

ANSY 520

Phoenix Electronic Train Order System

Applicability

| |
|-----|
| NSW |
| SMS |

Publication Requirement

| |
|---------------|
| External Only |
|---------------|

Document Status

| Issue/Revision # | Effective from |
|------------------|-----------------|
| 2.0 | 11 October 2015 |

This page has been left black intentionally

Table of Contents

| | |
|--|-----------|
| Table of Contents | 3 |
| Document Amendment Register:..... | 5 |
| Purpose..... | 6 |
| General..... | 6 |
| Tracking System..... | 7 |
| Communication System | 7 |
| Rail Traffic Identification | 7 |
| Network Controller..... | 7 |
| Train Control Graph..... | 7 |
| Security Codes..... | 8 |
| Authorities | 8 |
| Authority In Effect | 8 |
| Authorities for Rail Traffic | 9 |
| Authorities for Track Workers..... | 9 |
| Proceed Authority | 10 |
| Proceed Restricted Authority..... | 10 |
| Special Proceed Authority | 11 |
| Restraint Authority | 12 |
| Location Authority..... | 13 |
| Block Location Limits | 16 |
| Designated Limits of Authority | 17 |
| Limit of Authority..... | 17 |
| Limit of Authority Start Points | 17 |
| Limit of Authority End Points | 20 |
| Managing Authorities | 23 |
| Lost Authority..... | 23 |
| Cancelling an Authority | 23 |
| Fulfilment of Authority..... | 25 |
| Reporting | 26 |
| <i>Reporting Departure</i> | <i>26</i> |
| <i>Reporting Arrival.....</i> | <i>27</i> |
| Over-length Rail Traffic | 28 |
| Confirming the location of rail traffic..... | 28 |

Communication Failure28

Crossing or Passing of Rail Traffic.....29

 First Rail Traffic to Arrive29

 Second Rail Traffic to Arrive.....30

 Departing Rail Traffic.....30

Sidings31

 Terminating at a Siding31

 Originating from a Siding33

Crew Changeover34

 Relieving rail traffic crew34

 Rail traffic crew being relieved34

Joint Occupancy Tables and Conditions35

Related ARTC Network Procedures.....36

Effective Date36

Document Amendment Register:

| Page | Section | Date | Detail | Reference |
|-------------|----------------|-------------|---------------|------------------|
|-------------|----------------|-------------|---------------|------------------|

Purpose

This section sets out how Authorities are formatted and used in the Phoenix Electronic Train Order Working System, how Electronic Train Order Working Block Locations are designated, the types of Authorities issued, the Limits of Authority applicable to each type, and how Authorities are confirmed in use, across the Territory.

General

The Electronic Train Order Working system is used only on bi-directional single lines.

All safeworking decisions are managed by the Network Controller.

A computer system is used to:

- cross check and formulate proposed Authorities
- electronically display events
and
- prevents the formulation and issue of conflicting authorities.

A Train Order is used to deliver Authorities and instructions to rail traffic crews.

Authorities must:

- be manually or electronically compiled
- be transmitted to rail traffic crews
- not be compiled by Rail Traffic Crew members who are operating the controls of a moving vehicle
and
- be recorded in permanent form, in a predetermined format, using Form B.

If the computer-assisted Electronic Train Order system is unavailable, Network Controllers must:

- manually prevent the issue of conflicting authorities
and
- manually issue Authorities without the use of Security Codes.

Tracking System

A tracking system may enable the Network Controller to:

- confirm the location of rail traffic
and
- be alerted of any Limit of Authority overrun.

Communication System

Rail traffic must be provided with a system to enable reliable communications with the Network Controller and between rail traffic crews.

Rail Traffic Identification

Rail traffic is identified by train number and lead motive power unit number.

Network Controller

The Network Controller must:

- efficiently manage Network activities
- formulate, authorise and issue Authorities
- record occupancies to prevent conflicts
and
- devise plans to recover from breakdowns, delays, or incidents.

Train Control Graph

A paper Train Control Graph is used by the Network Controller, on which are plotted all:

- planned and authorised rail traffic occupancies
- planned and authorised work on track occupancies
and
- other conditions or events that may affect safety.

The Network Controller must refer to the Train Control Graph, to:

- plan Network rail traffic requirements
and
- prevent conflicting authorities.

Security Codes

The Electronic Train Order system generates a security code for rail traffic and work on track authorities.

The entry of the correct security code into a workstation:

- confirms the identity of the Authority
and
- removes a blocking facility which releases the affected block.

Network Controllers must:

- transmit security codes to Qualified Workers together with the relevant Authority
and
- not record security codes.

If an Authority is partly fulfilled, fulfilled or cancelled, Network Controllers must not enter security codes into the system before:

- the location of rail traffic has been confirmed
and
- the security code has been provided.

Authorities

The Network Controller issues Authorities for occupation of running lines.

Authority In Effect

An Authority becomes in effect when the Network Controller advises the receiver of the “Read Back OK Time”.

An Authority remains in effect until fulfilled or cancelled.

