National Rail System Standard / 2
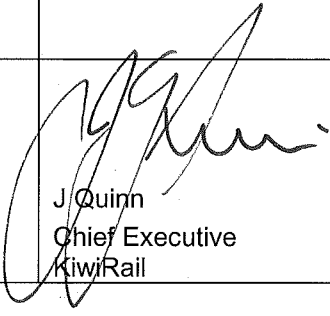
SAFETY MANAGEMENT

Issue Number	Prepared (P), Reviewed (R), Amended (A)	Approved by	Date of Approval
ONE *(Supersedes Tranz Rail document Q300 Safety Management Manual)*	(P) P J O'Connell; A.E Neilson (R) S.M O'Sullivan; G.D Hight; T.R Prestidge; L.R Major; W.J Peet; N.L Rosie, C Thompson	Crown (Letter of Authority) Toll NZ Consolidated Ltd (D Jackson)	09 July 2004
TWO	(A) AEC Neilson (R) NRSS Executive 28/2/2007 (R) Land Transport NZ 4/5/07	D H George Chief Executive, ONTRACK	11 June 2007
THREE	G Dilks (R) NRSS Executive	J Quinn Chief Executive KiwiRail	16 November 2011

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PREFACE

National Rail System (NRS) Standard

The objective of this NRS Standard is to provide a generic framework for the management of safety and change within the Rail Safety System (RSS). It is applicable for all activities associated with operations of the National Rail System and is designed to meet the requirements set out in the relevant legislation and the NZ Transport Agency guidelines.

It should be read in conjunction with other applicable NRS Standards and relevant Safety System documentation.

It is generic and specific to users of the National Rail System. The terminology chosen to apply to the National Rail System has been used in this NRS Standard.

Review Of National Rail System (NRS) Standards

NRS Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. The user is responsible for ensuring that they are in possession of the latest edition, and any applicable amendments.

Full details of all NRS Standards are available from KiwiRail. The Document Controller for all NRS Standards is KiwiRail.

Suggestions for improvements to NRS Standards should be addressed to KiwiRail head office. Any inaccuracy found in an NRS Standard should be notified immediately to enable appropriate action to be taken.

CONTENTS

1. INTRODUCTION

1.1 Scope

This National Rail System Standard details the minimum requirements of a Safety System required, under the Railways Act 2005, by Rail Participants (as defined in the Act) operating on the National Rail System. The Safety System is a written record of all participant's management and operational policies and practices that relate to the safe conduct of the Rail Participant's rail activities: and includes the Rail Participant's operational and training manuals.

2. OVERVIEW

2.1 The Purpose of a Safety System

The purpose of a Safety System is to meet the requirements of the Railways Act 2005 and any subsequent amendments.

Prescribed elements of the Safety System are required to be described in a Safety Case submitted to the New Zealand Transport Agency in application for a licence under the Railways Act 2005.

2.2 Relationship Between National Rail System Standards & applicable Legislation

National Rail System Standards (NRSS) are designed to provide guidance and set minimum standards for Rail Participants (as defined in the Railways Act 2005 using the National Rail System.

NRSS are designed to be integrated into the Safety System of individual Rail Participants.

NRSS are designed to provide guidance on implementation of the requirements of the Railways Act 2005.

2.3   Relationship between Safety System and People

The Safety System relies on Rail Personnel providing leadership and maintaining a compliant environment, so that everyone working in that environment will at all times endeavour to meet or exceed their obligations.

Each element of the Safety System acts, and interacts, with the other parts. The total system is made up of the following;

- **physical** elements :   the material assets

- **procedural** elements :   the defined policies, standards, instructions, processes etc.

- **human** elements :   rail personnel, other parties operating within/on the National Rail System, customers and the general public.

- **informational** elements :   all the data, records, and information.

Refer to Figure 1 below.

