act 2005 (cross reference)

The following table details cross-references between the Railways Act 2005 Section 30 and the KiwiRail Safety System.

Rlys Act Section 30 clause	Requirement on KiwiRail	SC References (by section)	SC Applicability
(1) (a)	Extent of KiwiRail rail activities and geographical location of those activities.	1.4	List of KiwiRail rail activities
		2.2	<ul style="list-style-type: none"> <li>Extent of the NRS explained</li> <li>NRS principal parameters listed</li> <li>List of principal rail operating parameters that specify operating, geographical and signalling facilities,</li> </ul>
		3.1	Organisational Scope and activities supported by <i>the</i> Safety Case.
		6.1	KiwiRail rail vehicle fleet details listed.
(1) (b)	KiwiRail's safety policy & objectives, and how policy and those objectives will be implemented.	2.8	Identification of relevant KiwiRail company polices, their intent and impact on Rail Safety.
		3.2	Management responsibility for implementation identified.
(1) (c)	Management & organisational arrangements KiwiRail will establish to promote safety of its rail activities	2.1	Fig 1 – Schematic of the <i>Rail</i> Safety System.
		3.1	Organisation scope explained.
		3.2	Management responsibilities explained.
		3.5	Personnel Assessment, Training and Competence explained.
(1) (d)	Management systems that KiwiRail has in place to– <ul style="list-style-type: none"> <li>Identify and assess safety risks arising from its rail activities</li> <li>develop &amp; implement safety risk control measures</li> </ul>	3.6.1, 3.6.2	Risk Management methodologies are explained including; <ul style="list-style-type: none"> <li>Identification and assessment of safety risks</li> <li>Development and implementation of control measures</li> <li>Use of multi-layered of risk registers and treatment plans</li> </ul>
(1) (e)	Safety risks arising from KiwiRail rail activities safety risk and details of the measures to be in place to mitigate those risks	3.6.1	<ul style="list-style-type: none"> <li>The Macro Risk Register lists the primary safety risks</li> <li>Micro risk registers and site hazard registers list detailed risks for specific assets and sites.</li> <li>The Principal Risk Register lists the top level safety risks</li> <li>Mitigation measures are either specified on risk registers and/or listed in treatment, action or project plans</li> <li>All risk registers are subject to ongoing development, updating and improvement.</li> </ul>
(1) (f)	Process for ensuring Interoperability arrangements between KiwiRail and other rail participants enhance rail safety.	1.3	KiwiRail and other Operators must be party to an Access Agreement with Network which covers a number of high level issues including; <ul style="list-style-type: none"> <li>legal, commercial and operating requirements</li> <li>dispute resolution</li> </ul>
		2.3.3	KiwiRail's compliance with National Rail System Standards NRSS/6 and NRSS/7.

Rlys Act Section 30 clause	Requirement on KiwiRail	SC References (by section)	SC Applicability
		4.1, 4.2	KiwiRail's compliance with the Network Rail Operating Rules, Procedures & Local Network Instructions, which are also applicable to all Rail Participants when operating and/or working on the Controlled Network (to ensure <u>all</u> Rail Participants interact to enhance rail safety).
		4.3, 4.4	Network Control of all trains and other rail vehicles on the Controlled Network.
		4.5	Interoperability between Operators explained, and demarcation requirements with the Controlled Network broadly identified
		4.6	Scope and Intent of Heritage Support Services including KiwiRail Rail Personnel volunteering for third parties specified.
		4.7	<ul style="list-style-type: none"> <li>• Identifies requirements for the contracting of Rail Personnel.</li> <li>• Hire / Lease of rail vehicles specified.</li> </ul>
		4.8	Hook and Tow defined for when more than one rail participant is involved.
		4.9	Particular procedures and requirements for shunting are listed.
		4.10	Particular procedures and requirements for Passenger safety on the NRS are listed.
		5.2, 5.3	Maintenance demarcation responsibilities are listed for Track owned and or managed by KiwiRail, including private sidings.
		5.4	Maintenance demarcation responsibilities are listed for bridges and structures.
		5.5	Maintenance demarcation responsibilities are listed for station platforms and access ways.
		5.7	Maintenance and certification responsibilities are listed for all onboard train control radio equipment, and those used for shunting and other local rail operations.
		5.9	Maintenance demarcation responsibilities are listed for yard and station platform lighting.
		6.1 - 6.7 inclusive	Requirements for the maintenance and certification requirements of vehicles.
		Appendix E	Summary of the key maintenance responsibility interfaces between KiwiRail and Network are listed.
(1) (g) (i)	Arrangements that are in place to ensure assets and equipment used, in safety terms, are fit for purpose	5.1, 5.4, 5.6, 5.7, 5.8, 5.9, 6.2	Lists the principal documents (codes, etc) applicable for specifying design, construction, maintenance and inspection standards for the following; track, bridges, structures (including tunnels and culverts), signalling, communications, electric traction, lighting and rail vehicles.
		7	Audit procedures to determine compliance.
(1) (g) (ii)	Arrangements that are in place to ensure that safety critical tasks and activities are clearly identified	3.2	Management responsibility identified.
		5.1, 5.4, 5.6, 5.7, 5.8, 6.2	Codes listed specify safety critical tasks.
		9	Summary of supporting documents for operational level of Rail Safety System.