Authorities for Rail Traffic

Rail traffic is issued the following Authorities for occupation of running lines:

- Proceed Authority
- Special Proceed Authority
- Proceed Restricted Authority
- Location Authority

or

- Restraint Authority.

A Proceed Authority or Special Proceed Authority may include permission for rail traffic to shunt within designated locations.

This is called Shunt Access.

A Location Authority must include permission for rail traffic to shunt within a designated location.

Rail traffic must not shunt except within locations where Shunt Access has been granted, or at which a Location Authority is in effect.

**NOTE**

Shunt Access is not required if shunting is conducted within sidings, entirely in clear of all running lines.

Authorities for Track Workers

The following Authorities may be issued to Track Workers for occupation of running lines:

- Local Possession Authority
- Track Occupancy Authority

or

- Track Work Authority.

**NOTE**

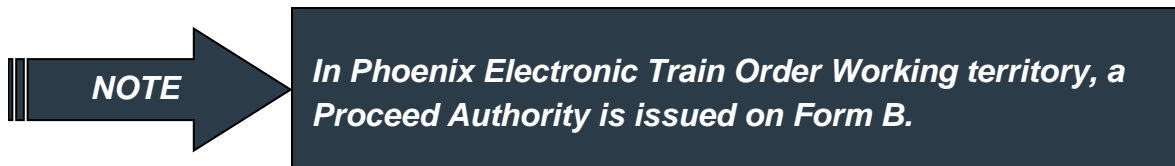
In Phoenix Electronic Train Order Working territory, a Local Possession Authority is issued on Form W.

Proceed Authority

Rail traffic may be authorised to move on a Proceed Authority.

Rail traffic must proceed from one location to another location in the direction specified.

Rail traffic crews must record and report progress as required by the Network Controller.

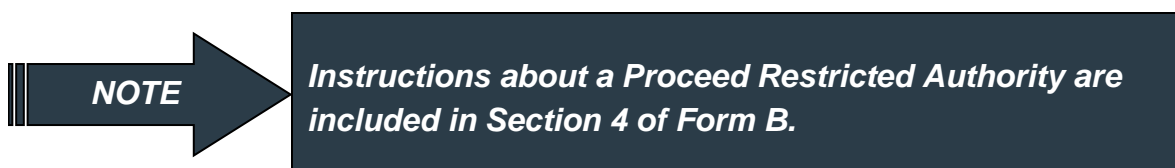


Proceed Restricted Authority

Rail traffic may be authorised to move on a Proceed Restricted Authority.

A Proceed Restricted Authority must only be issued:

- to rail traffic which is standing at an arrival-end Yard Limit sign and
- for travel from the arrival-end Yard Limit sign into an occupied Block Location, at which a Location Authority is in effect.



A Proceed Restricted Authority must:

- state the identification details of the rail traffic already occupying the Block Location
- state that the Block Location is already occupied
- state that the rail traffic crew must reach an understanding about the conditions of entry and
- state that the rail traffic must travel at Restricted Speed.



Rail traffic crews must not pass the arrival-end Yard Limit sign until an understanding of the conditions of entry to the Block Location is reached with the rail traffic crew already occupying the Block Location.

(Proceed Restricted Authority)

| | | | | |
|-------------------------------------|-----------------------------|---|-----|---|
| 3A | Proceed From | <input type="text" value="DELTA YLS"/> | To | <input type="text" value="DELTA Loop"/> |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="2"/> | Key | <input type="text" value="Main or Loop"/> |
| 4 | Special Instructions | <input type="text" value="A location Authority is in affect at DELTA"/> | | |
| | | <input type="text" value="Liaise with 1xx1 Loco 1233"/> | | |
| | | <input type="text" value="Proceed at RESTRICTED SPEED"/> | | |

Special Proceed Authority

Rail traffic may be authorised to move on a Special Proceed Authority.

A Special Proceed Authority may direct rail traffic to travel in either direction:

- between two specific points
- or
- to provide assistance to disabled rail traffic.



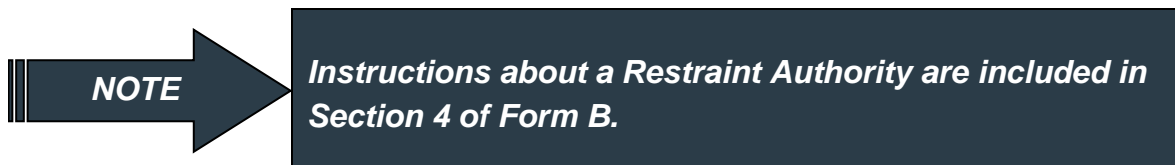
On Electronic Train Order Working Territory, a Special Proceed Authority is issued using Form B. Instructions about a Special Proceed Authority are included in Sections 3 and 4 of Form B.

