


RAIL SAFETY SYSTEM MANUAL

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1. INTRODUCTION AND GENERAL

1.1 Scope

This Manual is the principal document defining ONTRACK's Rail Safety System which is designed to meet the requirements set out in the relevant legislation. -.

The Rail Safety System Manual (RSSM) is an annexed document to ONTRACK's Safety Case document.

1.2 Definitions and Abbreviations Applicable to this Document

1.2.1 Definitions and Explanations

- ONTRACK is the trading name for New Zealand Railways Corporation (abbreviated NZRC)
- Toll NZ means Toll NZ Consolidated Ltd.
- Toll Rail is the rail operating and engineering division of Toll NZ Consolidated Ltd.
- Land Transport NZ has now taken over the functions of the Land Transport Safety Authority (LTSA)
- **"Rail Safety License"** means a license issued by the Director Land Transport NZ under the provisions of section 17 of the Railways Act 2005.

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

1.2.2 Abbreviations

The following abbreviations are used throughout this document:

- LTSA – Land Transport Safety Authority (used in Appendix C only in a historical context)
- HSE – Health, Safety and Environment
- HSE Act – Health & Safety in Employment Act 1992
- RSV – Rail Service Vehicle (old definition used in Appendix C only and now means "Rail Vehicle")
- NRSS – National Rail System Standard
- RORP – Rail Operating Rules and Procedures
- ROC – Rail Operating Code
- RSSM – Rail Safety System Manual

1.3 Access Agreements

Access Agreements and agreements that allow one Operator to operate under another Operator's licence provide a legal and commercial framework, including dispute resolution, to allow Operator's access to the National Rail System. *The Access Agreements reference the "Common Access Terms" which are two separate legal agreements, one covering the Auckland network and the other the rest of the national network.*

Access agreements detail procedures for dealing with:

- Timetabling and access
- Network delays
- Access to codes
- ONTRACK's rights to undertake rail vehicle inspections
- Network safety
- Commercial risk sharing
- Disputes resolution.

To the extent of any inconsistency between any Access Agreement and this Manual, for the purposes of this this Manual and ONTRACK's safety case, this Manual will prevail PROVIDED THAT it is noted that, notwithstanding this clause, it is the intention of the parties that any legal liability of one party to another arising under any Access Agreement shall subsist and remain enforceable on its terms.

Refer also to section 4.5, Interoperability *between Operators*.

1.4 Rail Activities

ONTRACK is responsible for:

- controlling the operation of Rail Vehicles on the Controlled Network, and
- maintaining Track that it owns which, for the avoidance of doubt, is on the Controlled Network and some parts of Operator Controlled Territory.
- Inspection, *certification* and maintenance of Toll NZ owned Track under contract with Toll NZ
- *Inspection, certification and maintenance of private sidings and other private Track by agreement with the owners.*
- additional inspections in accordance with the Access Agreement

Toll NZ is the primary Operator using the National Rail System. It has three principal operating divisions:

- Toll Rail (primarily responsible for rail freight activity)
- Toll Tranz Link (primarily responsible for freight forwarding, but may also have involvement with rail activity in terminals and sidings)
- Passenger services (Tranz Metro Wellington and Tranz Scenic including charter services to other parties)

Other Operators may interface with ONTRACK and Toll Rail including (without limit):

- *Veolia Transport Auckland – formerly Connex* (the Operator of the Auckland metro passenger services between Pukekohe and Waitakere)
- Taieri Gorge Railway (routine operations between Sawyers Bay and end of the Taieri Branch)
- Heritage Operators.

1.5 Changes to This Manual

Periodic review, changes and updates to this manual will be the responsibility of “the Risk and Safety Manager”. The Chief Executive must approve any amendments (or assign authority for approval). Any significant changes in accordance with the criteria specified in Appendix C will then be submitted to the Land Transport NZ as a change variation notification of the Approved Rail Safety System. Where necessary ONTRACK's Safety Case document must also be updated and any changes will then be submitted to the Land Transport NZ as a change variation notification in accordance with the requirements of the Railways Act 2005.

Any planned changes to the manual should take into account the need for other affected parties to alter and or update their rail safety *case and rail safety system documentation*. However this does not require ONTRACK to obtain an affected party's consent to any changes that ONTRACK proposes to make to this manual.

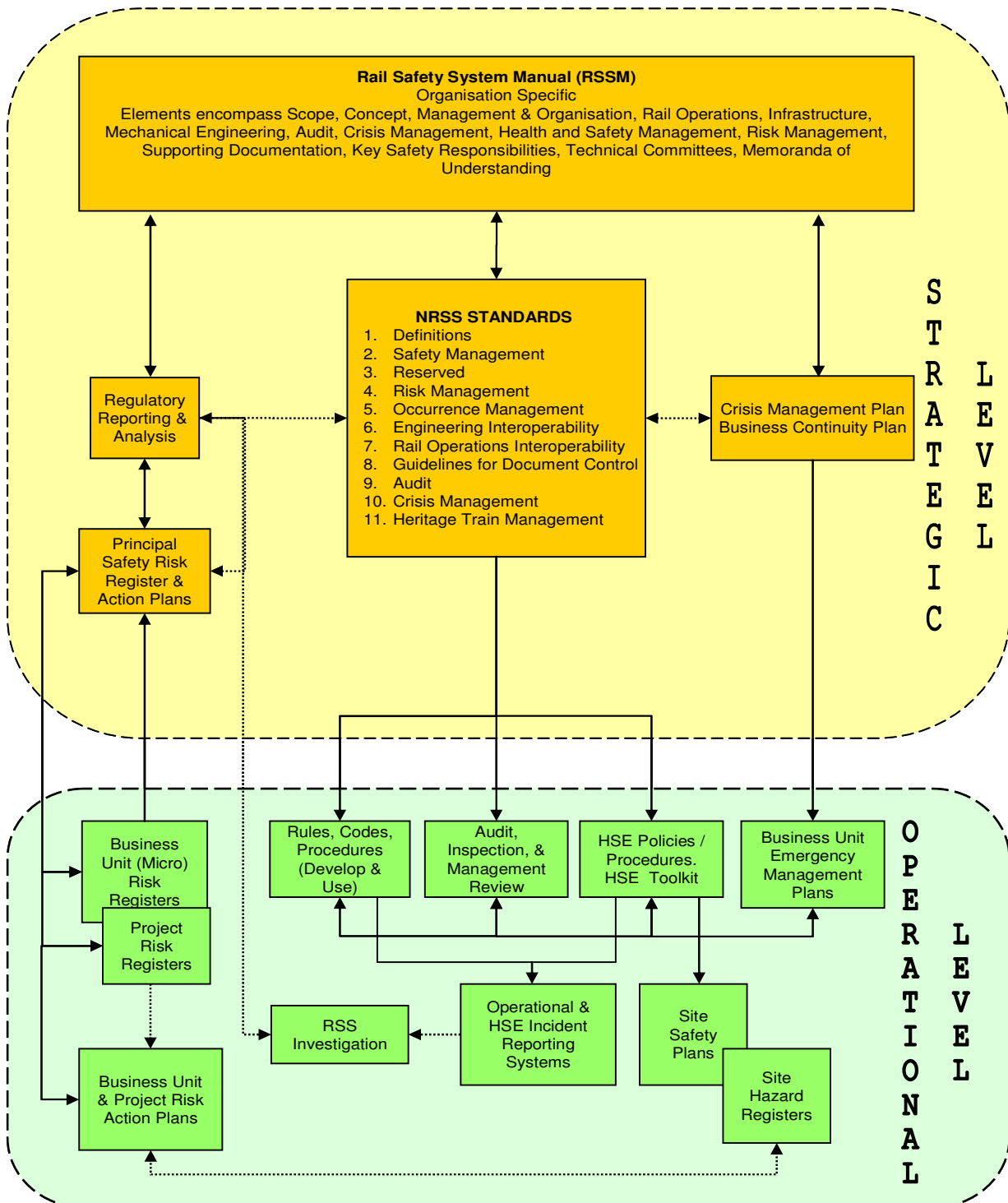
2. RAIL SAFETY SYSTEM

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 system elements, are illustrated in Figure 1.

FIGURE 1

APPROVED RAIL SAFETY SYSTEM



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 ONTRACK. 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.

The Rail Operating Rules and Procedures provides further parameters including;

- a list of the lines comprising the network
- stations and specific location features

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

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 section 5) 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 (ONTRACK document T:200)
- Rail vehicles equipped with train radios compatible with the National Rail System train control radio system.

2.3 National Rail System Standards

2.3.1 Objective

The objective of National Rail System Standards is to provide a generic framework for the management of the critical elements within ONTRACK's Rail Safety System and Operator's Rail Safety System. National Rail System Standards are designed to meet the requirements set out in the relevant legislation and Land Transport Safety Authority document "Rail Safety Licensing and ~~Audit~~ Safety Assessment Guidelines" (shortly to be reissued by Land Transport NZ to align with the new Railways Act 2005).

National Rail System Standards should be read in conjunction with this Rail Safety System Manual 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 ONTRACK's Rail 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*

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 “Approved Rail Safety System” at the operational level (*refer figure 1*). 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 . 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 relating to rail safety are detailed in Appendix A.

Responsibility for control and management of the documentation associated with the Rail Safety System *lies as specified in Appendix A.*

Appendix C details obligations to notify Land Transport NZ of any significant variations to ONTRACK's 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 *for documentation control.*

The following documents may be electronically posted in 'read only' format on ONTRACK's information systems network;

- this Manual
- National Rail System Standards (these will be publicly available on the ONTRACK internet site)
- selected supporting documents where not issued in paper form
- list of supporting documents applicable to ONTRACK's Rail Safety System including *revision* status.

When electronically posted, they will normally not be issued directly as paper based formal controlled documents.

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

- Rail Operating Rules and Procedures,
- S&I Diagrams
- Rail Operating Code**
- Working Timetable
- Bulletins*
- Engineering Codes, Code Supplements, Task Instructions, Significant Information Notices, Supplements to Code.
- Standard, site specific and special drawings.