FIGURE 1
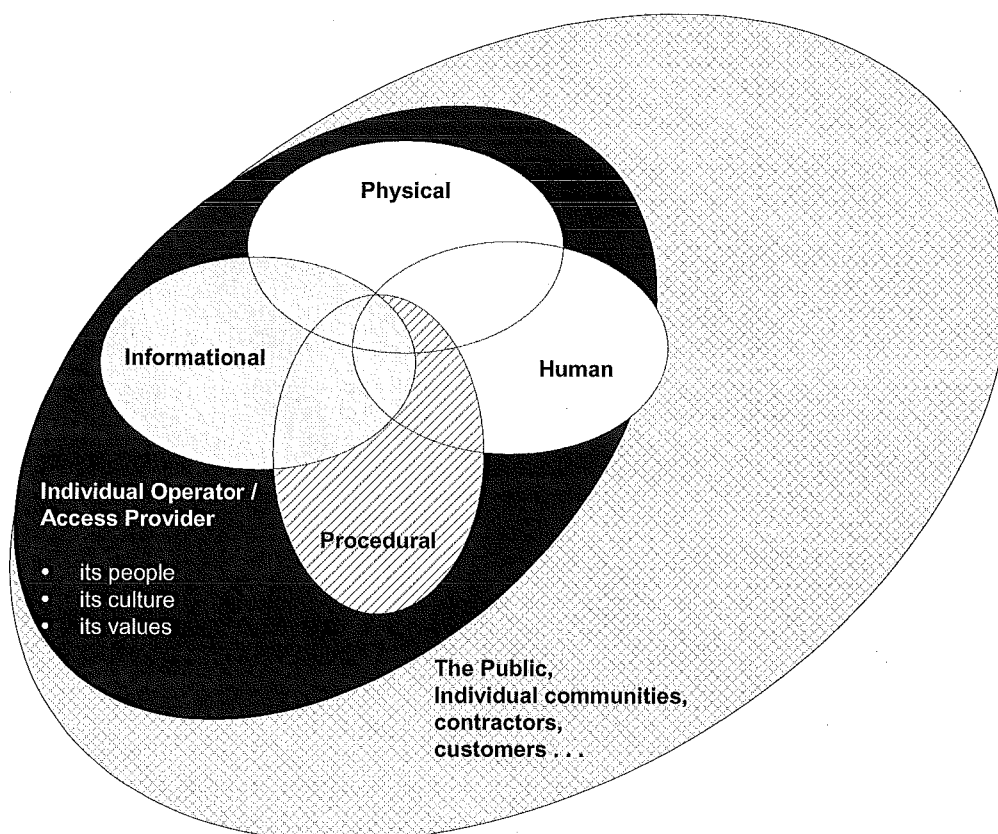
3. SAFETY SYSTEM ELEMENTS

The Safety System is an integrated and balanced combination of physical, procedural, human, and informational elements. These elements, and the deployment of these elements with respect to safety management are described below.

3.1 Physical Elements

The significant physical elements include all equipment either owned, leased, or rented by the organisation, or other networks under the safety management of the organisation as well as property and buildings.

3.2 Procedural Elements

A description of the procedural elements of the Safety System and how they are deployed within the organisation. This includes:

3.2.1 Statutory Requirements

This includes all relevant legal obligations, especially those related to safety. Some key Acts are :

- Railways Act 2005
- Health and Safety in Employment Act 1992
- Land Transport Act 1998
- Electricity Act 1992
- Resource Management Act 1991
- Hazardous Substances and New Organisms Act 1996 (HSNO)

