NTR

Combined Train Working units

Effective 24 March 2019

Version: 1.3

RailSafe

train working

Protecting rail traffic

Purpose

To prescribe the rules for protecting rail traffic in the Network.

General

Protection is required if:

- rail traffic is disabled, or
- rail traffic obstructs, or might obstruct, adjacent lines, or
- the line is obstructed.

Drivers or Track Vehicle Operators must ask the Signaller to prevent rail traffic from approaching the affected portions of line.

If necessary, the Train Crew or Track Vehicle Crew must act in accordance with:

- *NTR 416 Disabled rail traffic*
- *NTR 426 Overdue rail traffic*.

Obstruction of lines

If an obstruction is reported, the Signaller responsible for the affected portion of line must act in accordance with *NGE 206 Reporting and responding to a Condition Affecting the Network (CAN)*, and instruct Drivers and Track Vehicle Operators of rail traffic in or approaching the affected block to stop their rail traffic immediately.

train working

Protecting rail traffic

Inside the area bounded by Waterfall, Macarthur, Emu Plains and Cowan

Disabled rail traffic

Where practicable, the Signaller must make sure that a Qualified Worker is placed towards the direction of approach of assisting rail traffic:

- at least 500m before the disabled rail traffic, or
- at the first protecting signal at STOP.

The Qualified Worker must:

- display a STOP handsignal to approaching rail traffic, and
- pilot the assisting rail traffic to the disabled rail traffic.

The Signaller must give the assisting Driver or Track Vehicle Operator written advice about:

- the length and location of the disabled rail traffic
- the need to travel at restricted speed:
  - from the protecting controlled absolute signal, or
  - if there is no protecting controlled absolute signal, from the entry to the section.
- whether or not a Qualified Worker has been placed to pilot the assisting rail traffic, and if so, the location of the Qualified Worker.

The written advice must be recorded on:

- *an NRF 004 Condition Affecting the Network (CAN)* form, or
- *an NRF 005 Special Proceed Authority (SPA)* form.

train working

Protecting rail traffic

Adjacent lines

The Train Crew or Track Vehicle Crew of rail traffic that is, or might be, foul of adjacent lines, must contact the Signaller to prevent other rail traffic from approaching the affected portions of line.

Outside the area bounded by Waterfall, Macarthur, Emu Plains and Cowan

Delayed rail traffic

If rail traffic has been, or will be, stationary for more than 10 minutes, Railway Track Signals must be used to protect the rail traffic unless:

- the Driver or Track Vehicle Operator is assured by the Signaller that following rail traffic has been restrained, or prevented from entering the same block, or
- the Driver or Track Vehicle Operator of the immediately following rail traffic has given an assurance that their rail traffic is stopped at a signal at STOP behind the delayed rail traffic.

Disabled rail traffic

Disabled rail traffic must be protected using Railway Track Signals.

train working

Protecting rail traffic

Placing Railway Track Signals

If rail traffic is in a location that prevents Train Crew or Track Vehicle Crew from placing Railway Track Signal protection, the Signaller must give the assisting Driver or Track Vehicle Operator written advice about:

- the length and location of the disabled rail traffic
- the need to travel at restricted speed:
  - from the protecting controlled absolute signal, or
  - if there is no protecting controlled absolute signal, from the entry to the section.

The written advice must be recorded on:

- *NRF 004 Condition Affecting the Network (CAN)* form, or
- *NRF 005 Special Proceed Authority (SPA)* form.

Adjacent lines

The Train Crew or Track Vehicle Crew of stopped rail traffic must immediately protect against approaching rail traffic if:

- their train or track vehicle is, or might be, foul of adjacent lines, and
- the Driver or Track Vehicle Operator is not assured that other rail traffic has been stopped, or prevented from entering the obstructed block.

WARNING

Unless Drivers or Track Vehicle Operators have confirmed that their train or track vehicle is not foul of adjacent lines, they must protect adjacent lines.

train working

Protecting rail traffic

On bidirectional double lines, protection must be applied to affected adjacent lines in both directions.

If multiple adjacent lines are affected, the Train Crew or Track Vehicle Crew must prioritise the order of applying protection.

A motive power unit or locomotive may be detached from the train for use during placement of protection.

The remaining portion of the train must be secured against movement before detaching the motive power unit or locomotive.

The motive power unit or locomotive used for placement of protection may be returned to the remaining portion of the train without further authorisation.

Network Procedures

NPR 709	*Using Railway Track Signals*
NPR 712	*Protecting work from rail traffic on adjacent lines*
NPR 720	*Protecting rail traffic*

Effective date

29 April 2017

train working

Inspecting trains

Purpose

To prescribe the rules for ensuring that trains are fit to travel in the Network.

Inspections before travel

Operators must make sure that:

- vehicles in a train consist are inspected and certified as meeting the operating standards specified in the *Train Operating Conditions (TOC) manual*
- details of the train's consist, and changes to the consist, are promptly provided to Network Control
- during travel in the Network, trains continue to comply with the requirements specified in the TOC manual.

Trains, rakes of vehicles, and vehicles must be re-inspected in accordance with the requirements specified in the TOC manual:

- after re-marshalling
- if they stand without an attached locomotive for longer than the specified time
- if vehicles that have not been examined within the specified time are attached.

The airbrakes of trains must pass the continuity, holding and leakage tests specified in the TOC manual.

train working

Inspecting trains

Brake certification

Operators must make sure that train brakes are examined before a train travels in the Network, and the brakes:

- work in accordance with the requirements specified in the TOC manual
- are certified as doing so in current documentation carried on the train.

Vehicle integrity

Operators must make sure that vehicle attachments, doors and loads are:

- secure
- within the relevant rollingstock loading outlines specified in the TOC manual.

If an inspecting Qualified Worker finds a defective vehicle or load in a train consist, the affected vehicle must be:

- repaired, and certified by an Operator's Representative as fit to travel, or
- reloaded within the relevant loading outline, or
- authorised to travel as an out-of-gauge vehicle by an authorised Asset Standards Authority Representative, or
- detached from the train.

train working

Inspecting trains

Standard equipment

Before a train travels in the Network:

- speed-monitoring equipment, if fitted, must be working correctly
- a Driver safety system, in accordance with the requirements specified in the TOC manual, must be fitted and working correctly
- prescribed train lights must be fitted and working correctly
- a train whistle must be fitted to the leading end of the leading motive power unit and working correctly
- equipment fitted to communicate with Network Control must be working correctly.

Dangerous goods

Before a train travels in the Network, Operators must make sure that the classes of dangerous goods, and the identification numbers of vehicles carrying dangerous goods, are recorded in the train consist documentation.

Dangerous goods must be loaded, labelled, and marshalled in accordance with the *Australian Dangerous Goods Code*.

train working

Inspecting trains

Inspections during travel

Qualified Workers must report abnormalities and unsafe conditions in passing trains:

- if possible, to the crew of the passing train
- to the Signaller.

During travel, Train Crews must inspect their trains in accordance with the requirements specified in the TOC manual, and observe passing trains for:

- abnormalities of equipment, loading and security
- unsafe conditions, defects and failures.