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

***Issued by Toll Rail*

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

All copies of electronic documents when printed, are classed as "uncontrolled copies". Note that some documents formally issued as paper copies will also be available as electronic copies in a suitable "read only" format.

2.8 Safety Policies and Objectives

ONTRACK's "Statement of Corporate Intent" provides a broad overview of company objectives and development priorities. Safety is recognised within the framework of this document, and by the specific statement "ONTRACK will provide a sustainable, efficient and effective rail network that is safe - ."

ONTRACK's Corporate Policy Manual details high level policies approved by the Board of Directors that are applicable organisation wide. Specific Safety policies applicable are listed as follows:

- Alcohol and Drug Policy
- ONTRACK Risk Management Policy
- ONTRACK Health, Safety and Environment Policy
- ONTRACK Employee Wellbeing Policy

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

The ONTRACK and ONTRACK Infrastructure Ltd Collective Employment Agreements (both signed up with the Rail and Maritime Transport Union) also promote an employment policy of a healthy and safe workplace.

3. ORGANISATION AND MANAGEMENT

3.1 Organisation Scope

ONTRACK manages the rail network with in-house resources, supplemented by consultants and contractors as required.

The organisation is split up into key sections as follows;

- Network Control (train control, signalbox control)
- Codes, Standards and Authorities (rail operations)
- Engineering (including standards, investigations, design and commissioning)
- Projects (scoping, development and implementation of major works)
- Infrastructure maintenance and renewals *regions* (covering track, structures, signals, traction, radio systems and selected components of the telecommunications systems, some general electrical systems, and track machinery plant).
- Risk and Safety (including Rail Regulator liaison, HSE Co-ordination)
- Rail corridor land management
- Logistics and Production (including stores, procurement, *minor plant* and mechanised plant operation / maintenance and renewals)

The country is split into three regions (Northern, Central and Southern) with managers responsible for infrastructure maintenance and renewals, compliance assurance, assistance with project work, as well as liaison with Operators *and other Rail Participants* on local issues. *Regional Managers* are the designated liaison person with territorial authorities and other parties affecting ONTRACK's local interests.

The Corporate office covers legal, finance, IT, human resources, *property*, communications and public policy issues.

Infrastructure maintenance and renewals work is carried out by a wholly owned ONTRACK subsidiary company "ONTRACK Infrastructure Ltd" with a board consisting of ONTRACK executive management. The Management structure for ONTRACK Infrastructure Ltd is fully integrated into ONTRACK.

Applicable organisation charts are *published internally*.

3.2 Management Responsibility

Key ONTRACK Rail Safety System management 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.

All managers, particularly line managers, have a responsibility to ensure that all work carried out by their work teams meets all defined ONTRACK Rail Safety System standards, procedures and statutory requirements affecting rail safety.

Areas of rail safety responsibility for individual managers and key personnel, including responsibilities for safety, are defined in position descriptions, and/or as specifically assigned by ~~a~~ *the discipline specific Officer/Engineer as listed in Appendix A. Areas of responsibility (including safety obligations)*

for general personnel will be either specified in individual position descriptions or generic position descriptions.

Managers are responsible for ensuring that, within their work group(s), there is complete assigned coverage of all necessary safety aspects *related to that group*, and that ~~it is~~ *safety responsibilities are* clearly defined across all the position descriptions for ~~their work~~ *that group(s)*.

ONTRACK has position descriptions for key roles that align with the responsibilities detailed in Appendix A. In addition specific technical reporting lines for the engineering elements of the organisation apply and are detailed in the relevant charts held on the ONTRACK IT LAN system *ONTRACK also has assigned specific senior managers to provide relationship management with various Rail Participants and other relevant parties (eg. regulators and central government agencies).*

3.3 Operational Systems Plan

The Operational Systems Plan (OSP) is the complete documentation framework containing all of the procedures, instructions and forms which primarily relates to ONTRACK Infrastructure Ltd's business. For the core business of service management the OSP covers:

- *Work/Service Order Generation*
- *Planning, Scheduling, Resourcing*
- *Workpack Preparation*
- *Work Execution & Inspection*
- *Workpack Completion*
- *Subcontractor management*
- *Incident and non-compliance reporting*

In addition the OSP contains documentation on a range of support functions including:

- *Internal audit & workplace inspections*
- *Health, safety and the Environment*
- *Continuous Improvement*
- *Documentation and Records Control*
- *Reporting, Review and Analysis*
- *Finance and Administration*
- *People Management and Payroll*
- *Risk Management*
- *Business Development*
- *Information Technology*

3.3.4 Contractors

ONTRACK makes use of various agents and contractors (including consultants) to assist in rail engineering and rail operational work.

- ONTRACK has contracted Toll NZ, who has subcontracted *United Group Rail*, to carry out selected Rail Vehicle maintenance and overhaul, and also some rebuild work. *United Group Rail* works under the Toll NZ approved Rail Safety Licence.

The Access Agreement between ONTRACK and Toll NZ 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.

3-43.5 Personnel Assessment, Training and Competence

ONTRACK 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 *ongoing* recertification requirements are specified in the Rail Operating *Rules and Regulations* 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 discipline specific *Officers/Engineers listed in Appendix A*) 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 discipline *Officers/Engineers listed in Appendix A*. The assignment of engineering responsibility will be either by position description, or individual assignment by the discipline specific *Officers/Engineers listed in Appendix A*, 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

3-53.6 Risk Management

3.6.1 Risk Management Systems

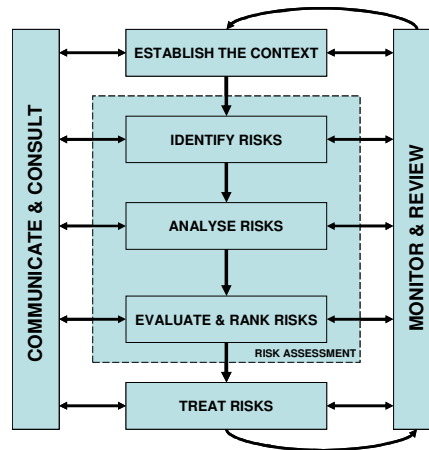
ONTRACK acknowledges that there are risks in all facets of its business and is committed to the management of those risks. This commitment is articulated in ONTRACK's Risk Management Policy. The aims of ONTRACK's risk management processes are:

- To protect the wellbeing of personnel
- To enhance its safety reputation
- To improve planning, performance and effectiveness
- To ensure fewer surprises by avoiding adverse events
- To improve decision making

For the management of its safety risks ONTRACK utilises processes which conform to NRSS/ 4. These processes are also aligned with the Australian New Zealand Standard AS/NZS 4360:2004 – Risk Management.

ONTRACK's risk management process comprises the traditional steps of:

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



The analysis of risks can be achieved using a number of methodologies. These are generally categorised as qualitative or quantitative. ONTRACK 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. ONTRACK generally uses qualitative risk analysis techniques for the initial screening of risks and for specific project risk assessments.

Rating	1	2	3	4	5
Media/Reputation	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
Financial Damage	<\$10,000	\$10,000 to \$100,000	\$100,000 to \$1 million	\$1million to \$10 million	>\$10 million
Safety	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

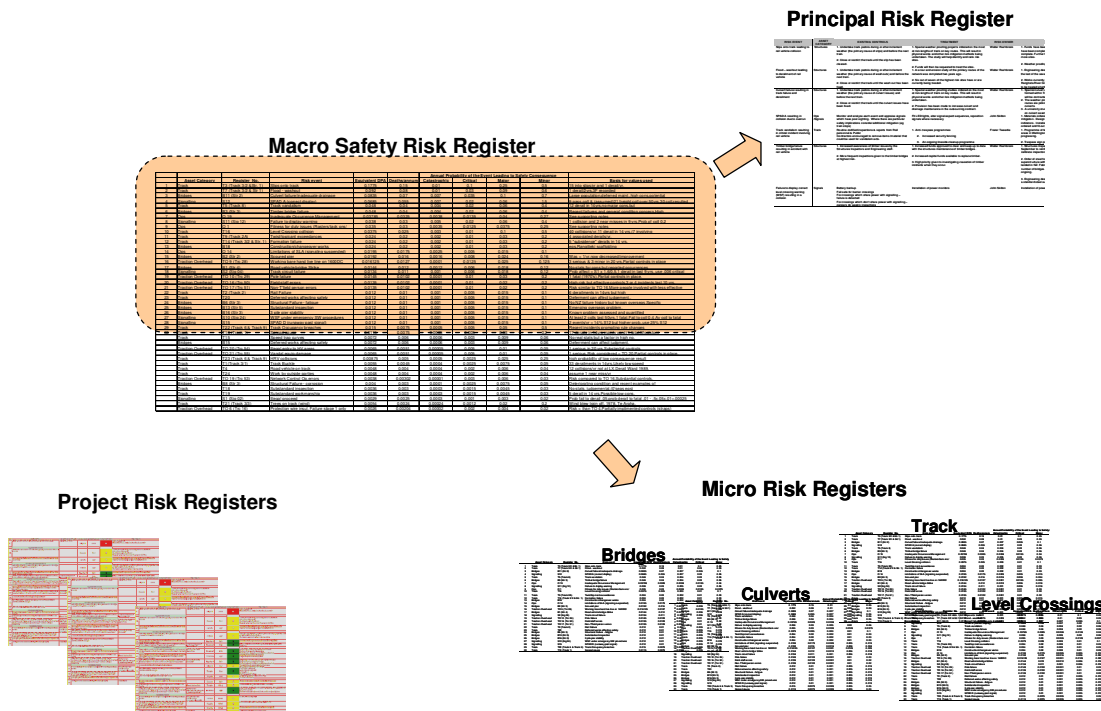
		CONSEQUENCE				
		Negligible	Minor	Major	Critical	Catastrophic
LIKELIHOOD	Improbable	1	2	3	4	5
	Remote	2	4	6	8	10
	Occasional	3	6	9	12	15
	Probable	4	8	12	16	20
	Frequent	5	10	15	20	25

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. ONTRACK’s macro safety risk register uses DPA, based on previous incidents, to categorise and prioritise the principal safety risks.