3.2.2 Policies

Each organisation must develop and implement a comprehensive safety policy that meets the requirements of the Railways Act 2005 and Health and Safety in Employment Act 1992.
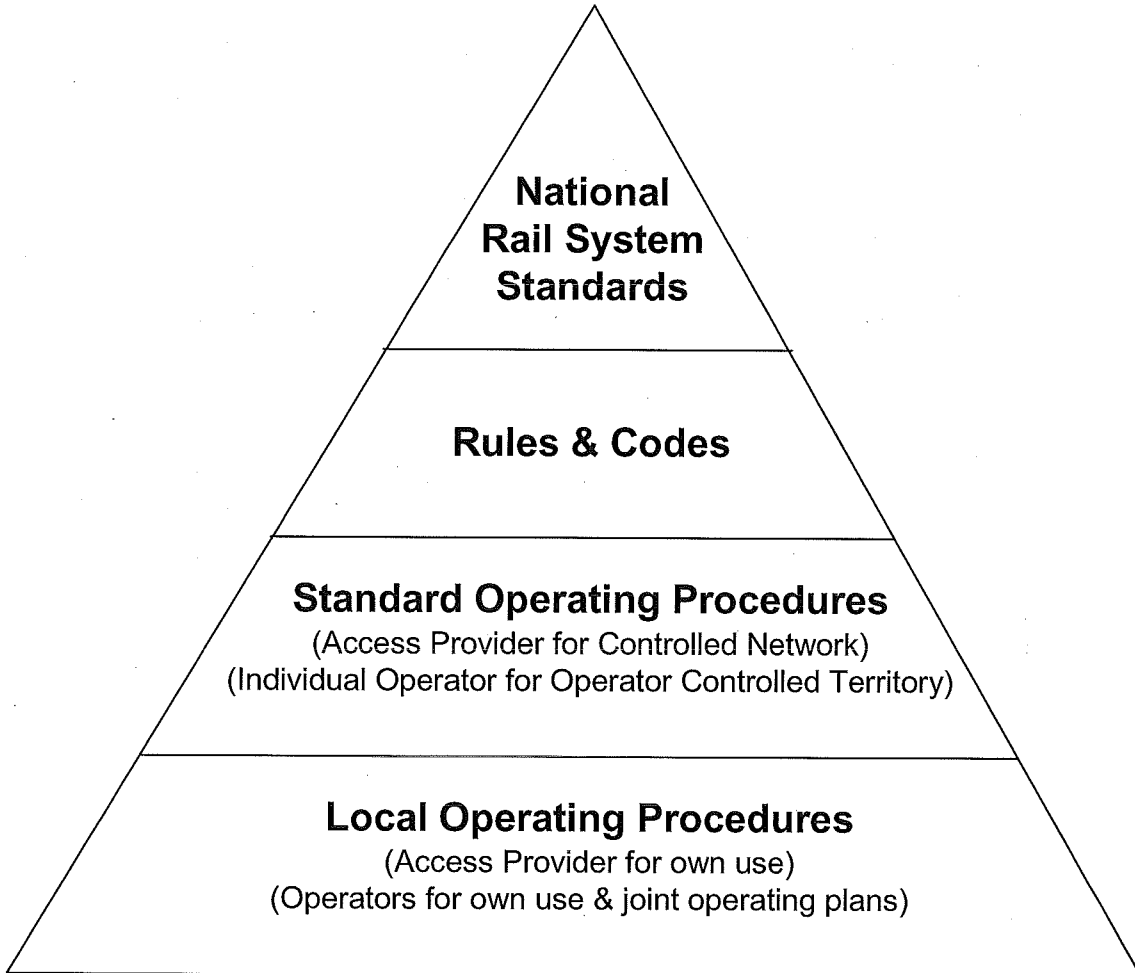
3.2.3 Defined Standards

Appropriate New Zealand Standards and/or Codes of Practice, or in their absence, the appropriate international standard or code.

3.2.4 NRS Document Hierarchy.

A multi level approach to documentation has been implemented. This is illustrated for rail operational documentation in Figure 2.

FIGURE 2

National
Rail System
Standards

Rules & Codes

Standard Operating Procedures
(Access Provider for Controlled Network)
(Individual Operator for Operator Controlled Territory)

Local Operating Procedures
(Access Provider for own use)
(Operators for own use & joint operating plans)

3.2.5 Organisational Procedures and Other Instructions

Each Organisation must describe in their Safety System:

- NRS Standards adopted,
- Key supporting documentation including how this is integrated and managed,
- Procedures for identifying and assessing safety risks
- Processes for ensuring interoperability with other Rail Participants
- Reporting and Consultation processes
- Formal management review processes.

3.3 Human Elements

3.3.1 Responsibilities

Each Organisation's Safety System must identify the key safety elements applicable and how accountability for safety is assigned.

3.3.2 Training and Competency

Each Organisation's Safety System must describe:

- The management and organisational arrangements for promoting safety and managing safety risksand
- The arrangements in place to ensure that Rail Personnel carrying out safety crucial tasks and activities have received appropriate training, have been appropriately tested and are employing practices and procedures which are fit for their purpose.

Competency assessment for Rail Personnel performing safety related work (except performing some safety observations) must be made by assessors competent in the function being assessed.

4. CONTRACT SERVICES

Maintenance and other safety related services may be "outsourced". To ensure that outsourced services are provided in full compliance with the Rail Participant's standards and procedures specified in their safety system, contracts between parties must include:

Detailed requirements for service provision affecting:

- Safety management (including specific functions and duties of key management and supervisory personnel)
- Safety standards, including Agents and Contractors responsibilities
- Performance standards
- Auditing and/or inspection to ensure compliance
- Reporting (including assigned occurrence management obligations)
- Dispute resolution
- Training and competency requirements

Rail Participants must have processes in place to review and evaluate the safety performance of Contractors.

Figure 3 illustrates an example of the contract management process for a major outsourcing contract.