Responding to reports during travel

If unsafe conditions or defects in a travelling train are suspected or reported, the Train Crew must:

- if necessary, stop the train
- tell the Signaller
- if possible, check and remedy the faults.

If unsafe conditions or defects are reported to the Signaller, the Signaller must:

- tell the affected Train Crew about unsafe conditions and defects
- follow the requirements of *NGE 206 Reporting and responding to a Condition Affecting the Network (CAN)*.

train working

Inspecting trains

Moving defective vehicles

A defective vehicle that the Train Crew considers to be unable to travel must be moved only in accordance with *NTR 414 Defective vehicles*.

If an affected train cannot keep to its programmed schedule, it must travel only at the direction of the Network Controller.

Network Procedures

Nil

Effective date

30 September 2018

train working

Using brakes

Purpose

To prescribe the rules for using train brakes safely in the Network.

Using airbrakes

Holding trains on grades

Trains that come to a stand on grades must be held stationary in accordance with the requirements specified in the *Train Operating Conditions (TOC) manual*.

Light trains on grades

Single or multiple light locomotives, and trains hauled by locomotives whose total weight is greater than the net train weight, must descend grades in accordance with the requirements specified in the TOC manual.

Multiple power units

If there are additional motive power units in a train, the Driver in the leading locomotive must:

- have control of the airbrake throughout the train, and
- direct additional Train Crews to apply or reduce power as required.

Effective communication must be maintained between the Driver in the leading locomotive and additional Train Crews.

The Driver in the leading locomotive of an assisted train does not need to control the airbrake of an assisting bank locomotive.

train working

Using brakes

Abnormal or defective airbrake application

If during travel, there is abnormal application of airbrakes or the braking performance is inadequate, the Train Crew must:

- bring the train to a complete stop, and
- meet the requirements of *NTR 400 Protecting rail traffic*, and
- if possible, determine the cause of the application or the extent of the defect, and
- if possible, remedy the cause or defect, and
- tell the Signaller, if the defect cannot be remedied.

Airbrake cut-outs

If a train with defective airbrakes travels with airbrake cut-outs, it may be operated only in accordance with the requirements specified in the TOC manual.

Detaching and attaching locomotives

Before detaching a locomotive from a train, the Train Crew must secure the train against movement in accordance with the requirements specified in the TOC manual.

After attaching a locomotive to a stationary train, the Train Crew must fully pressurise the brake pipe before releasing handbrakes.

train working

Using brakes

Defective handbrakes

If handbrakes cannot be applied, or if handbrakes are suspected or reported to be applied during travel, the Train Crew must, if possible:

- determine the cause of the defect, and
- remedy the defect, and
- if the defect cannot be remedied, tell the Signaller.

If a vehicle with non-operating handbrakes is to travel, adjoining vehicles in the train consist must, unless it is specially authorised otherwise, have operational handbrakes.

Re-marshalling

A vehicle with handbrakes that cannot be applied must not be marshalled:

- as the last vehicle of a passenger train, or
- as one of the last three vehicles of a freight train, or
- adjoining other vehicles with handbrakes that cannot be applied.

Labelling vehicles

If defective handbrakes of vehicles cannot be remedied during the journey, the vehicles must be clearly labelled NO HANDBRAKE on both sides.

train working

Using brakes

Stabling detached vehicles

To stable a detached vehicle without working handbrakes, it must be coupled to a vehicle that:

- has working handbrakes, and
- can secure the combined weight of both vehicles.

Network Procedures

Nil

Effective date

29 April 2017

train working

Using lights

Purpose

To prescribe the rules for using lights for identification and warning in the Network.

Principle

Train direction-of-travel and completeness must be shown by:

- at least one white marker light at the front of the leading motive power unit
- at least one approved red tail light, or an approved end-of-train marker, at the rear of the last vehicle.

Marker lights and tail lights must be:

- lit during travel
- if defective, repaired or replaced as soon as possible.

End-of-train markers and tail lights

End-of-train markers must be lit in conditions of low visibility.

Defective end-of-train markers or unlit tail lights

If an end-of-train marker is unlit at night or in conditions of low visibility, the Signaller must direct the Train Crew to have the end-of-train marker repaired or replaced as soon as possible.

train working

Using lights

If a train is not fitted with an end-of-train marker, and the train does not have at least one working tail light, and train completeness cannot be assured, the Signaller must:

- arrange to work the train as a block train
- act in accordance with *NGE 206 Reporting and responding to a Condition Affecting the Network (CAN)*.

Missing end-of-train markers

If the end-of-train marker is missing:

- the identification number of the last vehicle of a train must be checked against the train consist documents, or
- the train must be otherwise verified as complete.

If the numbers are the same, the end-of-train marker must be replaced as soon as possible.

If the numbers are not the same, the Signaller must:

- prevent rail traffic entry into the section last exited by the divided train until the missing vehicles are located and the section is established as clear
- arrange for Drivers and Track Vehicle Operators on adjacent lines to be given a Condition Affecting the Network (CAN) warning.

The crew of the divided train must act in accordance with *NTR 416 Disabled rail traffic*.

If the train can travel, it must be worked as a block train until the end-of-train marker has been replaced.

train working

Using lights

Number lights

If fitted, number lights on the leading end of the leading locomotive only must be lit during travel.

Shunting marker lights

Locomotives shunting within yards must show two red marker lights at each end.

WARNING

The marker lights of shunting locomotives do not indicate direction-of-travel.

Visibility lights

If fitted, visibility lights must be switched on during travel on running lines.

Defective visibility lights

If all visibility lights on the leading end are defective, the operator must arrange for rail traffic:

- to be worked to a suitable location for repair
- not remain in service for more than 24-hours.

train working

Using lights

Headlights

Trains must have a working headlight fitted to the leading locomotive, and travel with the headlight switched on, when the train travels beyond the area bounded by:

- Helensburgh, Macarthur, Emu Plains and Cowan, including intermediate branch lines
- Newcastle Interchange and Fassifern, including intermediate branch lines
- Thirroul and Unanderra, including intermediate branch lines.

NOTE

Unless headlights are needed for safety, trains fitted with headlights must have their headlights switched off when travelling through the areas prescribed above.

Switching headlights off

Headlights must be switched off during approach to rail traffic.

Headlights must be dimmed or switched off during approach to:

- a platform
- a location where shunting is in progress
- a motor vehicle on a nearby road
- a signal box.

train working

Using lights

Headlights may be switched off to prevent back-reflection into a Driver's or Track Vehicle Operator's eyes.

Before headlights are temporarily switched off, visibility lights, if fitted, must be switched on.

Using lights for warning

If necessary, Drivers or Track Vehicle Operators may flash the headlight to give warning.

A Driver or Track Vehicle Operator may also change the colour of marker lights from white to red to give warning.

Defective headlights

In areas where headlights are required, a train with defective headlights that cannot be remedied may continue to travel only to the first suitable location for repair or replacement of the headlights.

An affected train may continue to travel at up to normal speed if there is:

- good visibility
- the Train Crew can see clearly that there are no people, animals or obstructions on or near the track.

