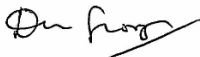# National Rail System Standard / 7

RAIL OPERATIONS INTEROPERABILITY

Issue Number	Prepared (P), Reviewed (R), Amended (A)	Approved by	Date of Approval
ONE *(Supersedes Tranz Rail Document Q 920 Train Operations Interoperability Standard)*	(P) A.E Neilson, P.J O'Connell (R) G.D Hight, S.M O'Sullivan, L.R Major, W.J Peet	Crown (Letter of Authority) Toll NZ Consolidated Ltd (D Jackson)	09 July 2004
TWO	*(A) AEC Neilson* *(R) JTC –RORP 22/2/07* *(R) NRSS Executive 28/2/2007* *(R) Land Transport NZ 4/5/07*	*D H George (Chief Executive, ONTRACK)*	11 June 2007

PREFACE

National Rail System (NRS) Standard

The objective of this NRS Standard is to provide a generic framework *for* rail operations interoperability. It is applicable for all activities involving operation of the National Rail System and is designed to meet the requirements set out in the relevant legislation and the Land Transport *NZ* document "Rail Safety Licensing and *Safety Assessment* Guidelines".

It should be read in conjunction with the Rail Safety System Manual and other applicable or relevant NRS Standards.

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 *ONTRACK (New Zealand Railways Corporation). The Document Controller for all NRS Standards is ONTRACK.*

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

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1   INTRODUCTION

IMPORTANT NOTE: **This document forms part of any "Access Agreement" between the Access Provider and any Operator, and should be read in conjunction with any such Access Agreement.   In particular, the Access Agreement sets out certain procedures relating to vehicle, operational and safety audits, and the rights of the Access Provider in respect of any breach of that Agreement or the standards contained in this document.   To the extent of any inconsistency between any Access Agreement and this document, the Access Agreement prevails.**

1.1   Scope

This document incorporates rail operational interoperability requirements to be met in full by Access Providers, Operators and Rail Personnel operating on the National Rail System. The term "operating" in this document also encompasses Rail Personnel engaged on maintenance, construction and other rail corridor activity where they are responsible for self or group protection or responsible for track occupancies.

Particular requirements applying to the Controlled Network are also specified.

Additional requirements for the management of heritage train operations are covered by the National Rail System Standard NRSS/11 "Heritage Vehicle and Train Management".

2   OPERATING DOCUMENTS

All Rail Personnel operating trains and carrying out maintenance activity on the National Rail System must adhere to the following operating documents;
- *Rail Operating Rules and Procedures (RORP)*
- *Controlled Network Instructions*
- *Signalling & Interlocking (S&I) Diagrams*
- *Bulletins*
- *Any section of an Operators Rail Operating Code mandated by the Rail Operating Rules and Procedures.*

Rail Personnel must also adhere to *the following;*
- *Any Rail Operating Code and other "operating instructions" issued by an Operator, and applicable to that Operators train and terminal operations on the National Rail System.*
- Local Operating Procedures, Joint Operating Plans and other rail operating procedures for terminals and sidings issued by Operators for which the Operator has responsibility for rail activity.

3   NETWORK CONTROL

Operators and Rail Personnel shall immediately comply with any instruction (whether verbal, electronic and/or in writing) issued by the Network Controller. Instructions may relate to any matter to do with train operations (such as train speeds, train paths to use, or train configuration).

When Network Controllers exercise rights and discretions, they will use best endeavours to do so in a manner consistent with the safety and integrity of the Controlled Network.

4   RADIO COMMUNICATION

4.1   *Rail Vehicle*s

Lead Motive Power Units, Mobile Track Maintenance Vehicles and Hi-Rail Vehicles operating on the Controlled Network must be equipped with a train radio compatible with the National Rail System radio system and specification requirements to communicate between Network Controllers, train crews, ground based shunting and other relevant Rail Personnel (also refer to the National Rail System Standard "Engineering Interoperability" for code references for radio communication systems). *Train Radios must have current certification to ONTRACK code requirements, or to equivalent standards that are deemed by ONTRACK to satisfy their code requirements.*

4.2   Ground Based Rail Personnel

When not working with a *Rail Vehicle* ground based Rail Personnel operating on the Controlled Network must ensure effective communication is available for immediate contact with either Network Controllers or Rail Vehicle drivers. The preferred method of contact should be through a portable radio compatible with the National Rail System radio system and specification requirements to communicate between Network Controllers, train crews, shunting and other relevant Rail Personnel. Cell phones should only be used as a secondary means of communication.