FIGURE 3
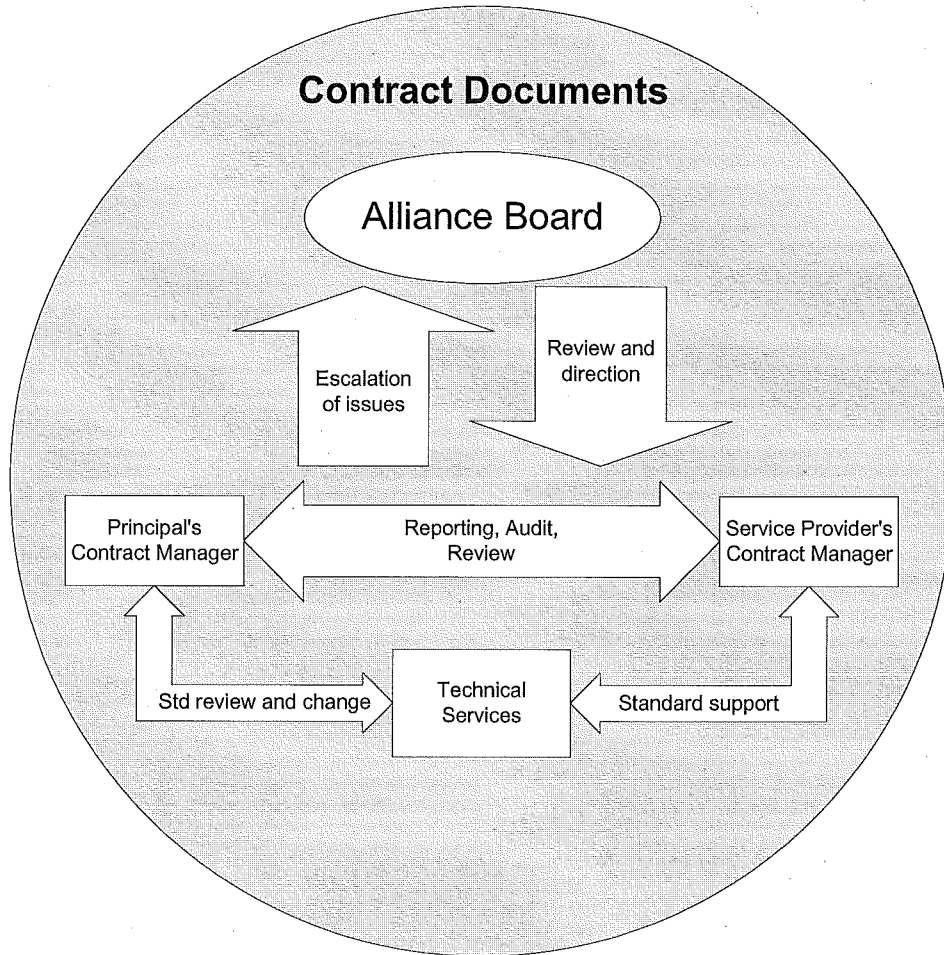
5.   GUIDANCE FOR IMPLEMENTATION OF NRS STANDARDS

The role of each NRS Standard is as follows:

(a)   NRSS / 1 - Definitions
Provides common definitions for use in documentation prepared by Rail Participants.

(b)   NRSS / 2 - Safety Management
Provides a framework for safety management and sets the minimum requirements for a Safety System for a Rail Participant.

(c)   NRSS / 3 – Health Assessment of Rail Safety Workers
Provides a generic framework for the management of the health assessment of Rail Safety Workers on the NRS

(d)   NRSS / 4 - Risk Management
Provides a framework for managing risk. Where changes are proposed to work processes or standards, assessments need to be made of the likely changes to the risk profiles involved and these given due consideration.

(e)   NRSS / 5 – Occurrence Management
Provides procedures for identifying, reporting, notifying, managing and investigating National Rail System Occurrences.

(f)   NRSS / 6 – Engineering Interoperability
Provides procedures for the management of engineering interfaces and sets technical standards for the operation of Rail Vehicles on the National Rail System.

(g)   NRSS / 7 – Rail Operations Interoperability
Sets the requirements for joint operational standards and interface arrangements. Procedures covering inter-change operations (to ensure safety) must be defined and implemented.

The Access Provider must establish an Access Agreement with any Operator before operation of that Operator's equipment or services on the National Rail System.

(h)   NRSS / 8 – Guidelines for Document Control
Provides guidance for effective document control and implementation of a document control system by Rail Participants.

(i)   NRSS / 9 - Audit
Recognises that audit provides critical feedback mechanisms for ensuring the integrity, conformance, appropriateness, and applicability of systems.

Sets the minimum requirements for audit by Rail Participants.

(j)   NRSS / 10 - Crisis Management
Set procedural structures in place for emergency, disaster or crisis of a major or catastrophic nature.

Emergency and crisis management plans detailing preparedness for such events must be tested from time to time by simulated exercises.

(k)   NRSS/11 – Heritage Vehicle and Train Management
Sets out the management framework and arrangements for the registration and operation of heritage vehicles on the National Rail System.