(Special Proceed Authority)

| | | | | |
|---|-----------------------------|---|-----|---|
| 3A | Proceed From | <input type="text" value="DELTA Main"/> | To | <input type="text" value="FOXTROT Loop"/> |
|  | Fulfilment or Security Code | <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="2"/> <input type="text" value="2"/> | Key | <input type="text" value="Main or Loop"/> |
| 4 | Special Instructions | <input type="text" value="(Train ID) (Loco ID) is disabled and protected at 135.500km"/> | | |
| | | <input type="text" value="Couple to and assist (Train ID) to FOXTROT Loop"/> | | |
| | | <input type="text"/> | | |
| | | <input type="text"/> | | |

Restraint Authority

A Restraint Authority must direct rail traffic to remain at a specific location.



The rail traffic must not move from the specified location until:

- assistance arrives
- or
- the Restraint Authority is cancelled.

The Restraint Authority must:

- cancel any Authority currently in effect
- direct that the rail traffic remain at its current location
- if protection is required, indicate the direction in which protection must be placed
- if assistance is required, indicate the direction from which assistance will approach
- and
- is fulfilled upon the arrival of assisting rail traffic.

The restrained rail traffic must:

- remain at its current location
and
- if required be protected in the direction indicated.

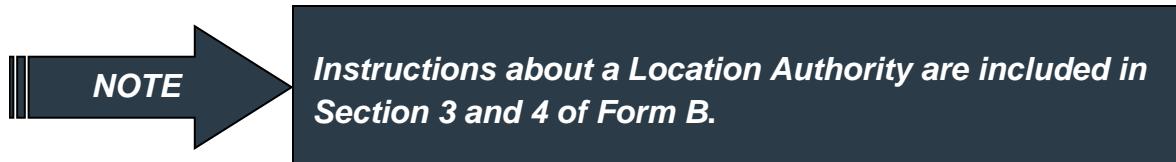
(Restraint Authority)

| | |
|------------------------------|--|
| 4 Special Instructions | Train Order (ID) is CANCELLED at (Location) |
| | Remain at (Location) and protect towards (Location). |
| | (Rail Traffic ID) will approach and assist |
| | |

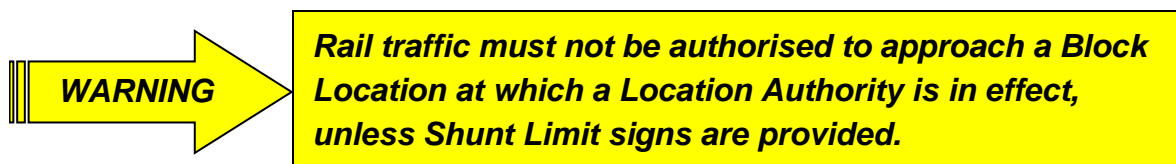
Location Authority

Rail traffic may be issued with a Location Authority to shunt within Block Location limits.

A Location Authority must be issued to the crew of rail traffic required to shunt within the Block Location.



Other rail traffic must not be authorised to proceed through the Block Location within which a Location Authority is in effect.



Other rail traffic may be authorised to proceed to the arrival-end Yard Limit sign of a Block Location within which a Location Authority is in effect.

Other rail traffic may be authorised by a Proceed Restricted Authority to enter a Block Location within which a Location Authority is in effect.

The following conditions apply:

- before issuing a Proceed Restricted Authority, the Network Controller must tell the rail traffic crew in possession of the Location Authority of the approaching rail traffic
 - the rail traffic crew in possession of the Location Authority must be able to manage more than one rail traffic movement within the Block Location
 - the approaching rail traffic crew must communicate with the rail traffic crew in possession of the Location Authority before passing the arrival-end Yard Limit sign
- and
- the approaching rail traffic crew and the rail traffic crew in possession of the Location Authority must reach a clear understanding about the conditions of entry of the approaching rail traffic, to the Block Location.

Rail traffic in possession of the Location Authority may:

- shunt between the arrival-end and departure-end limits of the Block Location
- and
- unless specifically excluded, shunt on all tracks.

Whilst in possession of a Location Authority, rail traffic crews must keep motive power headlights switched on at all times.

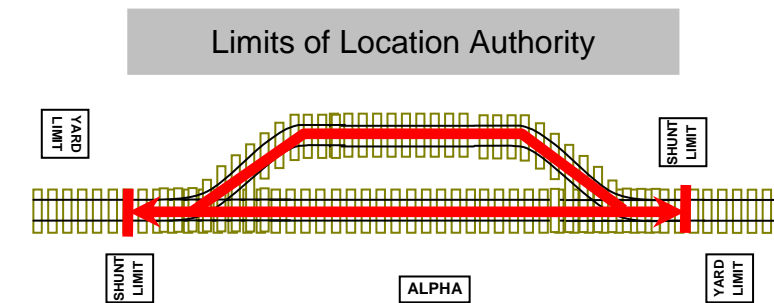
The Location Authority must include:

- the Limits of Authority
- and
- any special instructions.