4.3   Calling Procedures

Rail Personnel must be trained in, and observe, the National Rail System radio calling procedures (which will form part of the certification process referred to in Section 10.1 Minimum Requirements).

4.4   Defective Equipment

Any Operator must take reasonable steps to repair or replace defective radio equipment before the commencement of a train journey or, if failure occurs during a journey, before the commencement of the next journey. When radios are not operational for a train journey, the provisions for "radio failure" in the Rail Operating Code apply.

4.5   Use of Operators Radio Channels

Operators must ensure that radio equipment used solely for their own purposes does not interfere with radio channels designated for use on the National Rail Network for the movement control of trains and track occupancies.

4.6   Use of Allocated National Rail System Radio Channels

 Operators and Access Providers must ensure that Rail Personnel only use designated National Rail System radio channels allocated for their use *on the National Rail System* as specified in the *Rail Operating Rules and Procedures*, Local Operating Procedures or Joint Operating Plans. *In an emergency use of radio channels which have been allocated to another Operator or Access Provider is permitted to notify the emergency, and during emergency work when agreed by the parties.*

5   TRAIN OPERATING INFORMATION

5.1   Receipt of Information

Access Providers, Operators and relevant Rail Personnel must provide (and maintain) suitable facilities to receive train Bulletins which will be sent from the Access Providers Network Controllers on a seven day/ twenty four hour basis. Operators, Maintenance Providers and other relevant Rail Personnel must establish a process acceptable to Access Providers so that train crews and other relevant Rail Personnel (including field maintenance crews), are provided with, and have in their possession, all current train Bulletins before the commencement of each train journey or intermediate depot crew change or track occupancy, as the case may be.

5.2   Speed Restrictions

Operators and relevant Rail Personnel must have and maintain equipment suitable to access the Access Provider's authorised Speed Restriction and Conditions system (currently Amicus), and similarly must ensure train crews and other relevant Rail Personnel, as the case may be, are provided with, and have in their possession, all current Speed Restriction and Conditions information issued by Access Providers before the commencement of each train or mobile track maintenance vehicle journey or intermediate depot crew change.

In the event of a system or equipment failure, Operators and other relevant Rail Personnel must follow the process specified in the Access Provider's operating processes for speed restrictions.

5.3   Compliance with Urgent Information Enroute

The Access Provider will be responsible for providing urgent Bulletin and Speed Restriction / Conditions information issued during the train journey between intermediate depot crew changes. Operators' and other relevant Rail Personnel must immediately comply with any such urgent Bulletins or Speed Restrictions.

6   *EXCHANGE OF VEHICLES BETWEEN RAIL PARTICIPANTS*

6.1   *Responsibilities:*

When Rail Vehicle/s are exchanged between Rail Participants, the Rail Participant who holds the Rail Licence for the mechanical condition of the exchanged rail vehicle/s as being suitable to run on the NRS, is responsible for providing the Rail Vehicle/s in a safe mechanical condition and for ensuring that the Rail Vehicles retain mechanical currency for the period of exchange while the Rail Vehicles are operated on the NRS. This does not negate the train Operator's responsibility to carry out pre-trip and intermediate trip brake tests in accordance with the RORP.

6.2   *Notification of Operating Restrictions;*

Prior to requesting movement by, or releasing Rail Vehicles to any other Operator, the Rail Vehicle owner or assigned Operator must advise the other Operator of all operating restrictions and hazards associated with the Rail Vehicles (e.g maximum speed, broken or no hand grabs, brakes cut out, etc).

6.3 *Notification of Mechanical Defects*

All mechanical defects affecting the safe operation of the Rail Vehicle/s must be notified as soon as reasonably practicable to the Rail Participant who holds the Rail Licence for mechanical condition, unless a formal alternative agreement is in place with the other Operator.

7 PASSENGER SAFETY

Each Operator will take all practicable steps (including those agreed between the parties) to ensure that passengers, voluntary staff, and workers including staff of the Access Provider are protected from all hazards, including without limitation:

a) *falling from a Train including through rear doors and between doors,*

b) *extending heads and limbs outside the clearance envelope,*

c) *straying on to tracks into the path of locomotives, rolling stock or other rail vehicles,*

d) *venturing into areas not safe for pedestrian traffic, for example, bridges, uneven track formation, electrified areas; railway yards,*

e) *unauthorised climbing on Vehicles, other rail vehicles, and railway structures,*

f) *taking emergency actions in the event of fire, derailment, collision, train parting, stallings or other breakdowns on bridges or in tunnels or cuttings or in remote areas, medical emergencies such as heart attacks, all with particular reference to the safety of passengers, and effective cooperation with the Access Provider; and*

g) *carrying appropriate safety equipment with appropriate checks to ensure it is in useable condition.*

8 TERMINAL OPERATIONS

8.1 Entry into Territory

Operator's rail vehicles or other rail vehicles (e.g. high rail vehicles), must not enter Terminals included in the National Rail System without authority from the Terminal Site Controller, or their delegated person.