In conditions of low visibility, a train without a working headlight must travel at restricted speed, and not exceed 25km/h:

- over level crossings
- through tunnels and cuttings
- through platforms.

train working

Using lights

Network Procedures

Nil

Effective date

30 September 2018

train working

Using whistles

Purpose

To prescribe the rules for using whistles in the Network.

Sounding whistles

The whistles of rail traffic must be used to:

- give audible warning or alarm
- acknowledge handsignals.

Whistles must be sounded:

- if rail traffic explodes Railway Track Signals on the line
- as necessary for safety.

Unless otherwise instructed by signs, whistles must be sounded during approach to:

- level crossings
- shunting movements on adjacent tracks
- crossing or passing movements at sidings and loops
- people or animals on or near the track
- WHISTLE signs
- tunnel entrances and exits.

train working

Using whistles

Whistle codes

If other warning methods are not available, Drivers and Track Vehicle Operators are to sound the following whistle codes.

Code	Meaning
●● ●●	When sounded continuously, stop immediately
●●●	Rail traffic is about to be propelled

Defective whistles

If all whistles on the leading end of the leading motive power unit become defective during travel, the Train Crew or Track Vehicle Crew must:

- tell the Signaller, and
- if possible, remedy the defect.

Rail traffic with defective whistles that cannot be remedied may continue to travel only to the first suitable location for repair or replacement of the whistle.

If the whistle cannot be repaired or replaced, the motive power unit must be:

- re-marshalled at the first suitable location, or
- promptly worked out of service.

Rail traffic without a working whistle must travel at restricted speed until:

- the whistle is repaired or replaced, or
- the motive power unit is re-marshalled.

train working

Using whistles

Using headlights instead of whistles

If the whistle has failed, a Driver or Track Vehicle Operator must flash the headlight of the leading motive power unit to give visible warning during approach to:

- level crossings
- people or animals on or near the track
- other potentially hazardous conditions.

Responding to headlight and whistle failure

Rail traffic with neither a working headlight nor a working whistle must travel at restricted speed, and not exceed 25km/h:

- in conditions of low visibility
- over level crossings
- through tunnels and cuttings
- past platforms.

Level crossings

If a level crossing is not fitted with Type F warning equipment, the Train Crew or Track Vehicle Crew of a leading motive power unit with neither a working headlight nor a working whistle must:

- be prepared to stop rail traffic short of the crossing
- travel over the crossing only if it is clear, and if road and pedestrian traffic has been stopped.

train working

Using whistles

Network Procedures

Nil

Effective date

29 April 2017

train working

Defective equipment

Purpose

To prescribe the rules for responding to train equipment defects during travel in the Network.

Brakes

If a train's brakes are suspected or reported to be defective during travel, the Train Crew must act in accordance with *NTR 404 Using brakes*.

Train lights

If a train's lights are suspected or reported to be defective during travel, the Train Crew must act in accordance with *NTR 406 Using lights*.

Train whistles

If train whistles become defective during travel, the Train Crew must act in accordance with *NTR 408 Using whistles*.

Speedometers

If the speedometer in the leading motive power unit is observed or reported to be defective during travel, the Train Crew must, if possible, remedy the defect.

If the fault persists, the Train Crew must not exceed the speed limits.

train working

Defective equipment

An affected train may continue to travel until:

- the train is re-marshalled at the first suitable location, or
- the equipment can be repaired or replaced, or
- the motive power unit is worked out of service.

Driver safety systems

If faulty Driver safety system equipment in the leading motive power unit needs to be completely isolated during travel, the Train Crew must tell the Signaller.

An affected train may continue to travel until:

- it is re-marshalled at the first suitable location, or
- it is taken out of service at a suitable location.

Signallers must monitor the journey of an affected train.

If the Driver safety systems of a train with a single crew member in the driving cab fail completely, the Driver must:

- stop the train, and
- tell the Signaller.

Before the train continues its journey, the Operator must arrange to provide a second Qualified Worker in the driving cab.

train working

Defective equipment

Train communications equipment

If the train communications equipment in the leading motive power unit is found or reported to be defective during travel, the Train Crew must report the failure, as soon as possible, to the Signaller.

The Signaller must tell affected Network Controllers and Signallers about the failure.

Operators must arrange for alternative means of effective communication by Train Crews with Network Controllers and Signallers.

An affected train may continue to travel until the end of its scheduled journey.

At the end of that journey, the affected train must be taken out of service at a suitable maintenance location.

Automatic Train Protection (ATP) equipment

If a train's Automatic Train Protection (ATP) equipment is suspected or reported to be defective during travel, the Train Crew must act in accordance with *NTR 434 Automatic Train Protection (ATP) onboard equipment*.

Network Procedures

NPR 721 Spoken and written communication

Effective date

24 March 2019

train working

Defective running gear

Purpose

To prescribe the rules for dealing with damaged vehicle wheels, suspension equipment, drawgear, and overheating axle box bearings and defective traction in the Network.

Principle

If train running gear is suspected or reported to be defective during travel, the Train Crew must:

- if necessary, stop the train
- tell the Signaller
- meet the requirements of Rule *NTR 400 Protecting rail traffic*
- determine the nature and extent of the defect.

Damaged wheels

Wheel scale

If there is only surface wheel scale on a vehicle's wheel tread, the vehicle may travel at normal speed.

For greater thickness of wheel scale, Drivers or Track Vehicle Operators must act in accordance with the requirements specified in the *Train Operating Conditions (TOC) manual*.

train working

Defective running gear

Flat spots (wheel skids)

If there is only one flat spot of less than 25mm length on a vehicle's wheel tread, the vehicle may travel at normal speed.

For multiple or larger flat spots, Drivers and Track Vehicle Operators must act in accordance with the requirements specified in the TOC manual.

Defective suspension equipment

If suspension equipment is defective, it must be dealt with in accordance with the requirements specified in the TOC manual.

Overheating axle boxes

If a Train Crew becomes aware of, or is warned about a hot axle box, the Driver must:

- stop the train
- tell the Signaller.

If a Train Crew becomes aware of, or is alerted about, a warm axle box, they must assess whether the affected vehicle can travel, and at what speed.

If the affected vehicle can travel safely, the Train Crew must re-inspect the axle box bearing in accordance with the requirements specified in the TOC manual.

train working

Defective running gear

Defective drawgear

If drawgear is confirmed to be defective, the Train Crew must:

- if possible, replace or repair it, or
- arrange to detach and stable the vehicle.

If the drawgear cannot be replaced or repaired, the Train Crew may:

- re-marshal the defective vehicle as the rearmost in the consist, or
- tow the vehicle, with an approved towing device in place of the vehicle's defective drawgear, in accordance with the requirements specified in the TOC manual.

If a towing device cannot be used, the Train Crew must follow the requirements of *NTR 416 Disabled rail traffic*.

Removal of detached drawgear

The Train Crew must tell the Signaller whether detached drawgear:

- has been removed from the four-foot, clear of the line, or
- needs protection.

If necessary, the Signaller must arrange for detached drawgear equipment to be removed clear of the line.

train working

Defective running gear

Wheelspin

Drivers must limit wheelspin. If a motive power unit undergoes uncontrollable wheelspin, the Train Crew must:

- tell the Signaller about the Condition Affecting the Network (CAN), and
- if necessary, follow the requirements of *NTR 400 Protecting rail traffic*.