(Example Location Authority)

| | | | | |
|---|-----------------------------|---|-----|---|
| 3A | Proceed From | <input type="text" value="ALPHA"/> | To | <input type="text" value="ALPHA"/> |
| <input checked="" type="checkbox"/> Tick of Cross | Fulfilment or Security Code | <input type="text" value="E"/> <input type="text" value="7"/> <input type="text" value="7"/> <input type="text" value="A"/> | Key | <input type="text" value="Main or Loop"/> |

Diagram 520.01



Example of Limits of Authority for a Location Authority

NOTE *At Block Locations not provided with Shunt Limit signs, the Location Limits extend to the Yard Limit signs.*

Block Location Limits

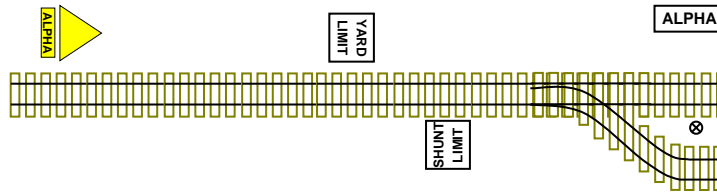
Block Location limits are designated by Yard Limit signs.

A Shunt Limit sign may be located inside the Yard Limit Sign.

Location signs are placed to warn rail traffic crews of their approach to a Block Location.

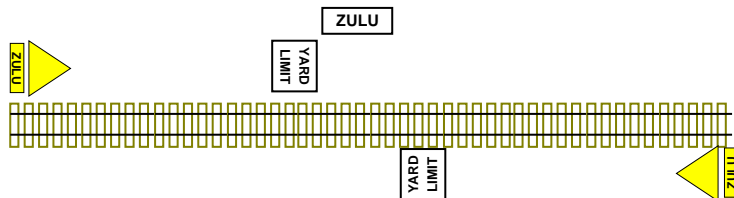
NOTE *Shunt Limit signs are not always provided.*

Diagram 520.02



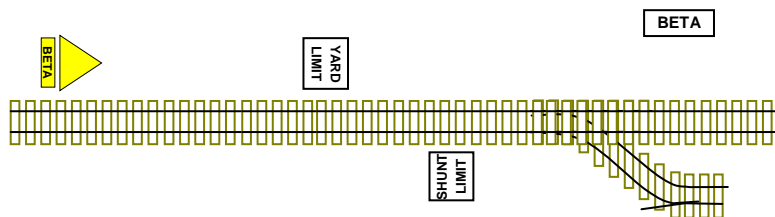
Example of Block Location signs (Crossing Loop provided)

Diagram 520.03



Example of Block Location signs (No Crossing Loop or Siding provided)

Diagram 520.04



Example of Block Location signs (Siding provided)

NOTE***Sidings are not provided with Clearance Posts.***

Designated Limits of Authority

The Start and End limits of an Authority must be specified.

Limits of Authority must be designated by the specific points between which occupancy is authorised, by:

- specific tracks at a location
- or
- specific signs at a location.

Limit of Authority

An Authority must not authorise rail traffic to proceed:

- through signalled locations
- through locations at which a Location Authority is in effect
- or
- beyond a Network Controller's territory boundary.

Limit of Authority Start Points

Limit of Authority Start points must be designated as follows:

- If a BEGIN TRAIN ORDER WORKING sign is designated as the Proceed Authority start location, the Limit of Authority starts from the BEGIN TRAIN ORDER WORKING sign.


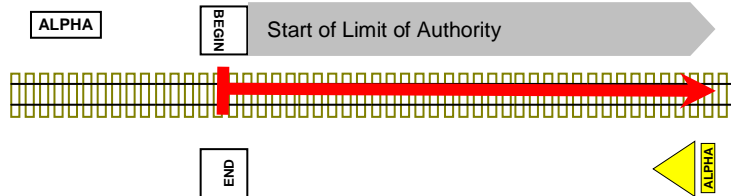
| | | | | |
|---|-----------------------------|-------------|-----|-----------------------------|
| 3A | Proceed From | ALPHA Start | To | (End of Limit of Authority) |
|  | Fulfilment or Security Code | B 1 5 A | Key | Main or Loop |

Diagram 520.05

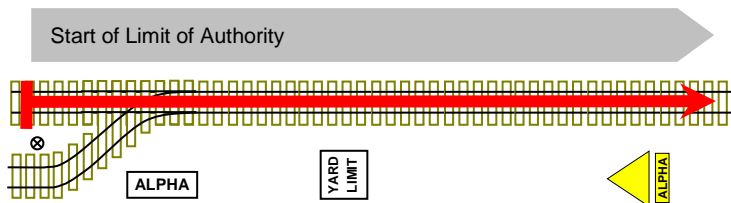


Example of Start of Limit of Authority – Begin TOW Sign

- b. If a specific track at a Block Location is designated as the Proceed Authority start location, the Limit of Authority starts from the departure end Clearance Post, or Limit of Shunt sign, where no departure end Clearance Post is provided.