Rlys Act Section 30 clause	Requirement on KiwiRail	SC References (by section)	SC Applicability	
(1) (g) (iii)	Arrangements that are in place to ensure that rail personnel carrying out safety-critical tasks and activities have received appropriate training and instruction	3.2	Requirement on senior management and Line Managers to ensure that staff met all organisational defined standards, procedures and statutory requirements affecting rail safety.	
		3.5	Personnel assessment, training and competence requirements identified.	
		7	Audit procedures to determine that standards have been met.	
(1) (g) (iv)	Arrangements that are in place to ensure that the competence of rail personnel carrying out safety-critical tasks and activities have been appropriately tested	3.2	Requirement on senior management and Line Managers to ensure that staff meet all organisational defined standards, procedures and statutory requirements affecting rail safety.	
		3.5	Personnel assessment, training and competence requirements identified.	
		7	Audit procedures to determine that standards have been met.	
		Appendix B	KiwiRail technical and operational committees to oversee engineering discipline specific training and competency, and ratify competency of Rail Personnel (where requirements are not adequately covered in standing documentation).	
(1) (g) (v)	Arrangements that are in place to ensure that work practices and procedures are fit for their purpose	2.4, 9	Rail operational and engineering work practices are defined in supporting documentation (rules, codes and procedures). Includes all inspection, testing and maintenance processes.	
		3.8	Occupational health and safety practice requirements are identified.	
		3.9	<ul style="list-style-type: none"> <li>Engineering and Operations work practices are reviewed and ratified by the KiwiRail technical committee process.</li> <li>Rail Operations procedures on the NRS (that affect KiwiRail Rail Personnel) are reviewed and ratified by the Joint Technical Committee – Rail Operations Rules and Procedures as specified in NRSS/2.</li> </ul>	
		7	Audit procedures to determine that practices and procedures are appropriate.	
		Appendix A	All rail personnel have responsibilities for ensuring rail safety. Approval for change to set and review standards and procedures is defined.	
(1) (h)	The arrangements for procuring and maintaining evidence to ensure to ensure that the measures and processes necessary for safety are working as intended, including (but not limited to)--			
	(i)	<ul style="list-style-type: none"> <li>the identification of key safety performance factors and measures (but not limited to) accidents and incidents</li> </ul>	3.10	Key safety performance indicators used are listed.
	(ii)	<ul style="list-style-type: none"> <li>the monitoring and recording of, and</li> </ul>	3.10	Key safety performance indicators are measured and reported to the Board of Directors on a monthly basis.

Rlys Act Section 30 clause	Requirement on KiwiRail	SC References (by section)	SC Applicability	
	reporting on (both internally and to the Director), the key performance factors and measures, including (but not limited to) accidents and incidents	3.7	Specifies obligations to notify NZTA of occurrences. Refers to NRSS/5 which details reporting responsibilities for rail participants and provides guidance on reporting responsibilities to NZTA.	
		2.3.3	NRSS / 5 Occurrence Management defines the requirements for notification and reporting to the NZTA.	
	(iii)	<ul style="list-style-type: none"> <li>the regular supervision, inspection, monitoring, and audit of the rail participant's safety case, safety system, and licence conditions</li> </ul>	3.2	Requirement on Senior Management and Line Managers to ensure that staff are appropriately supervised.
			7	Independent internal audit requirements to monitor compliance to the rail safety system.
			9	Standing inspection, test, monitoring and audit requirements are defined in supporting documentation (rules, codes and procedures).
			Appendix A	Requirement on the "General Manager, HSE, KiwiRail" to ensure that sufficient audits are carried out to validate the robustness of Rail Safety System activity.
	(iv)	<ul style="list-style-type: none"> <li>where required, the provision of evidence to the Director substantiating the matters in subparagraphs (i) to (iii)</li> </ul>	3.7	Requirement specified.
	(1) (i)	The process by which, in consultation with the Director, the frequency of ordinary safety assessments under section 37 must be agreed.	7	Process specified.
	(1) (j)	The arrangements for the rail participant to report to other relevant rail participants concerns about the state or performance of any rail vehicle, rail infrastructure, or railway premises that it considers have implications for the safe operation of the railway	1.3	Access Agreements provide for high level rights for both Network and Operators to report safety and performance issues, plus provide rights to Network to conduct safety reviews and inspections of Operators .
			3.1	Regional Managers responsible for liaison with Operators and other Rail Participants on local issues.
3.2			Designated senior managers provide relationship management with various Rail Participants.	
3.6.1			Communication of risks and treatment plans to affected Rail Participants.	
3.7			Reporting requirements for operational accidents and incidents.	
3.8			Reporting requirements for occupational safety and health.	
3.9			Inter-organisational technical committees (as specified in NRSS/2) provide a forum to discuss issues of concern affecting other Rail Participants that may impact on Rules and Standards.	
5.2, 5.3			Arrangements for Private Sidings.	