The Network Controller must arrange for Maintenance Representatives to inspect and assess the affected portion of track.

If necessary, the Maintenance Representatives must arrange for placement of speed restriction signs in accordance with *NSG 604 Indicators and signs*.

Oversanding

If a locomotive applies sand continuously or excessively, the Train Crew must act in accordance with the requirements specified in the TOC manual.

The Network Controller must arrange for Maintenance Representatives to inspect and assess the affected portion of track.

If oversanding occurs in track-circuited territory, the Signaller responsible for the affected portion of track must treat the track-circuits as unreliable.

Until the line is certified, rail traffic must be block worked over the affected portion of track.

train working

Defective running gear

Network Procedures

NPR 703 *Using Absolute Signal Blocking*

NPR 711 *Using Lookouts*

NPR 720 *Protecting rail traffic*

NPR 750 *Protecting activities associated with in-service rail traffic*

Effective date

30 September 2018

train working

Defective vehicles

Purpose

To prescribe the requirements for dealing with defective vehicles in the Network.

Responding to vehicle defects

If defective vehicles are observed by or reported to the Train Crew they must:

- if necessary, stop the train
- tell the Signaller
- follow the requirements of *NTR 400 Protecting rail traffic*
- investigate the nature of the defect.

If inspection confirms that there is a defect, the Train Crew must tell the Signaller:

- about the nature of the defect
- whether the defect can be remedied on site.

If defective vehicles are able to travel, the Train Crew must tell the Signaller about operating restrictions that apply.

train working

Defective vehicles

Moving defective vehicles

If the Train Crew considers that a defective vehicle cannot travel, the defective vehicle:

- must be certified by an Operator's Representative as safe to travel, before the vehicles may be moved
- may be moved only in accordance with the requirements specified in the T*rain Operating Conditions (TOC) manual*.

The Operator's Representative must tell the Network Controller about operating restrictions that have been placed on the vehicle.

Red cards

If the Operator's Representative does not certify defective vehicles as safe to travel, the vehicles must be labelled with a NOT TO GO card ('red card') on each side.

Vehicles with red cards must not travel in the Network. Vehicles with red cards stabled in the Network must be promptly:

- repaired, and certified as safe to travel, or
- removed from the Network.

train working

Defective vehicles

Detaching vehicles

Before a defective vehicle is detached from a train at a location short of its destination, the Train Crew must tell the Signaller about:

- the nature of the defect
- the vehicle identification number
- dangerous goods contained in the vehicle.

If defective vehicles are detached from a train, the Train Crew must:

- arrange for the consist form to be amended or re-issued
- perform brake holding tests, as necessary
- perform continuity tests in accordance with the requirements specified in the TOC manual.

If it is necessary to deal with a defective vehicle by dividing a train, the Train Crew must act in accordance with *NTR 416 Disabled rail traffic*.

Assisting track vehicles

Defective track vehicles may be assisted in accordance with the requirements specified in the TOC manual.

Assisting with an automatic coupling device

If an assisted track vehicle is fitted with an automatic coupling device, it may be either hauled or propelled.

Hauling

Unless the coupling device is approved for a higher speed, the maximum speed for hauled track vehicles is 15km/h.

train working

Defective vehicles

Propelling

The maximum speed for propelled track vehicles is 10km/h.

Assisting with an approved towing device

Defective track vehicles may be towed with an approved towing device by another track vehicle if the:

- gross weight of the towed track vehicles is less than the weight of the towing vehicle
- towed track vehicles have working airbrakes and main reservoir air supply
- towed track vehicles have working emergency parking brakes
- track vehicles are crewed by Qualified Workers.

If these conditions are met, the towing speed must not exceed:

- the allowable maximum of the lower-rated vehicle, if the brakes of the towed track vehicles are operable from the towing vehicle, or
- half the allowable maximum of the lower-rated vehicle, if the brakes of the towed track vehicles are not operable from the towing vehicle.

If the specified conditions cannot be met, the maximum speed for towed track vehicles is 15km/h.

train working

Defective vehicles

Network Procedures

NPR 703	*Using Absolute Signal Blocking*
NPR 711	*Using Lookouts*
NPR 712	*Protecting work from rail traffic on adjacent lines*
NPR 720	*Protecting rail traffic*
NPR 721	*Spoken and written communication*
NPR 750	*Protecting activities associated with in-service rail traffic*

Effective date

30 September 2018

train working

Disabled rail traffic

Purpose

To prescribe the rules for managing disabled rail traffic in the Network.

Disabled rail traffic

The Train Crew or Track Vehicle Crew of disabled rail traffic must:

- tell the Signaller about the failure
- follow the requirements of *NTR 400 Protecting rail traffic*
- determine the nature of the failure.

Removing disabled rail traffic

The Signaller must get details of the disablement from the Train Crew or Track Vehicle Crew.

If it is necessary to assist disabled rail traffic with other rail traffic, or motive power unit, a Signaller must tell the Train Crew or Track Vehicle Crew:

- of the assisting rail traffic or motive power unit, about the Condition Affecting the Network (CAN)
- of the disabled rail traffic, about the details of assistance to be provided.

The Network Controller must determine the method of removing the disabled rail traffic.

train working

Disabled rail traffic

If the normal Proceed Authority permitted by the existing system of Safeworking is not available, and the working cannot be covered by *NSG 608 Passing signals at STOP*, rail traffic movement must be authorised under a method of special working.

NOTE

To assist disabled rail traffic only, a Network Controller may authorise rail traffic to enter a block occupied by other rail traffic.

Arranging removal

The Signaller must be assured by the Train Crew or Track Vehicle Crew that the disabled rail traffic:

- if necessary, has been protected
- will not be moved.

Assisting rail traffic

Disabled rail traffic must be assisted in accordance with the requirements specified in the *Train Operating Conditions (TOC) manual*.

Emergency couplers

Emergency couplers must be used only in accordance with the requirements specified in the TOC manual.

train working

Disabled rail traffic

Propelling rail traffic

Rail traffic must be propelled in the Network only in accordance with the requirements:

- of *NTR 424 Propelling rail traffic*
- specified in the TOC manual.

Dividing and removing rail traffic

If it is necessary to divide rail traffic into portions for removal, the Network Controller must:

- decide what kind and direction of assistance is needed to clear the portions from the section
- tell affected Signallers about the arrangements.

Removed portion

Before a portion is removed, the Train Crew or Track Vehicle Crew must complete airbrake holding and continuity tests on the portion to be removed, in accordance with the requirements specified in the TOC manual.

If the removed portion of rail traffic will travel into the next section, the Train Crew or Track Vehicle Crew must make sure that:

- there are working tail lights or an end-of-train marker on the rearmost vehicle before the removed portion enters the next section, or
- the rail traffic will be block worked into the next section.

train working

Disabled rail traffic

Remaining portion

The portion of rail traffic to remain must be:

- secured and protected
- during darkness or in conditions of low visibility, fitted with a white light on the leading vehicle.

Accidental division

A Driver who is told or becomes aware that rail traffic has accidentally divided must:

- stop the rail traffic
- tell the Signaller about the division and, if possible, the location of the detached vehicles.