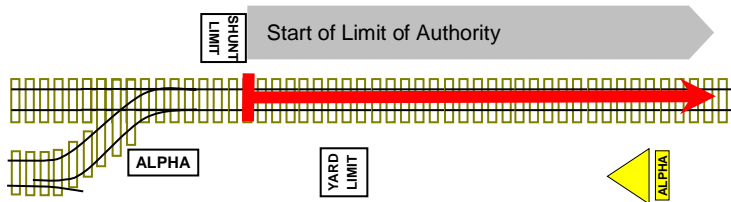
| | | | | |
|----|-----------------------------|------------|-----|-----------------------------|
| 3A | Proceed From | ALPHA Main | To | (End of Limit of Authority) |
| | Fulfilment or Security Code | A 1 A 2 | Key | Main or Loop |

Diagram 520.06



Example of Start of Limit of Authority from Clearance Post

Diagram 520.07

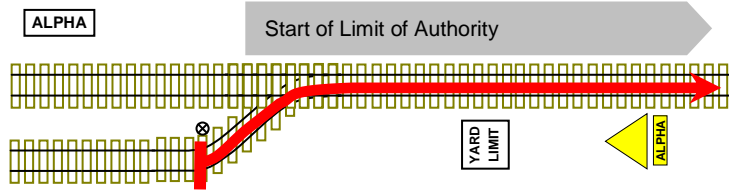


Example of Start of Limit of Authority from Shunt Limit sign

3A Proceed From To

Tick of Cross Fulfilment or Security Code Key

Diagram 520.08



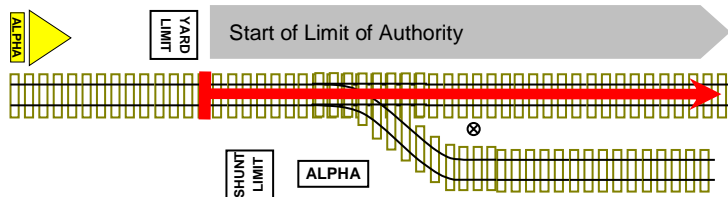
Example of Start of Limit of Authority from Crossing Loop

- c. If a Yard Limit sign is designated as the Proceed Authority start location, the Limit of Authority starts from the arrival-end Yard Limit sign.

3A Proceed From To

Tick of Cross Fulfilment or Security Code Key

Diagram 520.9



Example of Start of Limit of Authority from Yard Limit sign

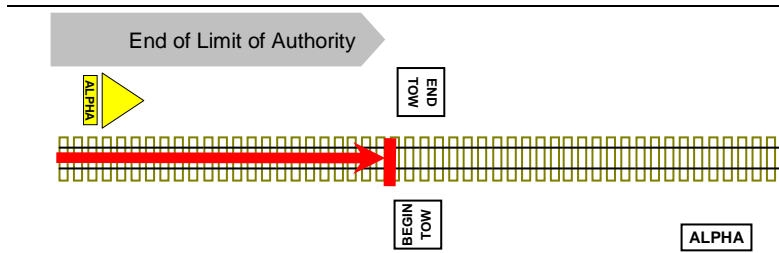
Limit of Authority End Points

Limit of Authority end points must be designated as follows:

- a. If an END TRAIN ORDER WORKING sign is designated as the Proceed Authority end location, the Limit of Authority extends to the END TRAIN ORDER WORKING sign.

| | | | | |
|-------------------------------------|-----------------------------|--------------------------------------|-----|---------------------|
| 3A | Proceed From | <i>(Start of Limit of Authority)</i> | To | <i>ALPHA End</i> |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | <i>8 D 8 A</i> | Key | <i>Main or Loop</i> |

Diagram 520.10

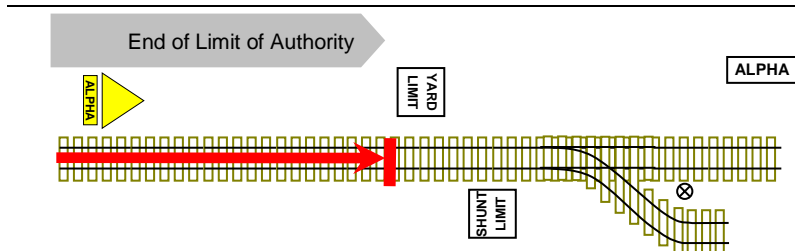


Example of End of Limit of Authority to End TOW sign

- b. If a Yard Limit sign is designated as the Proceed Authority end location, the Limit of Authority extends to the arrival-end Yard Limit sign at that Block Location.

| | | | | |
|-------------------------------------|-----------------------------|--------------------------------------|-----|------------------------------|
| 3A | Proceed From | <i>(Start of Limit of Authority)</i> | To | <i>ALPHA Yard Limit Sign</i> |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | <i>B 7 6 7</i> | Key | <i>Main or Loop</i> |

Diagram 520.11



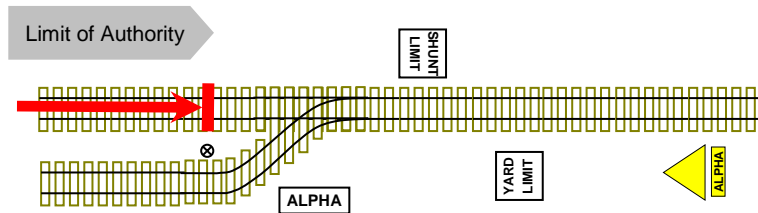
Example of End of Limit of Authority to Yard Limit sign

- c. If a specific line is designated as the Proceed Authority end location, the Limit of Authority extends to the departure end Clearance Post or Shunt Limit sign if no Clearance Post is provided.