Probabilistic Analysis – This is a subset of quantitative risk analysis where there is uncertainty associated with the risk to be analysed. Uncertain elements of the risk are represented as a probability distribution and analysed using a simulation model. ONTRACK uses the “@Risk” risk analysis software to undertake its probabilistic risk assessment. The output of this type of analysis is a probability distribution demonstrating the realistically likely range of outcomes to expect and/or the risk of exceeding targets in that range. Since the probabilistic approach is a more complex form of risk analysis, it is used for special quantitative assessment projects only where modelling of the risk is required. Probabilistic techniques are particularly useful for analysing the cost risks associated with projects.

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 output of ONTRACK’s risk management processes is a multi-layer of risk registers ranging from the top level Principal Risk Register, reported monthly to the Board of Directors, down to individual project risk registers. This can be represented as follows:



The primary safety risk register is the Macro Risk Register. This register is a prioritised listing of ONTRACK's safety risks described at a macro level (eg wooden bridge failure, 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 ONTRACK'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 media and public safety perspective. The Principal Risk Register forms the basis of reporting to ONTRACK's Safety and Compliance Board Sub-Committee and the ONTRACK Board. Risks on the Principal Risk Register are allocated owners who are responsible for the development and management of intervention strategies. The ONTRACK Operations Management Committee reviews the Principal Risk Register at the (normally) quarterly operations meetings to confirm the prioritisation of the risks (based on recent incident history) and identify new risks for inclusion in the register. The Principal Risk Register is also reviewed by the Risk, Safety and Compliance Council.

Lying below the Macro Risk register sit a number of micro risk registers varying in detail and content. Examples of such registers include the priority lists for level crossings, bridges and track upgrades, all of which have been derived on a risk assessment basis.

Every major project undertaken by ONTRACK includes an assessment of risks, and in particular the safety risks. Examples of project risk assessments carried out in 2005 include the North Auckland Double Line and the Connex (Veolia Transport) additional services projects. 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 ONTRACK's processes place a strong emphasis on the management of risk. The recording of rail incidents and management of corrective actions through the Incident Recording and Investigations System (IRIS), and the weekly safety meetings to review these incidents, or form part of ONTRACK's process to manage operational safety risks. At the job site level, the Job Assessment and Job Analysis processes ensure that site and task specific hazards are identified and the risks mitigated. In addition, the conduct of health and safety incident investigations and routine safety observations are all designed to minimise the risks to ONTRACK's personnel working on the rail corridor.

The processes for risk management used by ONTRACK are described in a number of documents including:

- National Rail Safety Standard 4 – Risk Management
- SAA/SNZ HB 436:2004 Risk Management Guidelines
- ONTRACK Risk Management Procedure
- ONTRACK Infrastructure Limited documents, including:
 - Risk Management Procedure
 - Risk Assessment Worksheet
 - Risk Action Plan Template
- ONTRACK Excel electronic risk register template

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 ONTRACK'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. speed restrictions), engineering solutions (eg asset upgrades or refurbishments), process changes (eg more frequent inspections, shift roster changes etc) or the introduction of new technologies (eg GPS positioning on Rail Vehicles). A number of these strategies are undertaken in collaboration with Operators amounting to a sharing of the risk exposure.

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

- The context of the risk management is understood by all involved
- Stakeholders are engaged at all appropriate levels
- A simple approach to the problem is adopted where possible
- Sound common sense is 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 ONTRACK's culture.

ONTRACK sees the management of risk as a process which is ongoing and fluid within the organisation. A safety risk culture is firmly established within ONTRACK and is progressively being reinforced among its contractor workforce.

The discipline specific Officers/Engineers 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

The principal safety risks identified by ONTRACK's risk management processes are detailed in the Principal Risk Register which is periodically updated. The register includes existing control measures and proposed treatments to mitigate each risk. The register is focussed at a macro level noting that the micro risk registers (eg level crossings, bridges, etc) change regularly as individual asset risks are addressed or new ones arise. Nevertheless the register indicates the focus of ONTRACK's risk management activity.

3-63.7 Management of *Operational* Accidents and Incidents

The management of *operational* accidents and incidents is covered by the following *documentation*;

- National Rail System Standard / 5 - Occurrence Management
- *Operational Systems Plan*
- Health, Safety and Environment policies
- Rail Operating Rules and Procedures
- Rail Operating Code

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 ONTRACK, Toll NZ or another Operator)

Appendix D details obligations to notify Land Transport NZ of Occurrences. NRSS/5 details reporting responsibilities for the Access Provider (ONTRACK) and Operators and provides guidance on reporting responsibilities to Land Transport NZ. *In addition ONTRACK is obligated to provide Land Transport NZ when requested, information relating to evidence gathered to ensure that the measures and processes necessary for safety are working (section 30(1)(h) of the Railways Act 2005 refers).*

Major occurrences, including those which cause wide spread disruption to train services, may trigger the implementation of the National Rail System Crisis Management Plan or ONTRACK's Crisis Management Plan (refer *NRSS / 10*).

ONTRACK has a software system for the day to day management of incidents and *the* actions arising from them. The Incident Recording and Investigations System (IRIS), manages each incident from initial notification through to *final resolution and* close off. IRIS records all information relating to an incident, generates notifications to *affected Rail Participants and other* interested parties (such as Land Transport NZ), manages actions arising from the incident and produces a variety of reports for management overview. IRIS also manages actions arising from independent investigations and audits (both internal and external). IRIS is fully compliant with the requirements of NRSS 5 – Occurrence Management and NRSS 9 – Audit.

3.73.8 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*
- High level ONTRACK policies covering;
 - *Health safety and environment*
 - *Employee well being*
 - *Drug and alcohol testing*
- *Procedures and processes applicable to ONTRACK, ONTRACK Infrastructure Ltd and contractor employees*
- *Rail Operating Rules and Procedures, Rail Operating Code, engineering codes and document Q022 - Medical Standards*
- The Health and Safety Toolkit (adopted from Tranz Rail).

These documents cover the following;

- Health and safety company policies and goals
- General health & safety rules (including protocols for site visitors, drugs and alcohol)
- The operation of safety committees and action teams
- *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*
- Accidents and incidents – investigation, reporting 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 wellbeing

ONTRACK has implemented an integrated Health & Safety, Human Resources and Payroll system (**PayGlobal**) for the recording and management of workplace incidents, accidents and *rehabilitation activities*. *PayGlobal will record and manage all reported HSE incidents under the following categories:*

- *Lost Time Injuries*
- *Medical Treatment Injuries*
- *First Aid Treatment*
- *Close Call (Near Miss)*
- *Restricted Work Injuries*
- *Report Only*

Environmental Incidents are recorded in IRIS.

ONTRACK maintains a register of common hazards applicable to the rail environment. 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. ONTRACK has online access to Material Safety Data Sheet (chemical hazard) information for ready distribution to its staff.

The Health and Safety in Employment Act 1992 details the requirements for the recording and notification of accidents. Specific requirements for the notification of operational accidents and serious harm injuries are detailed in NRSS / 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 ONTRACK health, safety and environment (HSE) committees are detailed in section 3.12.

3.83.9 Technical, Safety and Operational Committees

A structure of committees *within* ONTRACK as follows;

- Executive
- Technical
- National councils
- Regional /local committees (mainly comprising HSE committees)

Applicable inter-organisational committees are specified in *NRSS / 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 ONTRACK technical committees are as follows;

- Track Engineering
- Structures Engineering
- Signals Telecommunications Electrical
- Mechanical Engineering
- ONTRACK Operations Management Committee (also covers Infrastructure General, and other miscellaneous issues *requiring co-ordination, and also has a reviewing role for any RSSM and Safety Case document changes and updates*)

The following issues are handled by Joint Technical Committees referenced in *NRSS / 2*.

- Rail Operating Rules and Procedures
- Engineering Interoperability

National Councils, regional and local committees provide an interface forum for specific issues to be discussed between management and employees (*refer also to section 3.12*). A brief summary of the safety responsibilities of these groups for ONTRACK is provided in Appendix A. These councils and committees can refer technical problems through to the organisations designated *discipline specific Officers/Engineers listed in Appendix A* for further consideration and review for appropriate action.

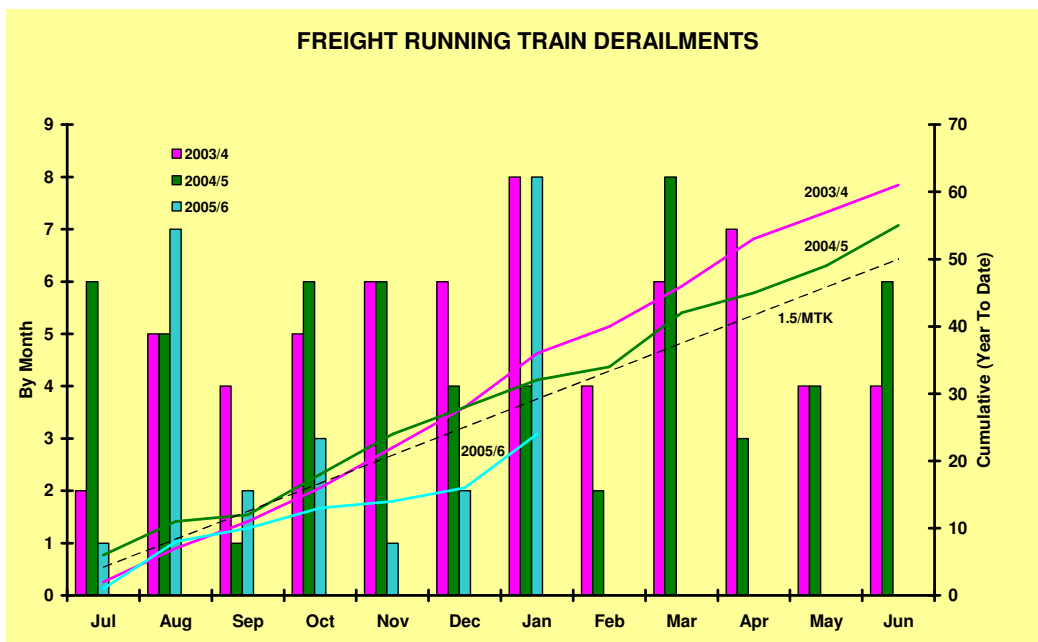
Where necessary discipline specific technical issues must be referred between *individual* Operators, *and between* Operators and ONTRACK to the appropriate discipline specific *Officers/Engineers listed in Appendix A*. Issues that may require a modification or change to NRSS/6 or NRSS/7 must be referred to the relevant Joint Technical Committee referenced in *NRSS / 2*.