WARNING

Before stopping the forward portion of divided rail traffic, Drivers or Track Vehicle Operators must consider the risk of being struck by the detached vehicles.

The Signaller must:

- arrange to locate the detached vehicles
- act in accordance with *NGE 206 Reporting and responding to a Condition Affecting the Network (CAN)*.

If possible, Qualified Workers who find detached vehicles must:

- secure them, and arrange for their protection
- tell the Signaller.

train working

Disabled rail traffic

The Network Controller must determine whether the Proceed Authority for the movement back to the detached vehicles:

- is available under the existing system of Safeworking, or
- must be authorised under a method of special working.

The Driver or Track Vehicle Operator must not propel the forward portion of divided rail traffic back to the location of the detached vehicles unless:

- it is confirmed that they are secured
- the propelling movement is made in accordance with *NTR 424 Propelling rail traffic*.

Network Procedures

NPR 703	*Using Absolute Signal Blocking*
NPR 711	*Using Lookouts*
NPR 712	*Protecting work from rail traffic on adjacent lines*
NPR 720	*Protecting rail traffic*
NPR 750	*Protecting activities associated with in-service rail traffic*

Effective date

30 September 2018

train working

Yard limits

Purpose

To prescribe the rules for safe movement of rail traffic within yards in the Network.

Principle

Signallers must plan and agree about movements from one Signaller's area of responsibility into another Signaller's area.

If fixed signals are not available, Signallers:

- may give spoken authority for movements within yard limits
- must not authorise unsignalled movements to proceed beyond yard limits.

Yard limits

Depending on their availability at a location, signs or signals determine arrival-end and departure-end yard limits.

In order of priority, a yard limit is determined by a:

- YARD LIMIT sign, or
- SHUNT LIMIT sign, or
- specified signal.

train working

Yard limits

Rail Vehicle Detection territory

Unidirectional double-line

Yard limits in unidirectional double-line Rail Vehicle Detection (RVD) territory are determined by, in order of priority:

End	Limit
Arrival	YARD LIMIT sign
	SHUNT LIMIT sign
	First controlled signal
Departure	END YARD LIMIT sign
	First automatic signal beyond a starting or home/starting signal
	Starting or home/starting signal

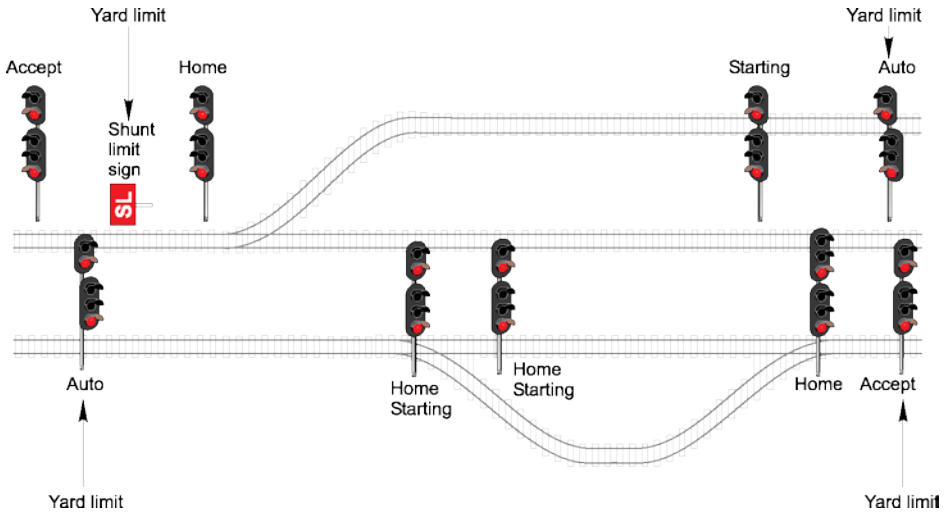

FIGURE 1: Example of yard limits in unidirectional double-line RVD territory.

train working

Yard limits

Bidirectional double-line

Yard limits in bidirectional double-line RVD territory are determined by:

End	Limit
Arrival	YARD LIMIT sign
Departure	END YARD LIMIT sign

Bidirectional single-line

Yard limits in bidirectional single-line RVD territory are determined by, in order of priority:

End	Limit
Arrival	YARD LIMIT sign
	SHUNT LIMIT sign
	Outer home signal
	Home signal
Departure	END YARD LIMIT sign
	SHUNT LIMIT sign
	Outer home signal for the opposing direction
	Home signal for the opposing direction

train working

Yard limits

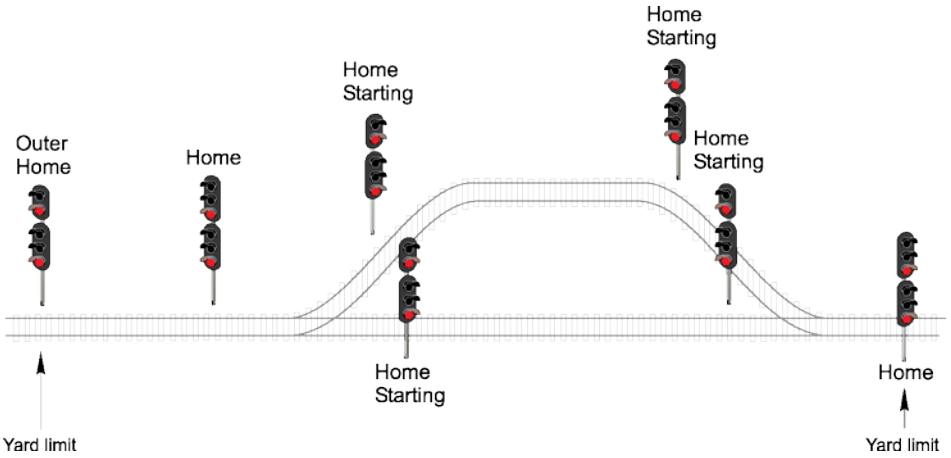

FIGURE 2: Example of yard limits in bidirectional single-line RVD territory.

Yard working

Running lines

Rail traffic movements on running lines within yard limits must be authorised by Signallers at attended locations.

Signallers must make sure that they do not authorise conflicting movements.

If available, fixed signals must be used to authorise movements.

Signals at stop must be passed only in accordance with *NSG 608 Passing signals at STOP*.

Unsignalled movements within yard limits must not exceed 25km/h.

For unsignalled movements in a tunnel, the Driver or Track Vehicle Operator must:

- not exceed 10km/h
- stop at platforms and report arrival to the Signaller
- get the Signaller's authority to proceed.

train working

Yard limits

Shunting yards and sidings

Movements within shunting yards and sidings must be directed by the responsible Qualified Workers.

Qualified Workers directing movements must make sure that they do not authorise conflicting movements.

Shunting movements must be made in accordance with *NTR 420 Shunting and marshalling* and *NTR 424 Propelling rail traffic*.

RVD territory

Unsignalled opposing movement

Before authorising an unsignalled movement that opposes other rail traffic, the Signaller must make sure that at least one unoccupied block is maintained between the movements.