3A Proceed From To

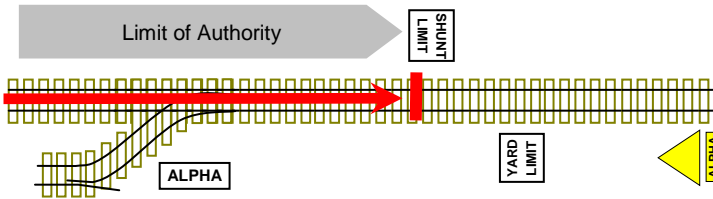
Tick Class Fulfilment or Security Code Key

Diagram 520.12



Example of End of Limit of Authority to Clearance Post

Diagram 520.13

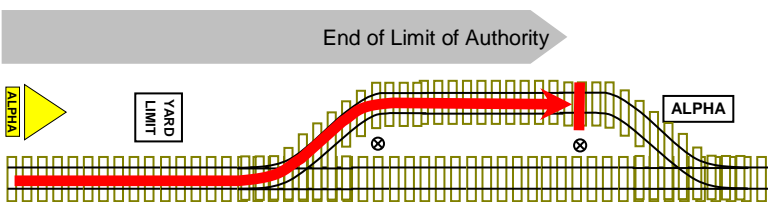


Example of End of Limit of Authority to Shunt Limit sign

3A Proceed From To

Tick Class Fulfilment or Security Code Key

Diagram 520.14

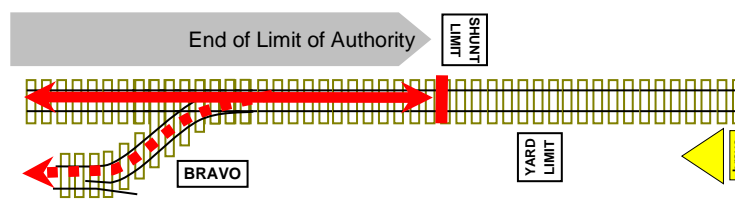


Example of End of Limit of Authority to Crossing Loop

- d. If an Authority directs rail traffic to proceed to a Block Location and grants Shunt Access:
- the Limit of Authority extends to the departure end Shunt Limit sign (or Yard Limit sign where no Shunt Limit signs are provided)
- and
- rail traffic may occupy lines in addition to the Main Line at that Block Location.

| | | | | |
|-------------------------------------|----------------------------------|-------------------------------|---------|--------------|
| 3A | Proceed From | (Start of Limit of Authority) | To | BRAVO Main |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | 3 0 3 B | Key | Main or Loop |
| 7 | Report at Authority End Location | Arrival Code | 4 A 3 3 | Shunt Access |
| | | | | YES |

Diagram 520.15



Example of End of Limit of Authority with Shunt Access

Managing Authorities

Authorities must be managed in a standard manner concerning their:

- loss
- cancellation
- fulfilment
- and
- reporting requirements.

Lost Authority

The loss of a current Authority must be reported to the Network Controller as soon as possible.

If an Authority is lost before rail traffic departs from a Block Location, the rail traffic must not depart.

If an Authority is lost after rail traffic departs from a Block Location, the rail traffic must not pass the arrival-end Yard Limit sign at the next Block Location.

The Network Controller must:

- obtain a Superintendent's security code to cancel or fulfil the lost Authority
- and
- if travel is to continue, issue a new Authority.

Cancelling an Authority

If an Authority must be cancelled within a Section, a replacement Authority must cancel the Authority currently in effect and contain altered instructions.

An Authority may be cancelled whilst rail traffic is in motion, provided that:

- the rail traffic is not located past the proposed new Limit of Authority
- and
- the rail traffic will not pass the new Limit of Authority.

If a replacement authority is to be issued, then the new limit of authority start point will be the departure end Yard Limit Sign of the location to the rear that the train has reported departure from.



Instructions about the cancelled Train Order are included in Section 4 of the replacement Train Order.



Authorities must not be compiled by Rail Traffic Crew members who are operating the controls of a moving vehicle.

If there is any doubt that the rail traffic cannot be prevented from exceeding the proposed Limit of Authority, the rail traffic must be stopped, and its exact location determined before an Authority is cancelled.



Rail traffic that has an Authority for a section in advance of the current Authority and is closely approaching the limit of the current Authority must be brought to a stand before the next Authority is cancelled.

When an Authority which is currently in effect is to be cancelled, the cancel location, must be included in the cancelling Authority.

| | | |
|---|----------------------|---|
| 4 | Special Instructions | <i>Authority (ID) is CANCELLED at (Location)</i> |
| | | <i>Authority (this Authority ID) is now in effect</i> |
| | | |
| | | |



An Authority must not be Fulfilled when rail traffic is still within a section, is standing at, or is approaching an arrival-end Yard Limit sign.