3.10 Key Safety Performance Indicators

ONTRACK measures its business performance against a number of key performance indicators. For safety related areas, key performance indicators are measured and reported regularly to the Board of Directors. Safety statistics are normally presented in a graphical form showing:

- a. Incidents for the reporting month
- b. A cumulative total for the financial year
- c. Previous years' monthly and cumulative totals
- d. Performance target lines

An example of the form of presentation of safety key performance information is shown in the following figure.



ONTRACK's key safety performance measures are reported under four categories as follows:

Operational

- a. Incidents Reported - Risk Incidents (ie. level 1, 2 and 3 severity incidents), and Total Incidents (ie. all severity levels).
- b. Freight Running Train Derailments – Mainline derailments by line.
- c. SPAD A's – SPAD A statistics for the Controlled Network, and also separately for the Wellington and Auckland metro areas.
- d. Safe Working Irregularities – Occurrences where operational safe working practices are breached.

Engineering

- a. Heat Buckles – mainline heat buckle incidents
- b. Rail Failures – mainline rail failure incidents
- c. Line Blockages – mainline line blockages
- d. Wrong-side Failures – mainline signal and level crossing wrong-side failures

Public Safety

- a. Level Crossing Collisions – collisions at public level crossings
- b. Trespasser/Accidental Fatalities – fatalities on the rail corridor

Occupational Health & Safety

- a. Lost Time Injury Frequency Rate – The number of lost time injuries per 1,000,000 hours worked.
- b. Serious Injury Frequency Rate – The number of serious injuries (lost time injuries plus medical treatment injuries) per 1,000,000 hours worked.

3.11 Change Management

Changes to the organisation structure, personnel, rules, standards and procedures likely to significantly affect the risk profile of ONTRACK 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 Staff Representatives

ONTRACK has the following arrangements in place to ensure that staff representatives (including unions) are consulted where a change that will or is likely to affect its rail personnel is proposed to be made to ONTRACK's Rail Safety System. By way of example this will involve changes in such things as work practices and other rules and procedures comprising a part of the Rail Safety System where such changes will affect, or are likely to affect the safety and wellbeing of ONTRACK staff, including Rail Personnel. The union covering the vast majority of non-management staff (or other staff exempted from Collective Employment Agreement coverage) employed by ONTRACK or ONTRACK Infrastructure Ltd, is the Rail and Maritime Transport Union (RMTU).

Those consultation arrangements are:

- a. ONTRACK consults with the RMTU through:
 - An Industrial Council comprising RMTU and Management representatives- this is the normal mechanism whereby consultation on collective employment and industrial issues takes place between parties. Meeting frequency is 3 -4 times per year;
 - Health, Safety and Environment (HSE) committees- these committees are a primary means of consultation with staff representatives for occupational health, safety and 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 Agreements between ONTRACK, ONTRACK Infrastructure Ltd, 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. ONTRACK also has a policy of consulting with other Rail Participants (primarily Operators) 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 Rail Personnel, including unions, and pass back to ONTRACK any comments and recommendations.
- e. Where necessary ONTRACK will provide special briefings to staff as required, and these briefings will also cover staff not part of any Collective Employment Agreement.

HSE Committees

A tiered structure of HSE committees representing area and national interests, and also Toll NZ-ONTRACK railway industry interests, is in place as follows;

Area based HSE Action Teams

These are operative in each Area Manager's territory and include local RMTU representation. They are monitored by the Regional Health and Safety Co-Ordinators.

HSE Infrastructure Focus Group

This group provides an ONTRACK national infrastructure overview of HSE issues and comprises representatives from the following field work disciplines in addition to senior line management, safety management and RMTU representation;

- Track
- Structures
- Telecommunications
- Signals
- Traction

Joint Toll NZ/ONTRACK HSE Executive

This group provides a nationwide industry strategic overview of HSE issues. This committee, comprises representatives as follows;

- executive management from both ONTRACK and Toll NZ
- senior safety management from both ONTRACK, Toll NZ and Veolia
- Toll NZ's major maintenance provider
- RMTU national office.

Area and national HSE committees may raise technical issues that can be referred on to ONTRACK discipline specific management or a discipline specific Technical Committee, for further action and resolution.

Rail Safety, Technical and Operational Consultation

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

National Consultative Committee

The National Consultative Committee comprises representatives from the operational disciplines within the operations group affecting staff in the National Train Control Centre, Wellington, and regional signalboxes (refer to current ONTRACK Collective Employment Agreement). The purpose of the meetings is to identify issues of significant change and to recommend appropriate consultative processes in respect to each. Representation on the committee consists of three each from the RMTU and ONTRACK.

Signals Sighting Committees

These are convened when any new or changed signal positions are planned. The committee comprises one or more RMTU delegates representing affected Operators Rail Personnel (mainly rail vehicle drivers).

Working Parties

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

Variations to the Rail Safety System documentation

Consultation takes place when required with the RMTU National Office before any official variation is submitted to Land Transport NZ in accordance with the criteria listed in Appendix C. Preliminary consultation may also take place with relevant Rail Personnel, their representatives where appropriate, and other Rail Participants, during the development of any variations.

3.13 Other Obligations

On any other matters that may be prescribed by the rules, or that the Director Land Transport NZ 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), ONTRACK is obligated to;

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

3.93.14 Dangerous Goods

Rail haulage and rail handling requirements for dangerous goods are specified in the Rail Operating Rules and Procedures and *the* Rail Operating Code. Statutory requirements (e.g. Dangerous Goods Regulations) also apply for handling and storage. The Health, Safety and Environment Toolkit also provides some guidance on statutory requirements and procedures to apply.

4. RAIL OPERATIONS

4.1 Rail Operating Principles

The Rail Operating Rules and Procedures provide a comprehensive rules framework for safe railway operations by *all Rail Participants on the NRS* 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 and renewals, inspection and works activity)

Procedures for safe rail operation and working are also included.

4.2 Operating Limits

The *Rail Operating Rules and Procedures* specifies the following for each line:

- Maximum speeds
- Maximum lengths of trains
- Relevant loading gauge restrictions
- Permitted types of rail service vehicles
- Other running restrictions applicable *including any site specific speed and other restrictions.*

The *Toll Rail Freight Handling Code* specifies limits and methods for the loading of rail service vehicles to be used by Rail Personnel and customers. *NRSS / 6 - Engineering Interoperability* specifies the standard static gauge applicable to the National Rail System. Where loads exceed the standard static gauge, an over-gauge load permit system for the particular journey applies unless specially exempted by the *Rail Operating Rules and Procedures* for any particular line.

Loading capacity for individual rolling stock classes are detailed *on at least one of the following systems;*

- Toll NZ's computerised freight and train management system (currently Amicus) *through the ONTRACK interface "OMS" system*
- *Heritage Rolling Stock register managed by ONTRACK*

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

4.3 Train Control

Train Control systems in use are defined in the *Rail Operating Rules and Procedures* for each segment of the National Rail System.

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

Communication systems in use on the National Rail System (including radio) are specified in the *Rail Operating Rules and Procedures*.

Operational issues affecting level crossings are covered in the Rail Operating Rules and Procedures. Instructions for use of radio equipment are detailed in the "Radio Communications Handbook".

4.4 Scheduling of Train Movements

Timetabling of train movements will be done in accordance with the relevant Access Agreement and Common Access Terms forming part of the Access Agreement. Until further advised the process for complying with those agreements in respect to individual specific track occupancies required by ONTRACK will be as *described in this section*.

Track Occupancy is required to enable infrastructure maintenance and renewals to take place on track that is under traffic and on blocked track according to established engineering rules.

There are three types of track occupancy:

- Major Track Occupancy - planned at least 7 days in advance where possible
- Minor Track Occupancy – arranged at short notice (advised by 1500 hours the day prior)
- Emergency Track Occupancy – as required.

Major Track Occupancy being occupancy that:

- requires trains to be cancelled or rescheduled,
- is "planned" some time in advance, e.g. Wellington Metro BOL or concrete sleeper lays, or
- is "unplanned", e.g. extensive work required after a derailment or flood which cannot be economically executed under Minor Track Occupancies,

will be arranged by liaison between the Operator and ONTRACK staff using procedures agreed from time to time between the parties. The procedures in place at 10 June 2004 will continue until changed by agreement between the parties.

Note that an emergency track occupancy may be a major activity or minor activity depending on the nature of the incident.

ONTRACK will record the provision and use of Major Track Occupancy using a suitable spreadsheet including the following information:

1. Statement of the agreed service to be provided (including time and date of job start and finish, any special requirements)
2. Statement of the actual service provided (including time and date of job start and finish, compliance with any special requirements)
3. Reasons for any variation between agreed service and actual service provided

For the avoidance of doubt the Operator is not involved with scheduling for Minor Track Occupancies.

In respect to the Auckland Network (ie. all rail lines between Pukekohe and Swanson) and any part of the National Rail System where any other Operator is granted material access rights, timetabling will be subject to the approval of the Timetabling Committee in accordance with the relevant Common Access Terms forming a part of the Access Agreement.

For the avoidance of doubt the provisions in this *section* shall be read subject to:

- the provisions of the relevant Access Agreement and the Common Access Terms forming a part of the Access Agreement; and
- any service levels agreed between the parties.

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. Specific requirements are detailed in document *NRSS / 7 - Rail Operations Interoperability*.

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

Operations 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 *Rail Operating Rules and Procedures*, 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 *Rail Operating Rules and Procedures* or in a site specific Joint Operating Plan.

The Rail Operating Code may also specify specific requirements for *all* Operators and reference any relevant Joint Operating Plans.