Until one of the approaching trains or track vehicles is brought to a stand, the block between the opposing movements must remain unoccupied.

Bidirectional lines

Before authorising an unsignalled movement beyond a starting or a home/starting signal on a bidirectional line, the Signaller must:

- tell the Network Controller about the movement
- compile an *NRF 012 Unsignalled movement checklist* form
- tell the Driver or Track Vehicle Operator for the unsignalled movement not to proceed beyond the relevant yard limit.

train working

Yard limits

Consolidated yards

Before authorising an unsignalled movement into or through one or more blocks protected by automatic signals in a consolidated yard, the Signaller must:

- tell the Network Controller about the movement
- compile an *NRF 012 Unsignalled movement checklist* form
- if there is an affected locally-controlled interlocking machine, tell the Qualified Worker in charge about the movement
- make sure that the route is set correctly, and that no conflicting movements will be authorised.

Network Procedures

Nil

Effective date

30 September 2018

train working

Shunting and marshalling

Purpose

To prescribe the rules for making safe shunting movements in the Network.

Principle

Marshalling

Vehicles must be marshalled in accordance with the requirements specified in the *Train Operating Conditions (TOC) manual*.

Shunting

Shunting is moving trains, rakes of vehicles, or vehicles to:

- arrange or rearrange vehicle order in a consist
- attach or detach vehicles to or from a train
- move trains or vehicles to, on, or from running lines for other than through-movements
- move trains or vehicles within yards for other than through-movements
- change running lines for other than through movements.

Qualified Workers performing shunting must safely:

- walk beside the leading vehicle, or
- ride in or on the leading vehicle in a position designated as safe by the operator.

train working

Shunting and marshalling

Communication

WARNING

Qualified Workers need effective communication, agreement and understanding throughout shunting movements.

Qualified Workers directing shunting, and Drivers or Track Vehicle Operators, must maintain effective communication at agreed intervals.

Communication failure

If communication between a Qualified Worker directing shunting, and a Driver or Track Vehicle Operator is interrupted, the Driver or Track Vehicle Operator must stop the train immediately.

Narrow track clearances signs

FIGURE 1: Narrow track clearances sign

NARROW TRACK CLEARANCES signs warn that there is restricted clearance between:

- vehicles on adjacent lines
- the track and other infrastructure or buildings.

train working

Shunting and marshalling

If there are NARROW TRACK CLEARANCES signs, Qualified Workers must not stand between a moving vehicle and a vehicle on an adjacent line.

If there are no NARROW TRACK CLEARANCES warning signs, Qualified Workers performing shunting must keep at least 2m away from moving vehicles.

Stationary vehicles

Unattended vehicles must:

- be secured with handbrakes
- not be left foul of running lines without the Signaller's authorisation.

Red warning flags/red warning lights on vehicles

Vehicles with red warning flags/red warning lights must not be moved, be shunted against, or have other vehicles attached unless:

- the red warning flags/red warning lights are first removed by the workers who put them there
- no work is being done on or near the vehicles
- it is safe to move the vehicles.

If the workers who attached the red warning flags/red warning lights are not available on-site, the Supervising Manager may remove the flags/lights after making sure that:

- no work is being done on or near the vehicles
- it is safe to move the vehicles.

train working

Shunting and marshalling

Locomotive shunting

An attached locomotive starts and controls the movement of vehicles or rakes of vehicles.

The airbrakes of locomotive-shunted vehicles must be:

- sufficient to control movement of the vehicles
- controlled from the locomotive.

All vehicles carrying dangerous goods must be shunted under locomotive control.

NOTE

A locomotive must be used for shunting.

Gravitation shunting and loose shunting must not be used.

Shunting movements

Workers not involved in shunting must stay clear of moving vehicles.

Qualified Workers directing shunting must:

- have adequate locality knowledge
- confer with other workers beforehand and agree about planned movements
- if necessary, arrange for clearance of fixed signals
- make sure that routes are correctly set
- make sure that it is safe for shunting movements
- make sure that workers have been warned about the intended shunting
- tell the Signaller when shunting movements within the Signaller's area of control have been completed.

train working

Shunting and marshalling

Shunting past yard limits

A shunting movement past yard limits must proceed only:

- under an authority to enter the section
- as far as necessary to carry out the shunting movement.

Shunting over points

If the Qualified Worker directing shunting is not assured that the points will hold their set positions, the points must be secured for the intended route.

Shunting over level crossings

Unless road and pedestrian traffic has been stopped, a shunting movement must stop before and clear of a level crossing.

The shunting movement over the level crossing must not begin before it is safe to do so.

Stabling on running lines

Trains, track vehicles, or vehicles may be stabled on running lines only:

- if an authorised publication has advertised the stabling, or
- with the authority of the Network Controller responsible for the location.

Failed trains, track vehicles, or vehicles stabled on running lines must be removed as soon as possible.

train working

Shunting and marshalling

Network Procedures

NPR 719 *Operating groundframes*

NPR 721 *Spoken and written communication*

NPR 745 *Using non-interlocked points*

Effective date

30 September 2018

train working

Shunting at intermediate sidings

Purpose

To prescribe the rules for safe shunting of trains at intermediate sidings in the Network.

Arriving and departing

Train Crews must report arrival at and departure from intermediate sidings to the Signaller responsible for the location.

Restoring equipment

After completion of shunting, Train Crews must:

- set points and signals to their normal positions
- restore releases to their normal positions
- return keys to their normal locations.

Groundframe release

The groundframe must be released with a key obtained:

- at the siding by an electric release, or
- from a location at or before entry to the section.

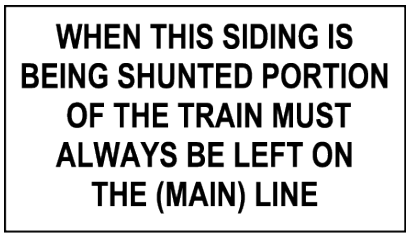

FIGURE 1: Warning sign displayed at some track-circuited sidings.

train working

Shunting at intermediate sidings

At a siding that shows a warning sign as in Figure 1, one or more vehicles of the train must be left and secured on the track-circuited portion of the nominated running line throughout shunting.

At a siding that does not show a sign as in Figure 1:

- one or more vehicles of the train may be left and secured on the track-circuited portion of the main line throughout shunting, or
- the train may be shunted wholly within the siding, clear of the main line.

If a portion of the train is kept on the main line, the releasing switch must be kept in the RELEASE position throughout shunting.

Stabling

The handbrakes of unattended detached vehicles must be secured.

Stabling trains or vehicles in sidings

If it is necessary to stable rail traffic in an intermediate siding, the Train Crew or Track Vehicle Crew must tell the Signaller.

Vehicles, including the locomotive if necessary, must be stabled:

- clear of the running line
- secured against unintended movement
- inside derail devices.

The Train Crew or Track Vehicle Crew must cancel or fulfil authorities as directed by the Signaller.

train working

Shunting at intermediate sidings

If a release must be obtained for rail traffic to return to the running line from an intermediate siding, the Driver or Track Vehicle Operator must:

- get the Signaller's authority to return
- make sure that the route has been set correctly
- have the correct Proceed Authority.