8.2 Terminal Procedures

Procedures for local Terminal operations outside the Controlled Network will be specified in the Operator's Local Operating Procedures or in Joint Operating Plans developed between Operators, and Access Providers where necessary.

8.3 Certificate to Operate

Rail Personnel must hold a certification to Operate for each required location. When this is not held movements must be piloted by a certified person.

8.4   Protection of Operating Territory

Operators and other relevant Rail Personnel must ensure that adequate processes are in place, and where necessary appropriate protection (e.g. portable derailing devices) is provided to prevent unplanned or unauthorised entry of their rail vehicles into another Operator's territory or the Controlled Network.

9   TRAIN CONTINUITY AND SAFETY APPARATUS

9.1   Train Inspection and Air Brake Tests

Operators will be responsible for pre-journey and intermediate train inspection / air brake tests of the Operator's trains as defined in the Rail Operating Rules.

10   VIGILANCE DEVICE / EVENT RECORDER

10.1   Fitment

Motive Power Units operating on the Controlled Network must be fitted with a vigilance system and event recorder that satisfies specifications incorporated in the National Rail System Standard "Engineering Interoperability" unless subject to an agreed installation program with the Access Provider.

10.2   Defective Equipment

Operators must replace or repair any defective vigilance system and/or event recorder before the commencement of a train journey or, if failure occurs during a journey, before the commencement of the subsequent train journey.

10.3   Train End Monitors

Train End Monitors must be fitted to trains operated by single person train crews moving on the controlled network. In a failure situation the emergency provisions in the Rail Operating Code are to be applied.

11   OPERATING DOCUMENTATION ADMINISTRATION

11.1   Supply by Access Providers

Access Providers will supply copies of sections of the Rail Operating Rules and Procedures, S&I *Diagrams*, Bulletins and Controlled Network *Instructions* to Operators and other relevant Rail Personnel.   These documents set out operating and network control information, standards and procedures relating primarily to the Controlled Network, but also to other territory on the National Rail System when applicable. Rail Personnel operating or working on the National Rail System must comply with the procedures and standards specified in these documents.

ONTRACK has been assigned responsibility as the document controller for the above documentation.

11.2   Supply by Operators

Operators will be responsible for the supply and amendment of *their own Rail Operating Code and other "operating instructions", as well as* Local Operating Procedures, Joint Operating Plans for terminals and sidings for which the Operator has responsibility for rail activity.

11.3 Amendments

Amendments of the documents listed in sections *11.1* and *11.3* above will be supplied from time to time. Each recipient will be responsible for ensuring all copies of such documents in its possession are fully amended.

It will be the individual recipients' responsibility to ensure amendments to any issued documentation notified by an Access Provider or an Operator has been received and available for amendment before the implementation date and time specified.

11.4 Safe Working Forms

Operators' and other relevant Rail Personnel will be responsible for sourcing, and ensuring their crews are in possession of, safe-working forms and equipment for each train journey or track occupation, as the case may be. Safe working forms and equipment are specified in Appendix "A".

11.5 Change Consultation

NRSS / 2 – Safety Management applies. All affected parties (Access Providers, Operators, their agents and contractors) must be consulted during the development phase of new rules and safety procedures that will impact on their operation.

11.6 Passenger Train Safety Plans

Each Operator will be responsible for the issue of Safety Plans specifically associated with passenger safety on their trains, at station facilities and other passenger activity.

Safety Plans involving other passenger activity (such as evacuation of passengers from trains during emergency situations-including tunnels, photo stops on excursion trains etc) must be developed in conjunction with the Access Provider.

12 RAIL OPERATING QUALIFICATIONS / CERTIFICATION / SAFETY OBSERVATIONS

12.1 Qualifications

Rail Personnel operating on the National Rail System, must:

- be trained to the specified standards (as notified from time to time by Access Providers and /or Operators)
- hold the relevant and current "Licence to Operate" authorising them to undertake specific functions on the National Rail System.
- hold other special qualifications as required (e.g. for steam locomotive operations).

12.2 Emergency Evacuation Exercises

Emergency evacuation exercises will be co-ordinated between the Access Provider and Operators involved. Maintenance Providers and third parties must also be consulted if their organisation forms part of the evacuation plan.

In the case of "unannounced" exercises senior management of each organisation must be consulted.

Each Operator will meet the cost of emergency evacuation exercises specifically associated with passenger trains.