4.6 Maintenance Vehicle Operations

The following *Rail Vehicles owned and/or managed by ONTRACK* currently operate under the ONTRACK approved Rail Safety Licence;

- Mobile Track Maintenance Vehicles (see *section 4.8* below for “hook and pull” responsibilities as a part of a Toll Rail *or other Operators* train)
- Rail Vehicles classed as “Service Vehicles” (refer *section 6.6*) owned or leased by ONTRACK (see below for “hook and pull” responsibilities as a part of a Toll Rail train)
- Hi-rail vehicles
- Trolleys and Material Trolleys (as defined in the *Rail Operating Rules and Procedures*)

4.7 Heritage and Other Operations

NRSS /11 details specific requirements for the management and operation of heritage train services. The referenced Heritage Operations Manual details processes that are not otherwise covered in the Rail Operating Code.

The “rail operations” component of specific Heritage Operators services may operate under ONTRACK’s Rail Safety Licence where a specific variation is approved by Land Transport NZ. (Note that each variation will be subject to specific documented requirements which may amend *sections* of this manual for the particular operation).

Where specified in their licence, the following may operate under an Operator’s approved Rail Safety Licence on the Controlled Network, and other Track owned by ONTRACK;

- *Heritage Rail Vehicles (including those owned by the Operator and leased to other parties).*
- *Non- heritage Rail Vehicles owned or leased by other parties.*

Commercial access arrangements are defined in Access Agreements. Refer also to NRSSs /6 and /7 for other requirements.

4.8 Hook and Pull

For hook and pull of ONTRACK Rail Vehicles by an Operator (*which involves more than one licence holder*), the following arrangements apply;

- The Operator is responsible for the physical operation of the train consist, which may from time to time include Rail Vehicles from other Operators ~~and~~ *as well as those from ONTRACK.*
- *Each licence holder including ONTRACK, remains responsible for the physical condition of their vehicles (as owner and controller) when they are a part of the Operators train consist.*

4.74.9 Shunting

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

The safe working of trains in terminals and sidings, and the exchange of Rail 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.

4.84.10 Passenger Safety

The management of passengers and procedures to ensure their safety are detailed in the Operators "Passenger Operations Manuals", "Train Attendant Manuals" and other rail operating ~~code~~ documentation.

Safety procedures for train failures on the National Rail System including in tunnels are detailed in the *Rail Operating Rules and Procedures and Train Emergency Response Plans*. Specific plans have been developed for Otira and Rimutaka tunnel, which are controlled by ONTRACK.

Requirements for passenger safety management in heritage excursions are specified in *NRSS / 7 - Rail Operations Interoperability and NRSS /11 – Heritage Train Management, including the requirements for Passenger Management Plans for each trip or series of trips.*

4.94.11 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 ONTRACK. 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 *NRSS / 7 - Rail Operations Interoperability.*

Issued instructions covers procedures for entry into a rail operating site or rail terminal.

5. INFRASTRUCTURE

5.1 Track and Formation

The Track Code, *Code Supplements*, *SIN's*, *Task Instructions* 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 conditions are found.*

Where necessary, special engineering designs apply.

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

The Controlled Network and all other Track owned by ONTRACK is inspected by ONTRACK. Where agreed with Operators and private siding owners, ONTRACK will inspect Track owned by those parties.

The following key track features are listed in the infrastructure asset database on a line by line segment basis with reference to line kilometrage;

- *rail type and condition*
- *sleeper type and condition*
- *turnouts,*
- *track geometry (curves, gradients, cant)*
- *bridges and culverts*
- *tunnels*
- *level crossings*
- *station platforms*
- *signals and notice boards*

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 agreement between the owner and Toll NZ, or owner and ONTRACK (see section 5.3 below).

5.3 *Inspection and Maintenance of Track Not Owned by ONTRACK*

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

- all Toll NZ track on Retained Land (ie. track owned by Toll NZ)
- any other track where agreed by the parties (including private sidings and ports)
- Interfaces with track owned by other parties.

Where ONTRACK is responsible for the inspection and certification of track only (and not maintenance), it will;

- *place rail operating restrictions on portions of the siding track, or close portions or all the siding track, when the track conditions dictate*
- *re-inspect and re-certify the track portions subject to remedial repair work, and cancel the imposed rail operating restrictions as appropriate.*

Toll NZ is responsible for ensuring appropriate maintenance and replacement is carried out on the following Track;

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

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

5.4 Bridges and Structures

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

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

This documentation also provides guidance on actions to be taken if defective structural conditions are found in any particular asset item.

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 ONTRACK for the assessment of “overgauge load permit” requests.

Bridges and structures (including tunnels and culverts) are listed on the Infrastructure database with details of type, size, construction detail, and inspection records.

5.5 Station Platforms and Access Ways

ONTRACK is 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.*

Corporate Property’s “Asset and Corridor Land Manager” hold a schedule of maintenance responsibilities, and provides advice where any demarcations need to be resolved.

Refer to section 5.4 for applicable maintenance and inspection standards.

5.55.6 Signalling System

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

Standards and procedures for signalling and level crossing alarms design, construction, installation, testing and commissioning, maintenance, inspection, alterations, records, drawings and staff competencies are detailed in the following documents:

- Signals Telecommunications Electrical (STE) Code
- Code Supplements
- Task Instructions
- Training manuals
- Manufacturers manuals
- Significant Information Notices (SIN's)
- Engineering Office section manuals
- Other supporting documentation
- *Infrastructure Engineering Handbook*

This documentation also details actions to be taken if signalling equipment and systems are found to be defective and/or operating incorrectly.

Additional requirements for level crossings including the provision of alarms are covered in General Code Supplement G 417. *The Manual of Traffic Signs and Markings (MOTSAM) published by Land Transport NZ lists the standards for level crossing signage and markings.*

5.65.7 Communication Systems

ONTRACK provides a Train Control radio system with almost full coverage of the National Rail System for communication with Train Control.

Other radio frequencies are provided for:

- Shunting (ASP channels used by Operators)
- Other station, yard and movement control (channels 45, 46 as well as channel 1)
- Rail corridor maintenance and selected movement control (channel 5)
- Remote control shunting (loco controls)
- Train End Monitors (TEM's)

The scope, operation and use of the systems are detailed in the Rail Operating Rules and Procedures 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 documents:

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

Train Control trackside telephones are provided in a few specific locations. Tunnel phones provided in lieu of Train Control radio systems are inspected and tested as detailed by the STE Code.

Toll NZ is responsible for the *design, installation*, inspection, certification and maintenance of the following equipment;

- Train End Monitors
- Loco remote control shunting equipment

ONTRACK has contract arrangements in place with Toll NZ to carry out inspection, certification and maintenance of the following equipment;

- all on-board train control radios fitted to Locomotive and other Toll NZ self propelled *Rail Vehicles*
- *all on-board train control radios fitted to self propelled Rail Vehicles operated by Veolia and maintained by Toll*
- radios used for shunting and other local rail operation radio communications equipment owned by Toll NZ

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

5.75.8 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.

Construction and maintenance standards and procedures including isolation, earthing and safety standards are covered in the following documents:

- Traction Code
- Code Supplements
- Task Instructions
- Manufacturers manuals
- Drawings

Supervisory control of each system is located as follows:

- Wellington National Train Control Centre (NTCC) for the 1600v DC system
- Palmerston North Traction Control room for the 25kV AC system

An emergency system trip out facility for the 25kV AC system is provided in the NTCC.

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

The traction overhead, substations and system controls (including any that encroaches on land owned by Toll NZ) are owned, inspected and maintained by ONTRACK.

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

5.9 Yard and Station Platform Lighting

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

- *STE Code*
- *STE Code Supplements*
- *Lighting design guidelines*

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

ONTRACK

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

Toll NZ

- Provision of Yard lighting on Toll owned yard and siding tracks
- Maintenance of terminal and siding area lighting not carried out by ONTRACK
- Station platform lighting on lines where Toll NZ operate passenger trains, with the exception of the Auckland Metro Area.

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

Corporate Property's "Asset and Corridor Land Manager" provides advice where any demarcations need to be ascertained or resolved.

6. MECHANICAL ENGINEERING

6.1 Rolling Stock Fleet

The service status of most Operators Rail Vehicles (locomotives, wagons and other rail based equipment) at any given time on the National Rail System is currently managed through Toll NZ's asset management system (currently Amicus) and codified inspection regimes detailed in Toll Rail's Mechanical Code M2000. The Amicus information management system is currently shared on a restricted basis with Toll NZ and ONTRACK, and lists weights, lengths, volume/capacity, height, maximum allowable speed and other characteristics for freight vehicles. It also lists speed restrictions and over-gauge permits. ONTRACK also use an Operations Management System (OMS) that provides train consist, enquiries and train performance updates.

The approximate numbers of ONTRACK owned Rail Vehicles in use on the National Rail System are as follows:

- 330 service wagons
- 160 Hi-Rail vehicles
- 2 heavy lift cranes
- 23 Mobile Track Maintenance Vehicles (MMTV's) including;
 - EM 80 track evaluation car
 - Ballast regulators
 - Ballast tampers
 - Flashbutt welding truck
 - Concrete sleeper layer
 - Self propelled low loader
 - Spot resleeper group wagons, tie crane and scarifier

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 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

These documents are currently controlled by Toll Rail.

Relevant interoperability requirements are specified in document *NRSS / 6 - Engineering Interoperability*.

6.3 Locomotives and Other Self Propelled Vehicles

Locomotive working loads over any section of line are specified on the "Locomotive Load Schedules" in *the* Rail Operating Code (or other relevant *Operators* instructions) with any special ONTRACK requirements listed or signposted in the *Rail Operating Rules and Procedures*.

Instructions for the use of safety devices and the provision of emergency equipment are detailed in the Rail Operating Code (or other relevant *Operators* instructions) with any special ONTRACK requirements listed or signposted in the *Rail Operating Rules and Procedures*.

Minimum requirements for the provision of safety items (headlights, ditch lights, horns) are detailed in *NRSS / 6 - Engineering Interoperability* further supported by the *Rail Operating Rules and Procedures*.