Fulfilment of Authority

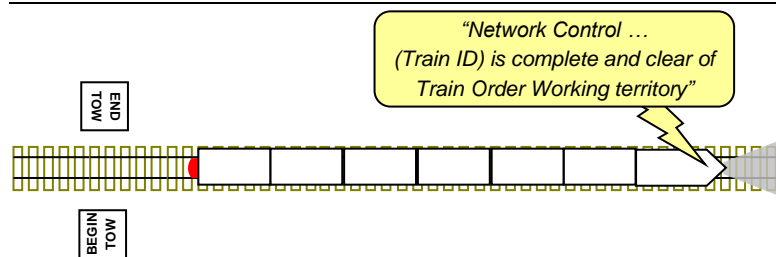
Rail traffic crews must fulfil an Authority only if the rail traffic is complete and clear of the section for which it was applicable.

At Block Locations rail traffic must be:

- between Clearance Posts
 - between Shunt Limit signs where no clearance Posts are provided
- or
- clear of Running Lines.

At Block Locations where Electronic Train Order Working terminates, rail traffic must be completely past the END TRAIN ORDER WORKING sign.

Diagram 520.16

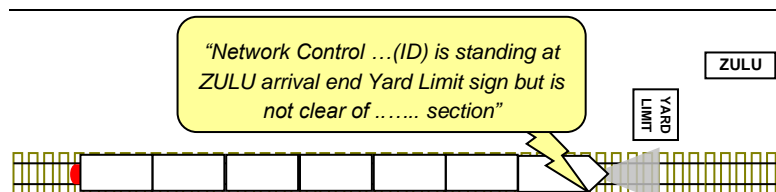


Example of Rail Traffic reporting clear of TOW territory

NOTE

An Authority must not be Fulfilled if rail traffic is standing within a section.

Diagram 520.17



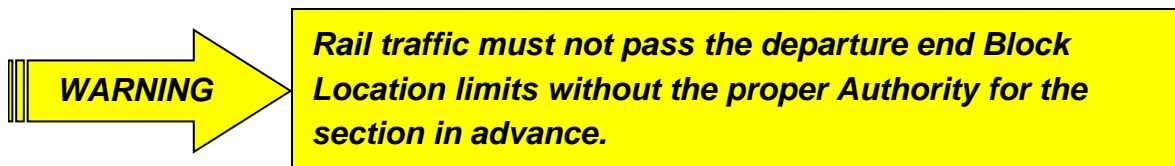
Example of Rail Traffic reporting arrival at an arrival-end Yard Limit sign but unable to fulfil Authority

Reporting

When receiving reports from rail traffic crews, Network Controllers must confirm the:

- rail traffic identification
- arrival and departure times
- security codes where required
and
- Limit of Authority for the current Authority.

The Block Location immediately preceding the Limit of Authority must be specified as a reporting location.



Reporting Departure

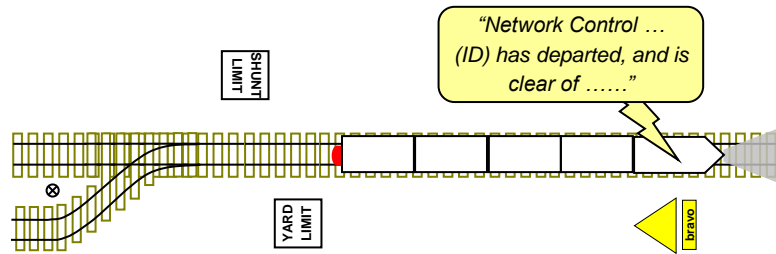
Rail traffic crews must report departure to the Network Controller:

- from departure locations
and
- from reporting locations.

Departure must be reported only after the rearmost vehicle has cleared:

- a BEGIN TRAIN ORDER WORKING sign
or
- the departure end Yard Limit sign.

Diagram 520.18



Example of Rail Traffic reporting departure from Block Location

Reporting Arrival

Arrival of rail traffic at a Block Location is recorded when the rail traffic has stopped, complete:

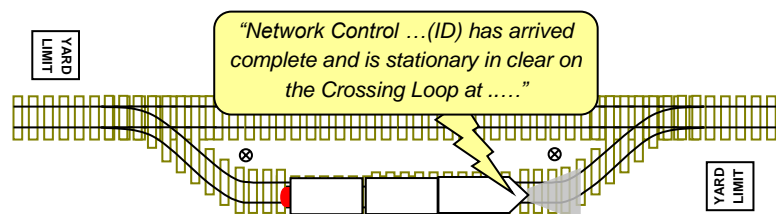
- before the departure-end clearance post
- or
- before the departure-end Shunt Limit sign where no clearance post is provided

and is clear of the section to the rear.

If an Authority has shunt access, rail traffic crews must report arrival at the Block Location to the Network Controller when the rail traffic:

- is between Shunt Limit signs
- or
- where Shunt Limit signs are not provided, between Yard Limit signs.