Network Procedures

NPR 719 *Operating groundframes*

NPR 721 *Spoken and written communication*

Effective date

30 September 2018

train working

Propelling rail traffic

Purpose

To prescribe the rules for making safe propelling movements in the Network.

Principle

Propelling is control of movement from other than the leading end in the direction of travel.

Propelling movements must:

- be directed from the leading end by a Qualified Worker
- be controlled by a Driver or Track Vehicle Operator
- comply with the vehicle structure, weight and drawgear conditions specified in the *Train Operating Conditions (TOC) manual*.

The Qualified Worker directing propelling must safely:

- walk beside the leading vehicle, or
- ride in or on the leading vehicle in a position designated as safe by the operator.

Rail traffic must be propelled only:

- if it is not practicable to haul it
- as far as the authority to propel allows.

Throughout propelling movements:

- the route between the limits of authority to propel must be set safely, correctly and completely
- signals, if available, must be used to give Proceed Authorities.

train working

Propelling rail traffic

Communication

WARNING

Qualified Workers need effective communication, agreement and understanding throughout propelling movements.

Drivers and Track Vehicle Operators, and Qualified Workers directing propelling, must maintain effective communication at agreed intervals.

If communication between a Driver or Track Vehicle Operator and the Qualified Worker directing propelling is interrupted, the Driver or Track Vehicle Operator must stop the train or track vehicle immediately.

Propelling over level crossings

A propelling movement must stop before and clear of a level crossing unless:

- the crossing is protected
- there is no road or pedestrian traffic on or near the crossing.

A movement over the crossing must:

- be directed by a Qualified Worker
- not proceed before it is safe to do so
- not exceed 10km/h before the leading vehicle has cleared the crossing.

train working

Propelling rail traffic

Right running-direction movements

In a section

If the movement is authorised by the Network Controller, rail traffic may be propelled in a section.

Within yard limits

Within yard limits, rail traffic must be propelled only if the Driver has:

- spoken authority from the Signaller
- the correct authority to start the movement.

In shunting yards

In a shunting yard, authority to propel is contained in the authority to shunt.

Wrong running-direction movements

In a section

Other than in response to a partial overrun of a platform, rail traffic may be propelled in the wrong running-direction in a section, only if the movement:

- does not conflict with another movement
- is authorised by the Network Controller in a Special Proceed Authority (SPA), or
- is allowed in the *Network Local Appendices*.

Within yard limits

Unless it is prohibited at the location, the Signaller may authorise rail traffic to be propelled in the wrong running-direction.

train working

Propelling rail traffic

Complete overrun of passenger platform

Unless authorised by the Network Controller in a SPA, a train that has completely overrun a passenger platform in a section must not be set back.

A train that has completely overrun a passenger platform within yard limits must not set back without the Signaller's authority.

Partial overrun of passenger platform

A train that has partially overrun a passenger platform may be set back:

- if within yard limits, only with the Signaller's authority, or
- if outside yard limits, only if the movement is not prohibited at the location, and the rearmost vehicle has not passed the departure end of the platform.

The rearmost vehicle of a train must not be set back beyond the arrival end of the platform.

Network Procedures

NPR 719 *Operating groundframes*

NPR 721 *Spoken and written communication*

Effective date

30 September 2018

train working

Overdue rail traffic

Purpose

To prescribe the rules for dealing with overdue rail traffic in the Network.

Principle

If rail traffic is overdue, the Signaller must establish its location.

The requirements of *NGE 206 Reporting and responding to a Condition Affecting the Network (CAN)* must be observed if the Signaller cannot communicate with the Train Crew or Track Vehicle Crew of overdue rail traffic.

Stopped rail traffic

If the rail traffic stoppage is or will become extended, the Train Crew or Track Vehicle Crew must:

- secure the rail traffic against movement, and
- establish its location, and
- tell the Signaller about the location and the reason why the train is overdue, and
- if necessary, protect the rail traffic in accordance with *NTR 400 Protecting rail traffic*.

train working

Overdue rail traffic

Inspecting stopped rail traffic

If it is necessary to inspect their rail traffic, a Train Crew or Track Vehicle Crew must:

- make sure that they and their rail traffic is protected against rail traffic on adjacent lines, and
- tell the Signaller the result of the inspection.

Disabled rail traffic

If the Train Crew or Track Vehicle Crew reports rail traffic is overdue or disabled, the Signaller must act in accordance with *NTR 416 Disabled rail traffic*.

Network Procedures

NPR 712 *Protecting work from rail traffic on adjacent lines*

NPR 720 *Protecting rail traffic*

Effective date

29 April 2017

train working

SAFE Notices

Purpose

To prescribe the rules for using SAFE Notices in the Network.

Principle

SAFE Notices give immediate notice of changes or exceptions to Network information publications.

Permanent changes must be confirmed by publication and issue of replacement pages for affected publications.

A SAFE Notice remains in force for 180 days unless:

- a shorter period is specified in the SAFE Notice, or
- a new SAFE Notice is issued to extend its currency, or
- affected pages in publications are republished and issued.

Authorisation

Only the designated Sydney Trains Representative may authorise a SAFE Notice.

train working

SAFE Notices

Issuing SAFE Notices

SAFE Notices must be issued only by the designated Sydney Trains Representative.

The issuer must keep the original SAFE Notice until its expiry date.

SAFE Notices must be issued to affected Operators and Qualified Workers.

Receiving SAFE Notices

Operators and Qualified Workers who receive a SAFE Notice must meet the requirements in the SAFE Notice.

Operators must keep the SAFE Notice until its expiry date.

Network Procedures

Nil

Effective date

29 April 2017

train working

Train Operating Conditions (TOC) Waivers

Purpose

To prescribe the rules for using Train Operating Conditions (TOC) Waivers in the Network.

Principle

TOC Waivers gives notice of changes or exceptions to the requirements specified in the *Train Operating Conditions (TOC) manual*.

Permanent changes must be confirmed by publication and issue of replacement pages for the TOC manual.

A TOC Waiver remains in force for 180 days unless:

- a shorter period is specified in the TOC Waiver, or
- a new TOC Waiver is issued to extend its currency, or
- affected pages of the TOC manual are republished and issued.

Authorisation

TOC Waivers must be authorised only by the designated Asset Standards Authority Representative.

train working

Train Operating Conditions (TOC) Waivers

Issuing TOC Waivers

TOC Waivers must be issued only by the designated Asset Standards Authority Representative.

The issuer must keep the original TOC Waiver until its expiry date.

TOC Waivers must be issued to affected Operators and Qualified Workers.

Receiving TOC Waivers

Operators and Qualified Workers who receive a TOC Waiver must meet the requirements in the TOC Waiver.

Operators must keep the TOC Waiver until its expiry date.

Network Procedures

Nil

Effective date

29 April 2017

train working

Protecting activities associated with in-service rail traffic

Purpose

To prescribe the rules for protecting activities associated with in-service rail traffic.

General

Activities associated with in-service rail traffic may be carried out:

- in a location where rail traffic can be excluded from the affected portions of track, or
- in an existing safe place, or
- in a safe place created using stationary rail traffic.

The protection arrangements specified in this Rule must not be used where a work on track authority is in place.