6.4 Passenger Cars

Instructions for the use of safety devices and the provision of emergency equipment are detailed in the Rail Operating Code (or other relevant *Operators* instructions) with any special ONTRACK requirements listed or signposted in the *Rail Operating Rules and Procedures*.

6.5 Freight and Service Wagons

Refer to section 6.2 (Design, Construction, Inspection and Maintenance) for design, construction, inspection and maintenance.

Operating instructions for special equipment and facilities, and instructions for the use of safety devices and the provision of emergency equipment, are detailed in the Rail Operating Code (or other relevant *Operators* instructions) with any special ONTRACK requirements listed or signposted in the *Rail Operating Rules and Procedures*.

6.6 Service Vehicles

Refer to section 6.2 for design, construction, inspection and maintenance.

The *Rail Operating Rules and Procedures* details or signposts operating instructions for ONTRACK special equipment and facilities.

Service vehicles owned by ONTRACK include the following:

- Wagons used for infrastructure maintenance and construction (e.g. ballast wagon)
- Rail cranes
- Infrastructure test vehicles (e.g. EM80, Radio Test Vehicle)
- Mobile plant with no road capability (e.g. Tampers)

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

6.7 Infrastructure Maintenance Vehicles

Design and construction requirements for Hi-rail vehicles and Mobile Track Maintenance Machinery to enable them to operate on rail must comply with the requirements of the ONTRACK manual OM 94001 "Hi-Rail Vehicles for use on the Controlled Network".

Hi-rail kits for each type of road vehicle are subject to individual design approval.

Vehicle inspection requirements are covered by the ONTRACK manual OM 94001, form Loco 155B and other supporting documentation.

Specific Mobile Track Maintenance Machinery is equipped with standard drawgear and Westinghouse air brake systems to enable them to be coupled into and operate in a freight train consist.

Procedures for operation on rail (including occupancy and the use of radio call signs) are covered in the Rail Operating Rules and Procedures and the Radio Communication handbook.

Hi-rail vehicles and Mobile Track Maintenance Machinery are primarily operated by ONTRACK or their contractors.

7. AUDIT

Internal and external auditing to verify compliance effectiveness is carried out in accordance with NRSS / 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.

Audit is the process by which ONTRACK compliance with the requirements of the Safety System Manual is confirmed on a regular basis. Audits are classified as External or Internal depending on their purpose and the agency conducting the audit.

External Audits

A requirement of the Railways Act 2005 section 37 is for ONTRACK to be subject to ordinary safety assessments. The processes involved and the frequency of audit are as negotiated by ONTRACK with Land Transport NZ.

Land Transport NZ is responsible for the conduct of the annual ordinary safety assessment, normally using a contracted audit agency. Telarc NZ Ltd has been selected to perform the external audit function. The external audit process (as agreed with Land Transport NZ) comprises:

- *The safety assessment usually conducted during the first quarter of the year*
- *A Closure Verification Audit conducted six months later.*

Planning for the annual safety assessment commences early in each calendar year involving representation from ONTRACK, Land Transport NZ, Telarc and the Rail and Maritime Transport Union.

The annual safety assessment normally results in a number of open audit conditions. Management of the closure of open conditions is managed through a module in the Incident Reporting and Investigation System (IRIS). This enables open conditions to be tasked against particular individuals and their closure tracked.

Internal Audits

Internal audits within ONTRACK are primarily undertaken at two levels, namely level 1 and level 2 as broadly defined in NRSS/9. Level 3 special "one off" audits are conducted on an as-required basis.

Level 1

A routine inspection of process, infrastructure and/or equipment, to ensure that it complies with codes, standards and procedures. Level 1 audits are carried out by field staff and managers on a scheduled basis. The criteria for compliance with ONTRACK's level 1 audit requirements is based on each discipline area completing a minimum number of audits within a specified calendar period, by mandatory Code inspection requirements, and additional inspection/audit programmes where appropriate, to obtain additional asset condition information.

The following table identifies the broad categories of Level 1 inspections/audits carried out by ONTRACK as per standing code requirements where appropriate.

Track	<ul style="list-style-type: none"> • km mainline • number of yards and sidings
Structures	<ul style="list-style-type: none"> • number of bridges • number of tunnels • km's of culverts and drainage • km's traction structures WEA • km's traction structures NIMTE • miscellaneous structures
Signals	<ul style="list-style-type: none"> • number of stations • number of block sections • km's Mid SLAS pole line • number of level crossing alarms • Other
Telecoms	<ul style="list-style-type: none"> • number of Loco radios • number of Hilltop repeaters • number of Tunnel systems • number of Trackside phones • Other
Traction	<ul style="list-style-type: none"> • number of substations WEA • number of substations NIMTE • number of section/subsection point NIMTE • km's of overhead WEA • km's overhead NIMTE
Electrical	<ul style="list-style-type: none"> • number of flood light towers • number of high voltage installations • other
Operations	<ul style="list-style-type: none"> • number of signal boxes • number of train control booths • random sample of track occupancy protection measures
Safety	<ul style="list-style-type: none"> • number of sites/depots – site safety inspections

Recording of Level 1 audits is by a variety of formats from inspection reports to more formal audit summaries. Level 1 audits are scheduled and managed within each region.

Level 2

An audit of process conducted by a suitably qualified auditor (refer NRSS/9). Level 2 audits are generally led by personnel independent of the area or discipline being audited, but will normally be

assisted by a technical adviser. ONTRACK's Quality Assurance Coordinator currently undertakes a number of process audits. This activity will be further enhanced over the next 12 months with a formal Level 2 audit schedule being developed across all disciplines. Recording of Level 2 audits will be accomplished through the IRIS Corrective and Preventative Action Request module. This module allows audit reports to be entered and open conditions (ie. CPARs) to be managed.

Level 3

ONTRACK undertakes a number of Level 3 special "one off" audits as required. They can cover the following;

- *internal assets*
- *internal processes*
- *associated external parties ie Rail Participants*

8. CRISIS MANAGEMENT & BUSINESS CONTINUITY PLAN

ONTRACK's Crisis Management Plans (document Q371) together with additional plans developed in conjunction with individual Operators (where appropriate) form a key element of the "Approved Rail Safety System" as described in Figure 1.

ONTRACK is developing a business continuity planning structure for all operating units within the business.

9. SUPPORTING DOCUMENTATION (Table 2)

Supporting ONTRACK documentation for the operational level of the approved Rail Safety System is detailed further in Table 2. *Items marked # - Requires ONTRACK input/review where ONTRACK asset or interface with the Controlled Network is affected.*

TABLE 2

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering/ Maintenance	Mechanical Engineering/ Maintenance	Passenger (on board)
<i>Rail Safety System Manual</i>	Scopes the Rail Safety System. Defines safety responsibilities, authorities, key processes and procedures.	Internal	ONTRACK	X	X	X	X
<i>Operational Systems Plan</i>	<i>Framework of policies, processes, procedures, instructions and forms, primarily for the day to day use of ONTRACK Infrastructure Ltd personnel.</i>	<i>Internal, Technical Committee as required</i>	ONTRACK		X	X	
Rail Operating Rules and Procedures (RORP)	Embodies the principles for the safe operation and working of the National Rail System, including any special ONTRACK requirements.	Joint Technical Committee	ONTRACK	X			
Rail Operating Code (ROC)	Provides detailed instructions for rail operations activities specific to Operators.	Internal/Joint review#	Toll NZ	X			
Working Timetable (WTT)	Provides train timetable information for specific services.	Internal	ONTRACK	X			
Bulletins	Modify RORP, and where necessary NRSS, ROC & WTT provisions. Provide safe-working instructions for circumstances not otherwise provided for. Toll NZ and other Operators may ask ONTRACK to issue <i>separate or joint</i> bulletins from time to time to modify <i>their</i> documents	ONTRACK Toll NZ (for Toll NZ documents)	ONTRACK <i>Toll NZ (for Toll NZ Bulletins)</i>	X			

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger
Freight Handling Code	Provides detailed instructions for safe loading and security of freight.	Technical Committee	Toll NZ	X		X	
Long Tunnel Emergency Plans (LTEP's)	Specific plans in detail support WTT arrangements for Otira and Rimutaka tunnels.	Joint Technical Committee	ONTRACK	X			
Joint Operating Plans (JOP's)	Provide arrangements to ensure conflict is avoided at the interface between Operators.	Joint Review#	Toll NZ and 3rd Parties	X			
Local Operating Procedures	Provide local arrangements for safe rail operations.	Internal #	Relevant party	X			
Work Site Safety Plans	Provide local arrangements for Health and Safety.	Internal	ONTRACK	X	X	X	X
Training Standards and Specifications	Detail requirements for competency.	Internal	ONTRACK	X	X	X	X
Network Code (general) Track Code Structures Code Signals, Telecoms and Electrical Code Traction Code	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	ONTRACK		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.	Internal - consultation externally as required	Toll NZ			X	
Significant Information Notices (SIN's)	Modify provisions set out in Engineering Codes. Provide Engineering safe-working instructions for circumstances not otherwise provided for.	Technical Committee	ONTRACK		X	X	

Supporting Document	Intent	Change Process	Document Controller	Activity			
				Operating	Infrastructure Engineering	Mechanical Engineering	Passenger
Memorandums	Provide authorisations for minor changes where there are no changes to risk profiles.	Relevant party	Relevant party in ONTRACK		X	X	
Technical Folders	Detail specific information for technical understanding.	Relevant party	Relevant party in ONTRACK		X	X	
Manufacturers Equipment Manuals	Provide specifications and working instructions.	Referred to Manufacturer	Relevant party in ONTRACK		X	X	
Design Manual (Mechanical)	Describes the processes of design and construction.	Relevant party	Relevant party in ONTRACK			X	
Forms Index	Register of forms.	Relevant party	Relevant party in ONTRACK	X	X	X	
Mechanical Operations Manual	Describes general and depot procedures and records.	Internal	Toll NZ			X	
Wheelset Manual	Consolidates codes and instructions on wheelsets, bearings and associated practices.	Internal	Toll NZ			X	
Code Supplements	Provides detailed instructions in support of core codes.	Technical Committee	Relevant party in ONTRACK	X	X	X	
Construction Drawings	All approved numbered drawings issued.	Internal	Relevant party in ONTRACK		X	X	
Heritage Operations Manual	Describes general procedures.	JTC – Heritage Operations	Relevant party in ONTRACK				X