6.   SAFETY PROCESS MANAGEMENT

6.1   Design, Construction / Maintenance, Inspection / Audit

This chapter provides guidance for the design of safety processes.

For the RSS objective to be achieved all business processes impacting on rail safety must be aligned with the Organisation's safety policy.

Design of safety activities can be broken down into three components. These are decribed as:

- **"design"** - meaning designed or planned to meet its intended use

- **"construction / maintenance"** - meaning constructed or is being maintained for its intended use

  and

- **"physical operation"** - meaning sufficient integrity checks are included to ensure that correct operation is occurring at all times. Inspection and audit are used to provide assurrance.

Figure 4 illustrates the above design and quality assurance principles.

FIGURE 4
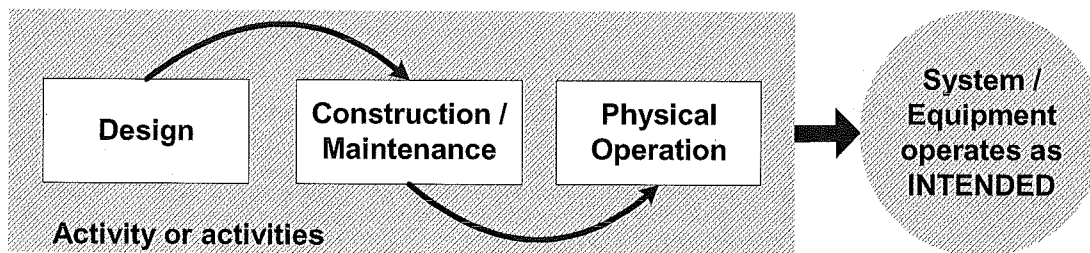
7.   SAFETY INDICATORS

Each Organisation must establish key safety performance indicators that:

- monitor the Organisation's compliance with its RSS
- are capable of measuring safety improvement, and
- are suitable for benchmarking where appropriate.

8. CHANGE

8.1 Continuous Improvement

The Safety System is subject to a continuous process of refinement and development. Changes may be triggered by :

- internal audit findings
- external audit findings
- failures and problems identified by rail personnel, customers and external agencies etc.
- changes and proposed changes to operations
- investigation of incidents and/or accidents
- trend information derived from managing the business
- formal management review

8.2 Change Affecting Another Party Directly or by Risk Profile

Each Organisation must consult with, and take into account the impact on all affected parties where a proposed change will affect another party directly, or affect any risk profile at an interface point.

An example is:

- An operator proposal to change the colour scheme of a locomotive must consult with both KiwiRail and the NZ Transport Agency as this change may affect the risk profile of Rail Vehicle visibility for road users at level crossings, and for Rail Personnel in the vicinity of the rail corridor.

    - An Access Provider proposing to change platform height relative to the track level by tamping of the mainline or construction must consult with all Operators as this change may affect the risk profile of boarding and alighting Rail Vehicles for passengers and rail personnel.

8.3 The Change Management Process

Each Rail Participant must have in place procedures for managing the safety risks around change.

Figure 5 illustrates the change process and provides guidance.