12.3 Safety Observations/Refresher Training

Each Operator, Access Provider, and their agents and contractors will be responsible for ensuring that their locomotive crew, and other Rail Personnel carrying out rail operating functions on the National Rail System, undertake Theory Assessments and Safety Observations, or suitable alternative periodic refresher training, to standards required to operate on the National Rail System.

12.4 Rail Trainers and Assessors

Training, Theory Assessments, Safety Observations and refresher training of Rail Personnel must be conducted by qualified Rail Training Providers and / or Assessors.   Separate service agreements may be entered into with respect to the provision of training and accreditation functions using qualified Training Providers or Assessors from another organisation authorised to operate on the National Rail System

Each Operator, Access Provider, and their agents and contractors will meet their own costs of Training, Theory Assessments, Safety Observations and refresher training for their personnel.

12.5 Records

Access Providers and Operators must ensure that records of initial certifications, Theory Assessments, Safety Observations and refresher training for Rail Personnel are retained by their respective organisations (or by their agents and contractors when specifically assigned).

13 RAIL PERSONNEL FITNESS FOR OPERATING DUTIES

13.1 Minimum Requirements

Rail Personnel must meet requirements prescribed in the following standards and policies (which will form a part of their organisations Approved Rail Safety Licence);

- medical standards
- rostering standards, including alertness management training for rail personnel controlling (either directly or indirectly) rail vehicles)
- drugs and alcohol policy

13.2 Standards and Policies

Operators and Access Providers are responsible for ensuring that their agents and contractors providing Rail Personnel, have standards and policies in place that are "fit for purpose". Where no satisfactory standards or policies exist, the agents or contractors are required to comply with the employing Operators standards and policies, or employing Access Providers standards and policies.

13.3 Voluntary Rail Personnel

Where Rail Personnel employed by one Operator are undertaking safety critical duties for another Operator in a voluntary capacity those personnel must declare those duties to both Operators so that each Operator can ensure that the Rail Personnel continue to comply with all applicable rostering rules.

14 IRREGULARITIES, DEFECTS, ETC

14.1 Reporting to Train Control

Rail Personnel must report to Train Control, any irregularities or defects associated with the rail corridor infrastructure, or any Operators train, where this compromises the safe or efficient operation of the train or rail corridor- to Train Control.

14.2 Other Reporting Requirements

Operators and Maintenance Providers must advise the Access Provider of rail corridor infrastructure irregularities or defects that are not an immediate safety concern and not previously reported directly to Train Control by any Rail Personnel.

15 INCIDENTS AND ACCIDENTS

15.1 Management of Incidents and Accidents

Major incidents/accidents will be managed in accordance with the NRS standard Occurrence Management.

15.2 Release of Railway Corridor

Incidents and accidents must be dealt with effectively. The appointed Site Manager is responsible for releasing the railway corridor for normal operations without unwarranted delay. The Site Manager must first ensure site safety, then that all parties involved have secured information required for incident investigation.

15.3 Site Management in Terminals and Sidings

 Operators will be responsible for management of incident and accident sites within their designated operating territory (e.g. Terminals, Sidings) outside the Controlled Network and where the incident or accident does not affect rail operations (e.g. trains missing their allocated timetable slot) on the Controlled Network.

15.4 Approval to Enter Site

Rail Personnel and third parties must have an approved authority from the Site Manager to enter an Incident/Accident site.

15.5 Crisis Management

An Access Provider or Operator may elect to manage a significant incident or accident in their designated operating territory in accordance with their Crisis Management Plan.

16 INCIDENT AND ACCIDENT REPORTING

16.1 Reporting Incidents

Access Providers, Operators and Maintenance Providers will report incidents and accidents occurring on the National Rail System in accordance with the NRS standard - Occurrence Management Procedures.

16.2 Investigations:

Incident and accident investigations occurring on the National Rail System will be conducted in accordance with the NRS standard Occurrence Management Procedures.

16.3 Investigation Rights

Access Providers, Operators and their agents and contractors reserve the right to investigate all significant incidents on the National Rail System involving their rail personnel and/ or equipment. Investigation by the Access Provider or Operator primarily affected by the incident will take precedence.

16.4 Joint Review of Safety Performance

Access Providers and Operators will jointly review operational safety performance bi-monthly or at other agreed intervals.

16.5 Rail Personnel Removed from Duties

Rail personnel are to be relieved from operating duties following an incident on the National Rail System as specified in the Rail Operating Code. It will be the employing organisation's responsibility to arrange a replacement train crew, or Rail Personnel required for other duties.