Appendix A Key Rail Safety Responsibilities

Management Level	Rail Safety Responsibilities – (ONTRACK)
Board of Directors	<ul style="list-style-type: none"> • Overview and monitoring the overall Rail Safety System performance, consistent with corporate governance requirements.
Chief Executive	<ul style="list-style-type: none"> • Rail Safety System accountability to the Board of Directors • The oversight, monitoring and management of rail safety, occupational health and safety and environmental matters for ONTRACK. • <i>Oversight</i> to ensure appropriate and sustainable resources are provided for compliance with the Rail Safety System • Direct responsibility for the provision of a safe working environment for <i>all ONTRACK</i> employees, customers, contractors, suppliers, <i>other Rail Participants</i> and the community in relation to <i>all</i> company activities. • Ensuring the competency of the Chief Operating Officer for specifically allocated Rail Safety System responsibilities (as listed below).
Chief Operating Officer	<ul style="list-style-type: none"> • Rail Safety System accountability to the Chief Executive • <i>Direct responsibility for the</i> monitoring and management of rail safety, occupational health and safety and environmental matters for ONTRACK. • Direct responsibility to ensure appropriate and sustainable resources are provided for compliance with the Rail Safety System • Direct responsibility for the provision of a safe working environment for <i>all ONTRACK</i> employees, customers, contractors, suppliers, <i>visitors</i>, and the community in relation to company <i>rail operational activities</i>. • Monitoring the management of reviews and the implementation of recommendations arising from ONTRACK's compliance with statutory safety requirements, licensing audit requirements and internal audit requirements. • Ensuring the competency of <i>discipline specific</i> Chief Officers, Chief Engineers and the Mechanical Engineer specifically allocated Rail Safety System responsibilities (as listed below).
<p><i>Risk and Safety Manager</i></p> <p>(Chief Officer, Risk Assurance and HSE)</p>	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Safety assurance covering all ONTRACK activity • Ensuring that the Rail Safety System and supporting HSE policy is embedded into the ONTRACK organisation, including appropriate risk management • <i>Ensuring that the appropriate risk and safety training, standards, procedures and documentation, are in place</i> • Overview of the accident/incident investigation process and follow-up as it affects rail activity • Interface with regulators on Rail Safety System issues, ensuring that rail safety accreditation is maintained, developed and for executing all accreditation variance applications • Ensuring sufficient audits are carried out to validate <i>compliance with the</i> Rail Safety System. <p>Note: has dotted reporting line also to the Chief Executive for any safety concerns</p>

Management Level	Rail Safety Responsibilities – (ONTRACK)
Chief Officer, Rail Network Operations	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Ensuring that the appropriate rail network operating training, standards, procedures and documentation, are in place and are being complied with • Setting and reviewing rail network operational standards and procedures and ensuring effective interface and support with the RORP - Joint technical Committee • Ensuring that competent personnel are placed in positions of responsibility (and that the appropriate delegated authorities are in place) • <i>Ensuring that any Rail Safety System requirements affecting any contract operations Rail Personnel operating on the network on behalf of ONTRACK are in place</i> • <i>Ensures that the Network Operations Technical Committee functions adequately and that effective interface and support for interoperability issues is provided</i> • <i>Ensuring that discipline specific safety risks are being managed.</i> <p>Also ultimate signing authority on Rail Network Operations technical issues for Company</p>
Chief Civil Engineer	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Ensuring that the appropriate track and structures (and other relevant civil) engineering and maintenance training, standards, procedures and documentation, are in place and are being complied with • Setting and reviewing standards and procedures • Ensuring that competent personnel are placed in positions of responsibility (and that the appropriate delegated authorities are in place) • Ensuring that any Rail Safety System requirements affecting any design or maintenance contracts are in place • Ensures that the Track and Structures Technical Committee(s) functions adequately and that effective interface and support for interoperability issues is provided • <i>Ensuring that discipline specific safety risks are being managed.</i> <p>Also ultimate signing authority on civil engineering issues for Company.</p>
Chief Signals and Electrical Engineer	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Ensuring that the appropriate signals, electrical (including traction) and telecommunications engineering and maintenance training, standards, procedures and documentation, are in place and are being complied with • Setting and reviewing standards and procedures • Ensuring that competent personnel are placed in positions of responsibility (and that the appropriate delegated authorities are in place) • Ensuring that any Rail Safety System requirements affecting any design or maintenance contracts are in place. • Ensures that the STE Technical Committee functions adequately and that effective interface and support for interoperability issues is provided • <i>Ensuring that discipline specific safety risks are being managed.</i> <p>Also ultimate signing authority on STE engineering issues for Company.</p>

Management Level	Rail Safety Responsibilities – (ONTRACK)
Mechanical Engineer	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Ensuring that the appropriate rolling stock and plant mechanical engineering and maintenance training, standards, procedures and documentation, are in place and are being complied with • Setting and reviewing standards and procedures • Ensuring that competent personnel are placed in positions of responsibility (and that the appropriate delegated authorities are in place) • Ensuring that any Rail Safety System requirements affecting any design or maintenance contracts are in place. • Ensures that mechanical engineering issues are adequately addressed in the ONTRACK Operations Management Committee and that effective interface and support for interoperability issues is provided • <i>Ensuring that discipline specific safety risks are being managed.</i> <p>Also ultimate signing authority on mechanical engineering issues for Company.</p>
Regional Managers, Logistics & Production Manager	<p>Direct accountability to the Chief Operating Officer for;</p> <ul style="list-style-type: none"> • Ensuring Line Managers and staff meet all Organisation defined Rail Safety System standards, procedures and statutory requirements affecting rail safety.
Line Managers	<ul style="list-style-type: none"> • Responsible for ensuring that all work carried out by their work teams meets all Organization defined Rail Safety System standards, procedures and statutory requirements affecting rail safety.
All Rail Personnel	<ul style="list-style-type: none"> • Responsible for their own safety and that of other Rail Personnel, agents, contractors, and visitors within their particular work environment. • Responsible for the identification, reporting, and initial control of any safety and environment hazard identified within their area of responsibility. <p>Note - Safety is the first priority of <u>all</u> Rail Personnel on the National Rail System.</p>
Health , Safety & Environment Committees; Joint ONTRACK / Union councils	<ul style="list-style-type: none"> • The Committees / Councils are responsible for monitoring and positively influencing safety and environment performance at their respective locations. • 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 safety and environmental risks.

Appendix B ONTRACK Technical Committees

1. Purpose

The purpose of the discipline specific *technical* committees is to primarily review and ratify;

- Engineering/*operations* policies, standards and principles
- ratify formal engineering/*operations* 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 incident trends
- where assigned, review and ratify the recommendations from investigation reports into incidents 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 *Personnel* (where requirements are not adequately covered in standing documentation).
- oversee the quality of the engineering/*operations* outputs.

The Network Operations Technical Committee has a primary focus on over-viewing Train Control operating procedures, and Network Planning/Authorities procedures which are internal to ONTRACK. Any rail operating procedures requiring review or ratification that affect Operators, will be referred to the "Joint Technical Committee - Rail Operations Rules and Procedures" (see NRSS/2).

2. Meeting Frequency

Each 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 *Officer/Engineer listed in Appendix A*, and confirming these arrangements in meeting minutes.

To ensure adequate representation the following guidelines apply;

- Quorum of a minimum of four members for each meeting (either directly represented or remotely via a conference call)
- The discipline specific *Officer/Engineer as listed in Appendix A* (or suitable nominated deputising person) must be present.
- The senior discipline specific representative (or suitable nominated deputising person) from *any* major outsource maintenance providers to be present.
- Where necessary there must be a representative of the appropriate engineering/*operations* discipline or area of speciality corresponding to the topics under discussion (e.g. bridging, traction).

4. Document Approval

Each 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

Each Technical Committee should also ratify *any discipline specific* 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 incident 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 accepted and endorsed by the discipline specific *Officer/Engineer as listed in Appendix A* is to be held on a designated official 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 *ONTRACK's* computer storage system(s).

Appendix C Memorandum of Understanding between LTSA and Tranz Rail affecting Toll NZ and ONTRACK - Significant Variation Criteria

The following is an extract of APPENDIX 2 from the document dated March 2000 "Memorandum of Understanding between LTSA and Tranz Rail - Significant Variation Criteria". These requirements apply to ONTRACK and Toll NZ until superseded by new agreements with Land Transport NZ.

Significant Variations are changes which could significantly increase Tranz Rail's risk profile, or that are necessary in the interest of avoiding a significant risk of death or serious injury.

Areas of Potential Significant Variations for the Purposes of this Memorandum of Understanding could arise in the following areas:

- 1 *Changes to organisation structures involving significant changes to staff safety or inspection responsibilities.*
- 2 *Changes to external audit regime – appointment of new auditor(s), changed audit frequency and/or audit scope.*
- 3 *Network – New lines, major alterations to layouts, and abandoned lines.*
- 4 *Increased line operating speeds and axle loads over any part of the network.*
- 5 *Changes to operating procedures requiring significant changes to the Operating Codes.*
- 6 *Changes to signalling principles or safe working system procedures over any part of the Network (including work site protection)*
- 7 *Changes to safety critical inspection procedures – this includes track patrols, track inspection frequencies, bridge examination procedures and frequencies, structure inspections and traction overhead inspection.*
- 8 *Changes to safety critical code requirements for examination and maintenance frequencies of signalling equipment and rail service vehicles.*
- 9 *Alterations to Track Code standards with respect to material specifications, geometric shape, tolerances and installation procedures, etc.*
- 10 *Alterations to Bridge and Structure Code standards with respect to loadings, material specifications and clearances.*
- 11 *Introduction of new locomotives, electric and diesel units (including second hand) that require additions and/or changes to existing standards and/or operating procedures.*
- 12 *Introduction of new or substantially changed rolling stock (including second hand) that require additions and/or changes to existing standards and/or operating procedures.*
- 13 *Changes to interoperability agreements with other parties for running rights.*

Appendix D Memorandum of Understanding between LTSA and Tranz Rail affecting Toll NZ and ONTRACK – Occurrence Notification

The following is an extract of APPENDICES 1, 2 and 3 from the document dated April 1999 “Memorandum of Understanding between LTSA and Tranz Rail – Occurrence Notification”. These requirements apply to ONTRACK and Toll NZ until superseded by new agreements with Land Transport NZ.