FIGURE 5

```
┌─────────────────────┐
│ Request for change to│
│   Safety System      │
│    See Note 1        │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│   Initial Review     │
│    See Note 2        │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│     Evaluate         │
│    See Note 3        │
└─────────────────────┘
          │
          ▼
      ◇ Approved?        NO    ┌──────────────────┐
      See Note 4      ───────► │  Return Change   │
          │                    │ Request & advise │
         YES                   │     sender       │
          │                    │ reasons/comments │
          ▼                    └──────────────────┘
      ◇ Significant     YES    ┌──────────────────┐
        Change?     ───────►   │  Consult with NZ │
       See Note 5             │  Transport Agency │
          │                    │    See Note 6     │
         NO                    └──────────────────┘
          │                             │
          ▼                             │
┌─────────────────────┐◄───────────────┘
│  Promulgate Change   │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  System integrity    │
│ evaluated reviewed / │
│     enhanced         │
└─────────────────────┘
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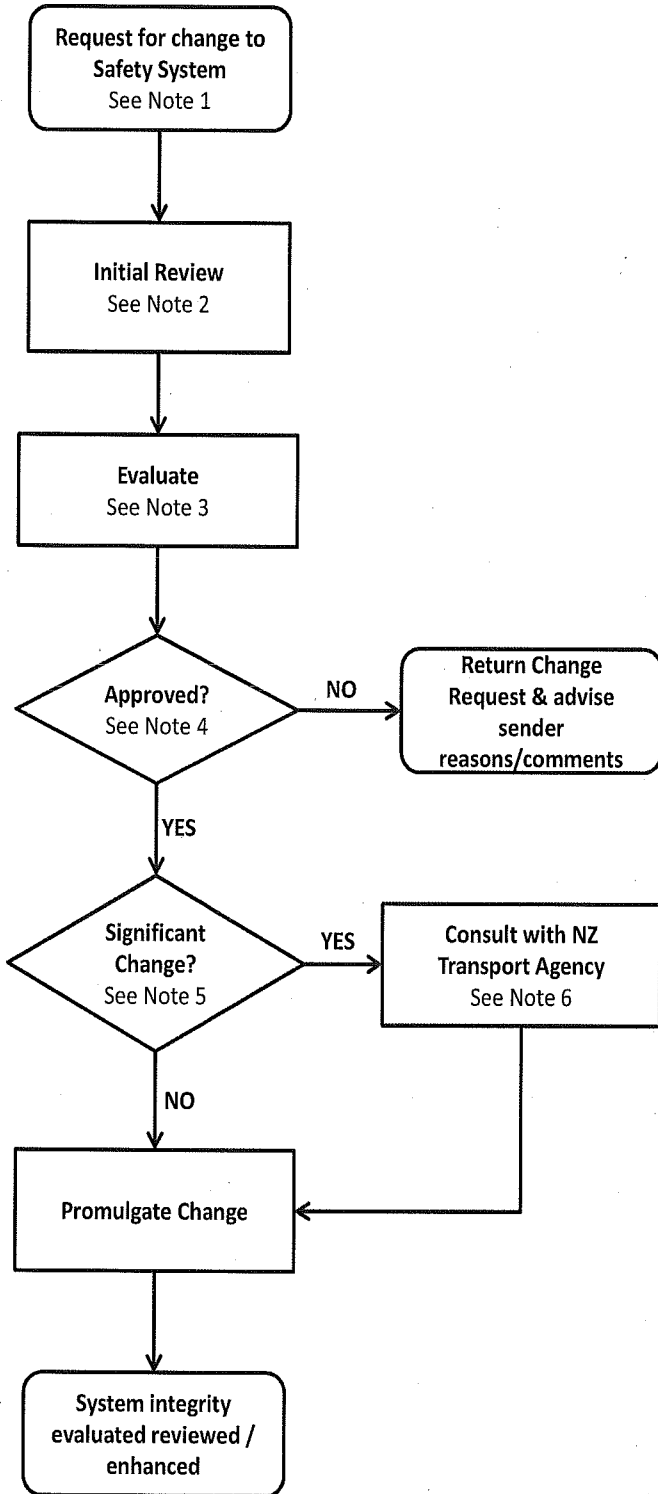
Note 1
Key documents/systems relate to:
- Safety Policy
- NRS Standard
  - Principle Operating Parameters
  - Safety Manual

Note 2
All significant changes proposed to any part of the Safety System MUST be reviewed by the Organisation's person responsible for safety assurance

Note 3
Evaluation may, or will, include:
- A Risk Assessment and/or Evaluation (if change affects or may affect, risk levels)
- Impact assessments
- Legal, or other, advice/opinions
- Suggested actions – this may include
  - preparation of draft changes (if amendment to current system)
  - draft implementation instructions (if urgent/critical)
  - recommendations on/about actions/implementation etc

Note 4
All approvals require approval by relevant committee (NRSS Executive or JTC-RORP or JTC-EI)

Note 5
A change deemed "significant" is anything notated as requiring advice to the NZ Transport Agency as agreed by MOU or other requirements

Note 6
Consultation, in this process, is the process of attaining agreement

8.4   Inter Organisation Committees

8.4.1   NRSS Executive (NRSS-E)

Purpose   To:
- Review and approve proposed changes made to NRS standards.
- Discuss any submissions on proposed changes not immediately falling within the ambit of the NRS Joint Technical Committees (ie. Engineering Interoperability and Rail Operating Rules & Procedures), and where appropriate, establish a working group to further consider issues.
- Create a Forum to discuss future development of NRS Standards including reviewing recent overseas trends and seeking to develop standards in alignment with international best practice.
- Deal with disputes in relation to the NRS standards or the application of the standards.

Membership   Senior technical experts only (GM / Executive/Senior Management level).
This group will have identified permanent members and parties to be consulted as follows:

Category A (Permanent members):

Principal licensed parties who are operating a rail service or rail services on the National Rail Network where the licensee's approved safety system relates to the Rail Vehicles operated and/or the operation of a network of railway lines as follows:

- The National Rail System Access Provider (2 members);
- Rail freight services operating over 100 route km or more and revenue exceeding 1 billion gtkm [1] (2 members each organisation);
- Passenger rail operation exceeding 1 million passenger trips annually (1 member each organisation)
- The organisation representing licensed rail heritage Operators who operate on the National Rail System (for approval of NRSS/11 only including ongoing amendments to this document).

Membership currently is - KiwiRail Infrastructure & Engineering x 2, KiwiRail Freight x 2, Veolia Transport x 1 and KiwiRail Passenger x1, FRONZ (for NRSS/11 purposes only).

Category B (Members to be consulted on issues affecting their organisation / members):

- Licence holders who are carrying >30,000 and <1,000,000 passengers per annum using motorised power on the National Rail System. (Currently Taieri Gorge Railway).
- The organisation representing licensed rail heritage operators who operate on the National Rail System (FRONZ), (except where Category A voting rights are applicable as listed above).
- The Rail and Maritime Transport Union (RMTU) for employee relevant issues
- Principal Contractors to Category A (permanent member) licence holders who are operating a rail service or rail services on the National Rail System. (Currently United Group Rail,).

Each party to nominate 1 person to be consulted.