16.6 Repeated Incidents

Access Providers and Operators must have in place policies (which will form a part of their organisations Approved Rail Safety Licence) that address the permanent removal of Rail Personnel from operating duties when involved in repeated incidents.

16.7 Voice Recorder Replay

Access Providers, Operators and their agents and contractors reserve the right to replay Train Control, Signal Box, locomotive cab, and other rail operating voice monitoring records associated with incidents/accidents involving any of their employees. These parties (including any affected employees) are to be granted reasonable access to the relevant voice *recorder* extractions and transcripts.

16.8 Security of Event Recorders

Access Providers, Operators and their agents and contractors must immediately secure event recorders associated with an incident/accident so that the correct data is available for any subsequent investigation. In this context, event recorders associated with the incident/accident may include (but not limited to) those installed in rail vehicles, trackside equipment, and in Train Control.

17 AUDITS

17.1 General Requirement

Access Providers and Operators are <u>individually responsible</u> for audits of their own organisations, as well as their agents and contractors employed by their organisation, to ensure compliance to this standard, and also associated elements defined in their organisations Approved Safety *Case*.

17.2 Audit between Parties

Access Providers and Operators also have a responsibility to ensure safe rail operating interfaces between parties and have the right to audit these interfaces defined by this standard, associated elements defined in their own organisations Approved Safety *Case*, and any related requirements set out in the Access Agreement.

Each party has similar audit rights which are subject to appropriateness and reasonableness, except those defined in any Access Agreement which will take precedence over these rights. Specific procedures relating to audits and safety reviews may be contained in the Access Agreement entered into by an Operator with the Access Provider.

Each party should gain agreement from the other before commencing to audit aspects of another parties rail operations.

17.3 Audit Elements

Any organisational specific audit or audit between parties <u>must include</u> sufficient auditing to ensure adequate compliance in the following areas of rail operational activity;

- Rail Personnel training and competence
- Operator's train crew and ground personnel activities and processes when operating on the Controlled Network. (This is to include Operator's train crew Track Warrant Control mandatory calling procedures, train speeds and radio procedures when operating on or entering the Controlled Network).
- Activity of Access Providers agents and contractors on the Controlled Network including their interface to Train Control.
- Train Control activity, including appropriateness of instructions to any Rail Personnel in the field
- Correct operating documentation held, including up to date Bulletins.
- Pre-entry procedures completed before the initial commencement of any Operator's new type of train operations.

Reasonable access to event recorders and voice monitoring systems is to be made available to another party for random audit purposes.

17.4 Audit Methodology

Audits may be specifically organised with a pre-arranged programme, or carried out at random. When they are unannounced, senior management of the organisation employing the rail personnel concerned should be advised prior to the audit.

18 LOCOMOTIVE CABS

18.1 Cab Authorisation

Operator*s must ensure that adequate processes are in place* for authorising people other than Locomotive Crews to ride in their locomotive cabs. *The processes must include a requirement for c*ab *pass*es *to be issued, except where provided for in the RORP or ROC*.

18.2 Operators and Auditors

Locomotive Crews, operating managers and Auditors may travel in the cab of the Operator's locomotive working the Operator's train when "dead heading" or carrying out audits. Another Operator's Locomotive Crews may travel in the cab of an Operator's locomotives. In these situations the Cab Pass referred to in clause 16.1 will not apply for Locomotive Crews or for Operating Managers and auditors issued with a cab pass.

Operators will permit the Access Provider's authorised rail personnel (including those of their agents and contractors) to travel in the Operator's locomotive cabs for Controlled Network auditing purposes.

19 SIGNIFICANT CHANGES TO OPERATING STANDARDS

NRSS / 2 – Safety Management applies.

20 TIMETABLING PRINCIPLES

20.1 Timetable Development

The procedures for timetable development and approval must be defined in Access Agreements.

APPENDIX "A"

Safe Working Forms and Equipment

Locomotive Engineers:

Key	Issued for:
100	General purpose
TW	Track Warrant Control – hand operated points
AS	Automatic Signalling – crank handles, switchlocks etc).
AS1	Track Warrant Control – main line points (route specific)

Forms:

Mis 39	Train disabled in section
Mis 51	Operating Instruction – Midland Line
Mis 59	Authority to pass a Departure Signal at Stop.
Mis 60	Track and Time Permit
Mis 88	Track Warrant
Loco 346	Report of Signalling, Track, Radio fault.
Pro forma Bulletin	Suspension of automatic signalling – Midland Line

Locomotives:

Sufficient detonators *to comply with detonator protection rules*
Red flag
Green flag
Wire strop
Wooden bungs/plugs to block off air brake pipes
End of Train Marker