APPENDIX 1: IMMEDIATE NOTIFICATION

All Accidents (i.e. where death or serious injury results)

Other Occurrences as follows:

Collisions:

- *Between RSVs during main line movements*
- *Between RSV and a road vehicle carrying fare paying passengers*
- *Between RSV and a person*
- *Between RSV and significant obstacles during mainline movements*
- *Involving RSV and resulting in the significant release of Dangerous Goods, either by the RSV or a road vehicle*

Derailments:

- *Of running trains*
- *Of other RSVs when the consequence involves the public, third party lineside land/property or public roads.*

*Significant **Operating Rules Irregularities**, including track protection irregularities.*

***Fallen Loads** involving the public, third party lineside land/property or public roads.*

***RSV Component Failure** involving significant risk to a person.*

***Explosions, fire or significant fumes** on a RSV, involving significant risk to a person.*

***Significant occurrences** likely to attract media attention, or in which Network Control thinks the LTSA would have an immediate interest.*

APPENDIX 2: DAILY LIST OF OCCURRENCES

All Accidents (ie: where death or serious injury results)

Other Occurrences as follows:

Collisions:

- *Between RSVs other than in the normal course of shunting*
- *Between RSV and a vehicle on a level crossing*
- *Between RSV and a person*
- *Between RSV and significant obstacles, other than in the normal course of shunting*
- *Involving RSV and resulting in the significant release of Dangerous Goods, either by the RSV or a road vehicle*

Deraillments:

- *Of running trains*
- *Of other RSVs when the consequence involves the public, third party lineside land/property or public roads.*
- *Of locomotives in yards and sidings when a person is placed at significant risk*
- *Of RSVs other than running trains, when travelling between stations*

RSV Component Failure involving

- *Wrongside door, safety barrier, brake or bogie failures on running trains*
- *Partings on passenger trains*

Explosions, fire or significant fumes on running trains, excluding minor brake grid fires

Significant release of ***Dangerous Goods*** into the environment from a RSV.

Significant safety critical ***irregularities in overhead traction or power supply*** involving a RSV.

Loading Irregularities of fallen or shifted (outside the loading gauge) loads.

Signalling system or crossing alarm failure, which could reasonably place a person at significant risk.

Signals passed at Danger (SPAD) due to reversions
All other SPADs except minor misjudgment.

Alleged or confirmed ***Operating Rules breaches*** involving:

- *Track protection irregularities*
- *Failure to secure brakes, allowing rolling stock runaway*
- *Incapacitation by alcohol or drugs of critical safety staff whilst on duty*
- *Significant Track Warrant Control irregularities*
- *Significant Telecommunications or Radio failures*

Persons (including Trespassers) who

- *Fall from an RSV*
- *Fall between an RSV and station platform*
- *Fall while embarking or alighting from an RSV*
- *Are caught in a train door in circumstances involving significant risk*

Vandalism or wilful interference which could reasonably place a person at significant risk

- *Stones/objects thrown at trains*
- *Obstruction deliberately placed on track*
- *Interference with signalling or communication equipment*
- *Interference with level crossing protection equipment*
- *Interference with fixed infrastructure including track*
- *Unauthorised external riding of trains*

Tranz Rail will proactively report other occurrences where the risk is judged to be similar to those Occurrences listed above; or where the occurrence has been reported orally as likely to attract media attention.

APPENDIX 3: MONTHLY STATISTICAL REPORT

- 1** **Running Train Derailments**
- 2** **Collision of an RSV, other than in the normal course of shunting, with:**
 - 2.1 *Passenger Train*
 - 2.2 *Freight Train*
 - 2.3 *Livestock*
 - 2.4 *Obstruction on or near the track (other than deliberately placed)*
 - 2.5 *Persons including trespassers (other than at level crossings or suspected suicides)*
 - 2.6 *Other RSV (including hi rail vehicles, track machines etc)*
- 3** **Level Crossing Collisions and Failure of Level Crossing Warning System Equipment**
 - 3.1 *Collision with any road vehicle*
 - 3.2 *Collision with a person (including cyclist)*
 - 3.3 *All reported cases of failure of level crossing protection equipment*
 - 3.4 *Other collisions*
- 4** **Signal Passed at Danger**
 - 4.1 *Misjudged*
 - 4.2 *Completed missed*
 - 4.3 *Restored as signal approached*
 - 4.4 *Other*
- 5** **Signal Irregularities which posed a danger to a running train**
 - 5.1 *Wrong side failure*
 - 5.2 *Any other signalling failure*
- 6** **Slip, Trip or Fall**
 - 6.1 *Any occurrence involving a person (passenger, staff or trespasser) reported as*
 - 6.2 *Having fallen from an RSV*
 - 6.3 *Having fallen from station platform between or in front of an RSV*
 - 6.4 *Having fallen entering or alighting an RSV*
 - 6.5 *Being caught in train door*
 - 6.6 *Other (involving an RSV)*
- 7** **Shunting Derailments**
- 8** **Loading Irregularity**
 - 8.1 *Open container/wagon door*
 - 8.2 *Unauthorised overgauge or overweight load*
 - 8.3 *Significant load shifts and load falls*
 - 8.4 *Other, including insecure twistlocks, stropping, doorlatch, loose tarpaulin, etc*
- 9** **Dangerous Goods**
 - 9.1 *All significant releases of Dangerous Goods into the environment*
 - 9.2 *From an RSV*
 - 9.3 *On railway or lineside property and affecting the safe operation of an RSV*

- 10 Operating Rules Irregularity**
 - 10.1 Failure of telecommunications or radio or other system
 - 10.2 Operating Rules related irregularity (by a person)

- 11 Infrastructure Irregularity**
 - 11.1 Any irregularities in the track or supporting infrastructure not discovered by normal inspection procedures, which could result in a danger to the safe passage of RSVs and is not counted elsewhere in this Appendix.
 - 11.2 Broken Rail/Pull Apart
 - 11.3 Buckled Track
 - 11.4 Spread Track
 - 11.5 Other, such as slips, floods and washouts (not causing RSV derailment or collision), track structure defects, structural failure of tunnels, bridges etc

- 12 Rolling Stock Irregularity**
 - 12.1 Any in service occurrence associated with the mechanical componentry of a RSV, which had the potential to significantly affect the safety of a running train
 - 12.2 Train Parting
 - 12.3 Broken wheel/axle
 - 12.4 Hot box/collapsed bearing
 - 12.5 Faulty passenger train door
 - 12.6 Braking system
 - 12.7 Other, such as recorded speedometer failure etc

- 13 Electrical Irregularity**
 - 13.1 Any failure in an electrical system or component, which resulted in an electrical Accident or had the potential to significantly affect the safe running of an RSV
 - 13.2 Overhead traction and supply
 - 13.3 Other

- 14 Significant, Fire, Explosion or Fumes**
 - 14.1 On an RSV
 - 14.2 On track affecting RSV
 - 14.3 Other

- 15 Vandalism**
 - 15.1 Vandalism or wilful interference, which could reasonably place a person at significant risk.
 - 15.2 Stones/objects thrown at trains
 - 15.3 Obstruction deliberately placed on track
 - 15.4 Interference with componentry of an RSV
 - 15.5 Interference with station or platform infrastructure that posed a danger to the safe passage of RSVs
 - 15.6 Interference with signalling or communication equipment
 - 15.7 Interference with level crossing protection equipment
 - 15.8 Interference with fixed infrastructure, including track
 - 15.9 Other, including unauthorised external riding of trains

- 16 Not Applicable**

- 17 Trespassers: Suspected Suicide**
 - 17.1 Collision with an RSV
 - 17.2 Attempted collision with an RSV
 - 17.3 Other

- 18 Significant Near Collision of an RSV**
- 18.1 With a road vehicle at a level crossing
 - 18.2 With another RSV
 - 18.3 With a person (including trespassers, and at level crossings)
 - 18.4 Other
- 19 Lost Time Injury Rate**
- 19.1 Where an operating RSV is involved

Performance Normalisers

The following information is provided for normalisation of the statistics:

- 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 Toll NZ and ONTRACK Affecting Elements of the Rail Safety System

Key maintenance and engineering interfaces between Toll NZ and ONTRACK (where the specialized 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.

- Toll Rail will be responsible for, the inspection, certification, operation and maintenance of designated Service Vehicles, controlled by ONTRACK, and also for the operation of work trains (refer *sections 4.6 and 6.6*).
- Toll Rail will as required, provide Rules and Regulations training for ONTRACK, and its agents and contractors.
- Toll Rail will, as required, provide specialist engineering support for rail related components of Hi – rail vehicles, Mobile Track Maintenance Vehicles, and special plant on service vehicles.
- ONTRACK will be responsible for the inspection and certification of track and related infrastructure owned or managed by Toll NZ (refer *section 5.3*).
- ONTRACK will be responsible for the maintenance and fit-out of all on-board train control radio fitted to Locomotive and other self propelled vehicles owned or managed by Toll NZ.
- ONTRACK will be responsible for the maintenance of radios used for shunting and other local rail operation radio communications requirements.
- ONTRACK will be responsible for the maintenance of designated terminal and siding area lighting provided for the night-time safety of shunting and other train operations.
- ONTRACK will be responsible for the maintenance of designated shore power supplies (directly fed off their power reticulation system) provided for passenger carriages and any other RSV's.
- ONTRACK will be responsible for the maintenance of 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 as required.

Appendix F **Map showing NRS network of Railway Lines**