Operator members are not entitled to vote on any changes that do not affect their operations on the Rail Network.

Chair   Shared between Category A Members on a rotation basis or by agreement.

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[1] gtkm = gross tonne kilometers

Secreteriat   KiwiRail (permanent)

Meetings   As necessary.
- Straightforward changes may be managed by the consultative redrafting of appropriate standards and circulating (e.g. by e-mailing) the change(s) for comment.
- Consensus decision making is desired..

Approval   Final approval of changes shall be by:
-
- Consensus of the committee, but where consensus is unable to be obtained, final decision rests with the document controller, which in most cases will be KiwiRail.
- The NRS Executive, after considering submissions from parties involved in the consultative process, and obtaining approval from the NZ Transport Agency (as regulator) for incorporating into NRS safety cases.
- Submitters will be provided with a response and any reasons for non-acceptance.

Authorisation   The Chief Executive, KiwiRail, will authorise the release of each NRSS.

Promulgation   In accordance with KiwiRail document control procedures.

Implementation   Each organisation shall identify NRS Standards adopted in its RSS Manual.

Inclusion of NRS Standards within a Rail Safety System will rest with each organisation and its Access Provider's in conjunction with the NZ Transport Agency as regulator.

Records   Minutes of all committee deliberations/decisions shall …
- be kept by the permanent Secretariat
- be retained for a minimum of seven (7) years
- include non-acceptance by any Category A member of any committee decisions
- include the outcome of any separate submissions made.

All correspondence relating to submissions, consultation and promulgated changes will be maintained as required by KiwiRail document control procedures.

8.4.2 NRS Joint Technical Committee - Rail Operating Rules and Procedures (JTC-RORP)

Purpose
To manage the on-going development of the NRS Rail Operating Rules and Procedures, and provide technical advice to the NRSS Executive, particularly in relation to NRSS / 7 – Rail Operations Interoperability.

Membership
Senior technical experts only.
This group will have identified permanent members and parties to be consulted as follows:

Category A (Permanent members):

Principal licensed parties who are operating a rail service or rail services on the National Rail Network where the licensee's approved safety system relates to the Rail Vehicles operated and/or the operation of a network of railway lines as follows:

- The National Rail System Access Provider; (2 members)
- Rail freight services operating over 100 route km or more and revenue exceeding 1 billion gtkm [2] (2 members each organisation);
- Passenger rail operation exceeding 1 million passenger trips annually (1 member each organisation)

Membership currently is - KiwiRail Infrastructure & Engineering x 2, KiwiRail Freight x 2, Veolia Transport x 1 and KiwiRail Passenger x1.

Category B (Members to be consulted on issues affecting their organisation/members):

- Licence holders who are carrying >30,000 and <1,000,000 passengers per annum using motorised power on the National Rail System. (Currently Taieri Gorge Railway).
- The organisation representing licensed rail heritage operators who operate on the National Rail System (FRONZ).
- The Rail and Maritime Transport Union (RMTU) for employee relevant issues
- Principal Contractors to Category A (permanent member) licence holders who are operating a rail service or rail services on the National Rail System. (Currently United Group Rail,).

Each party to nominate 1 person to be consulted.

Chair
Shared between Category A Members on a rotation basis, or by agreement.

Secreteriat
KiwiRail (permanent)

Meetings
As necessary.
Straightforward changes may be managed by the consultative redrafting of appropriate sections or rules, and circulating (eg. by e-mailing) the change(s) for comment. Consensus decision making is desired.

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[2] gtkm = gross tonne kilometers

Approval   Draft changes shall be :
- implemented by semi-permanent Bulletin to verify appropriateness, adequacy and validity.

Final approval shall be by :
- review by the JTC-RORP after considering submissions from parties involved in the consultative process.

Where consensus is unable to be obtained, final decision rests with the document controller, which in most cases will be KiwiRail.

Submitters will be provided with a response and any reasons for non-acceptance.

Significant changes may require amendments to the NRSS or other RSS documents, and may require consultation with the NZ Transport Agency as Regulator for approval.

The National Rail System Access Provider (KiwiRail) has a responsibility to ensure that the interests of category B licensed Operators are considered when matters under discussion have considerable relevance to them.