Rlys Act Section 30 clause	Requirement on KiwiRail	SC References (by section)	SC Applicability
(1) (k)	The policies in place to ensure that the rail participants rail personnel– (i) are fit for duty; and (ii) are not suffering impairment or incapacity as a result of fatigue, illness, medication, drugs, alcohol, or any other factor	2.8	Following policy documents are referenced; <ul style="list-style-type: none"> <li>• KiwiRail Health, Safety and Environment Policy</li> <li>• KiwiRail Alcohol and Drug Policy</li> <li>• Collective Agreements.</li> </ul>
(1) (l)	The arrangements for ensuring that safety is maintained or continually improved despite changes in circumstances that may affect KiwiRail, its Rail Personnel, or any person that uses KiwiRail's services, including (but not limited to)-		
(i)	<ul style="list-style-type: none"> <li>• the continuous review of KiwiRail's activities to identify potentially significant changes (both internal and external)</li> </ul>	3.6.1	Changes may be identified by one or more of the following means; <ul style="list-style-type: none"> <li>• the KiwiRail Operating &amp; Engineering Safety Standards Committee reviews significant incidents, and is part of KiwiRail's process to manage operational and engineering safety risks</li> <li>• health and safety incident investigations and routine safety observations</li> <li>• discipline specific safety management reviews</li> <li>• project risk reviews</li> <li>• reviews of the Principal Risk Register by the KiwiRail Executive and Board to confirm the prioritisation of the risks.</li> </ul>
		3.7	Outcome of an incident investigation may identify the need for a significant change.
		7	Audit activity may identify the need for a significant change.

	(ii)	<ul style="list-style-type: none"> <li>the review and revision of KiwiRail's rail safety case and rail safety system, as a whole and in its various parts, to ensure that its rail safety case and rail safety system continue to be the most appropriate.</li> </ul> <p><i>(Note – See Section 3 above for review and revision of this document).</i></p>	1.5	Periodic review, changes and updates to the SC will be the responsibility of the “National Manager HSQE, KiwiRail Freight” or delegated person.
			2.6	Responsibility for control and management of the documentation associated with the Rail Safety System is with the person nominated as the “National Manager HSQE, KiwiRail Freight” or their nominated representative.
			3.9	<ul style="list-style-type: none"> <li>Technical, safety and operational committees have role to review various discipline specific parts of the safety system.</li> <li>The KiwiRail Safety Standards Committee has a reviewing role for any RSC changes and updates.</li> </ul> <p>Changes affecting any NRSS documents which will be binding on KiwiRail's Rail Safety System are dealt with through the Joint Technical Committee process referenced in NRSS / 2.</p>
			3.11	Change management requirements identified.
	(iii)	<ul style="list-style-type: none"> <li>the identification of the areas of significant risk and the plans that are in place, or being developed to reduce those risks</li> </ul>	3.6.2	Principal safety risks identified by KiwiRail's risk management processes, are detailed in the Principal Risk Register, including existing control measures and proposes treatments to mitigate each risk.
(1) (m)		The arrangements for ensuring KiwiRail consults any representative of Rail Personnel (including but not limited to, unions) with respect to the development and variation to safety systems that affect, or are likely to affect, Rail Personnel	3.12	Change consultation requirements with representatives of Rail Personnel identified.
(1) (n)		Any other matters that may be prescribed by the rules or that the Director considers appropriate in the interests of safety	3.13	Requirements specified.