NOTE

The protection arrangements specified in this Rule are not required if the workers will remain in a safe place.

Activities associated with in-service rail traffic must have a Qualified Worker responsible for:

- ensuring that the activity is assessed for safety and its potential to intrude on the Danger Zone
- if required, being the only point of contact with the Signaller
- if required, being the only point of contact with the Driver or Track Vehicle Operator of rail traffic kept stationary to create a safe place.

train working

Protecting activities associated with in-service rail traffic

WARNING

The requirement for protection arrangements must be assessed for all lines that need to be accessed to conduct the activity.

One Qualified Worker may work alone when protecting activities associated with in-service rail traffic.

Unless conducting a roll-by inspection, the Qualified Worker must make sure that the associated rail traffic will not be moved until the activity is completed.

Rail traffic may be excluded from an affected portion of track to carry out activities:

- not requiring tools, or
- using:
  - light, non-powered hand tools, or
  - light, battery powered tools or devices, or
  - light, powered hand tools.

Authorisation

Signallers may authorise protection where rail traffic can be excluded from a portion of track.

If the protection requires more than one Signaller to exclude rail traffic from a portion of track, the affected Signallers must:

- confer to make sure that all points of entry are protected
- nominate an authorising Signaller.

train working

Protecting activities associated with in-service rail traffic

The Signaller must:

- use a system-generated ASB form, or if that is unavailable, an *NRF 018 Absolute Signal Blocking (ASB)* form to record the protection details
- issue a unique protection number to the Qualified Worker requesting protection.

Requesting Protection

When requesting the protection of activities associated with in-service rail traffic, the Qualified Worker must:

- provide the train number or track vehicle number
- identify the lines on which the protection is required
- nominate the activity location as being:
  - between any two stations, or
  - completely within a nominated dead-end siding, or
  - completely within the limits of a platform.

Platforms must be identified by the station name and platform number.

NOTE

Protection of activities associated with in-service rail traffic cannot be temporarily suspended.

train working

Protecting activities associated with in-service rail traffic

Applying protection

The authorising Signaller must make sure that all points of entry into the affected portion of track are protected.

Before allowing the activity to start, the Signaller must make sure, and confirm with the Qualified Worker, that:

- all points of entry into the affected portion of track are protected
- there is no approaching rail traffic between the protection and the identified activity location.

Signallers must not authorise un-signalled movements into the affected portion of track.

Removing protection

To remove protection, the Qualified Worker must tell the Signaller:

- the train number or track vehicle number
- the activity location and the unique protection number
- that workers and their equipment are clear of the Danger Zone.

NOTE

Only the Qualified Worker that requested the protection arrangements may speak with the Signaller to request the removal of protection.

train working

Protecting activities associated with in-service rail traffic

The Signaller may remove protection only after making sure that:

- the train number or track vehicle number, the activity location and the unique protection number correspond with the details they recorded
- the track is clear.

NOTE

If the unique number associated with the protection is not available to remove the protection, the Qualified Worker must provide:

- their name
- the train number or track vehicle number
- the name of the line on which protection was requested
- the activity location.

Keeping records

Signallers and Qualified Workers must record, in permanent form, the protection details.

train working

Protecting activities associated with in-service rail traffic

Network Procedures

NPR 750 *Protecting activities associated with in-service rail traffic*

Effective date

30 September 2018

train working

Automatic train protection (ATP) onboard equipment

Purpose

To prescribe the rules for using Automatic Train Protection (ATP) onboard equipment.

General

This Network Rule applies only to:

- trains approved to operate in the Network with operating ATP equipment
- Drivers qualified to operate the ATP equipment.

ATP onboard equipment fitted to the leading cab of a train must be operating in accordance with the Train Operating Conditions (TOC) Manual before the train may enter the Sydney Trains Network.

Drivers must report faults in ATP onboard equipment to the Signaller.

WARNING

The maximum speeds allowed by ATP do not imply that it is safe to travel at those speeds.

Isolating ATP equipment

The ATP equipment in an active Drivers cab may be isolated only if a fault cannot be remedied by the Train Crew, and the fault prevents travel.

If the ATP equipment in an active Drivers cab is isolated, the Driver must tell the Signaller.

train working

Automatic train protection (ATP) onboard equipment

ATP levels

Automatic level transitions

ATP level transitions are announced by a balise group before each level boundary.

On running lines, level transitions should automatically occur at the boundary between the areas with different ATP levels.

Missed level transitions

If a level transition does not occur at a signposted location, the Driver must:

- treat the inconsistency as a Condition Affecting the Network (CAN)
- stop and manually change the ATP level in the active cab.

NOTE

If a train crosses a level transition border in Shunting mode, the level transition will not occur until Shunting mode is exited.

Manually selecting an ATP level

When required by the system, Drivers must select the correct ATP level for their current location.

train working

Automatic train protection (ATP) onboard equipment

Activating modes

Shunting (SH) mode

Shunting (SH) mode must be activated by the Driver:

- to make authorised propelling movements, or
- to divide a train or amalgamate trains, or
- to shunt within shunting yards and sidings.

Shunting (SH) mode must be exited before a non-propelling through movement is commenced.

Non leading (NL) mode

Non-Leading (NL) mode may be activated in a cab only with the authority of the Network Controller.

Non-Leading (NL) mode must be exited after the movements for which it has been authorised have been completed.

Wrong running-direction movements

For wrong running-direction movements on unidirectional lines in ATP level 1 areas, the ATP system will enforce:

- a 40km/h maximum speed
- 15km/h maximum speed on the approach to active control level crossings.

Using the override function

Drivers may activate the ATP override function only if they receive an ATP message requiring them to do so.

train working

Automatic train protection (ATP) onboard equipment

Setting train data

Drivers must accurately confirm or enter the ATP level, the train length and airbrake cutout information into the onboard system:

- when required by the system
- if the data change.

Interventions

Drivers must tell the Signaller if there is an ATP emergency brake intervention.

Trackside faults

Drivers must treat a suspected fault in trackside ATP equipment as a Condition Affecting the Network (CAN).

NOTE

ATP onboard equipment can display messages that relate to trackside faults.

train working

Automatic train protection (ATP) onboard equipment

If a CAN about trackside ATP equipment is reported, the Signaller must tell the Driver of the next ATP-fitted train to report if an error message is received at the affected location.

If the Driver of the following ATP-fitted train also reports the equipment as faulty, the Signaller must:

- arrange for a Signals Maintenance Representative to attend
- give a CAN warning to Drivers of ATP-fitted trains.

Precautions for people under trains

Train Crews must disconnect power to a vehicle's ATP antenna:

- before any person goes beneath the vehicle, or
- if anyone is struck by the train.

The ATP antennas must not be re-powered until people are no longer beneath the vehicle.

WARNING

ATP antennas generate electromagnetic radiation that can be harmful to people underneath them.

train working

Automatic train protection (ATP) onboard equipment

ATP messages

Messages shown on the Driver machine interface (DMI) must be read and understood by Drivers before they act upon them.

If a message begins with 'Report Balise fault', Drivers must tell the Signaller.

Network Procedures

Nil

Effective date

24 March 2019