Authorisation   The Chief Executive, KiwiRail, will authorise implementation signing on behalf of all user groups.

Promulgation   In accordance with KiwiRail document control procedures.

Records   Minutes of all committee deliberations/decisions shall ...
- be kept by the permanent Secretariat
- be retained for a minimum of seven (7) years
- include non-acceptance by any Category A member of any committee decisions
- include the outcome of any separate submissions made.

All correspondence relating to submissions, consultation and promulgated changes will be maintained as required by KiwiRail document control procedures.

8.4.3   Joint Technical Committee - Engineering Interoperability (JTC-EI)

Purpose   To manage the on-going development of NRS Engineering Interoperability, and provide technical advice to the NRSS Executive, particularly in relation to NRSS / 6 – Engineering Interoperability.

Membership   **Senior technical experts only.**
This group will have identified permanent members and parties to be consulted as follows:

Category A (Permanent members):

Principal licensed parties who are operating a rail service or rail services on the National Rail Network where the licensee's approved safety system relates to the Rail Vehicles operated and/or the operation of a network of railway lines as follows:

- The National Rail System Access Provider; (2 members)
- Rail freight services operating over 100 route km or more and revenue exceeding 1 billion gtkm [3] (2 members each organisation);
- Passenger rail operation exceeding 1 million passenger trips annually (1 member each organisation)

Membership currently is - KiwiRail Infrastructure & Engineering x 2, KiwiRail Freight x 2, Veolia Transport x 1 and KiwiRail Passenger x1.

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[3] gtkm = gross tonne kilometers

Category B (Members to be consulted on issues affecting their organisation/members):

- Licence holders who are carrying >30,000 and <1,000,000 passengers per annum using motorised power on the National Rail System. (Currently Taieri Gorge Railway).
- The organisation representing licenced rail heritage operators who operate on the National Rail System (FRONZ).
- The Rail and Maritime Transport Union (RMTU) for employee relevant issues
- Principal Contractors to Category A (permanent member) licence holders who are operating a rail service or rail services on the National Rail System. (Currently United Group Rail,).

Each party to nominate 1 person to be consulted.

Chair
Shared between Category A Members on a rotation basis.

Secreteriat
KiwiRail (permanent)

Meetings
As necessary.
Straightforward changes may be managed by the consultative redrafting of appropriate sections or rules, and circulating (eg. by e-mailing) the change(s) for comment. Consensus decision making is desired.

Approval
Draft changes may be :
- implemented by approved technical process.

Final approval shall be by :
- review by the JTC-EI after considering submissions from parties involved in the consultative process.

Where consensus is unable to be obtained, final decision rests with the document controller, which in most cases will be KiwiRail.

Submitters will be provided with a response and any reasons for non-acceptance.

Significant changes may require amendments to the NRSS or other RSS documents, and may require consultation with the NZ Transport Agency as Regulator for approval.

The National Rail System Access Provider (KiwiRail) has a responsibility to ensure that the interests of category B licensed Operators are considered when matters under discussion have considerable relevance to them.

Authorisation
The Chief Executive, KiwiRail, will authorise implementation signing on behalf of all user groups.

Promulgation
In accordance with KiwiRail document control procedures.

Records
Minutes of all committee deliberations/decisions shall be ...
- kept by the permanent Secretariat
- retained for a minimum of seven (7) years
- include non-acceptance by any Category A member of any committee decisions
- include the outcome of any separate submissions made.

All correspondence relating to submissions, consultation and promulgated changes will be maintained as required by KiwiRail document control procedures.

8.4.4 HERITAGE INDUSTRY

There are two heritage industry committees as follows;

- Heritage Technical Committee
- Heritage Operations Committee.

Details of these committees including scope and membership are covered in document NRSS/11.

8.5 Intra Organisation Committees

Each organisation must have embedded in its safety system policies or procedures relating to any internal technical committee dealing with rail safety matters. Each of the following areas must be described.

- Purpose
- Membership
- Chair
- Secretariat
- Meetings
- Approval
- Authorisation
- Promulgation
- Records