Diagram 520.19



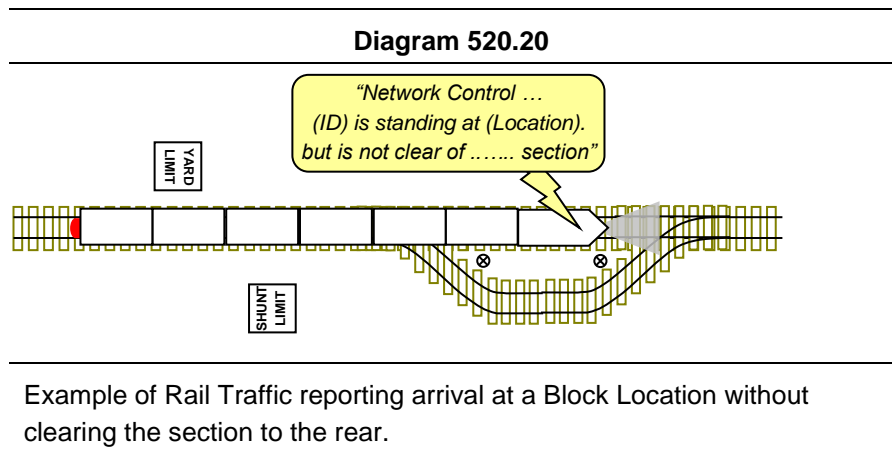
Example of Rail Traffic reporting arrival at a Block Location

Over-length Rail Traffic

Rail traffic may be too long to be able to stand within the limits of a Block Location.

Over length rail traffic must not enter a Block Location at which a cross is to take place, until opposing rail traffic has arrived complete, and is standing in clear.

Over length rail traffic is not considered to have arrived until it is clear of the section to the rear.



Confirming the location of rail traffic

The Network Controller must confirm the location of rail traffic from:

- the train control workstation
- or
- rail traffic crews.

Communication Failure

If primary communication in a rail traffic vehicle fails, rail traffic crews must:

- report departure at the first available location
- and
- if possible, report at the Block Location immediately preceding the limit of the Authority.

Opposing rail traffic without communications must not be authorised to approach a Block Location simultaneously.

Crossing or Passing of Rail Traffic

In Phoenix Electronic Train Order Working territory the Network Controller issues instructions about:

- cross and pass movements to be made
- the line to be occupied
and
- identification details of opposing or passing rail traffic.

These instructions are included in the Train Order containing the Proceed Authority.

Crossing or passing of rail traffic can be carried out at any Block Location where the infrastructure allows this to take place.

Rail traffic crews set points as required.

First Rail Traffic to Arrive

The rail traffic crew of the rail traffic arriving first must:

- comply with instructions provided within the Authority
- enter the Block Location
- stand in clear on the designated line
- check that the route is set for the arrival of opposing or passing rail traffic
- report arrival to the Network Controller and fulfil their Authority
- if possible, tell the rail traffic crew of the rail traffic to be crossed or passed that the route is set for their arrival
- observe that the opposing or passing rail traffic arrives complete and is not displaying an unsafe condition
- if possible, tell the rail traffic crew of the opposing or passing rail traffic about their observation
- if necessary, obtain an Authority to proceed
and
- set or confirm the setting of points for departure.

Second Rail Traffic to Arrive

The rail traffic crew of the rail traffic arriving second must:

- communicate with the rail traffic crew already at the Block Location
- enter the Block Location in accordance with their Authority
- stand in clear on, or travel through the Block Location on the designated line
- observe that the opposing rail traffic, or rail traffic being passed is complete and not displaying an unsafe condition
- if possible, tell the rail traffic crew of the opposing rail traffic, or rail traffic being passed about their observation
- if necessary, obtain an Authority to proceed
and
- set or confirm the setting of points for departure.

Departing Rail Traffic

Following a cross or pass, the rail traffic crew of departing rail traffic must tell the opposing rail traffic crew:

- that they have cleared the Block Location limits
or
- that they have stopped within the Block Location limits.

Sidings

An Authority may direct rail traffic to proceed to a siding, shunt clear of Running Lines, and:

- terminate
 - or
- cross, pass, or be passed by other rail traffic.

An Authority may also direct rail traffic to originate at, and proceed from, a siding.

Terminating at a Siding

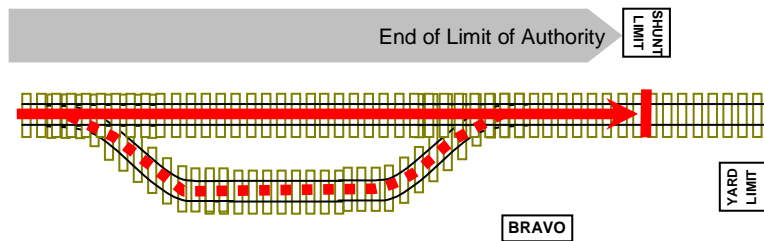
If an Authority directs rail traffic to proceed to a siding and:

- grants Shunt Access
- directs that the rail traffic terminate, clear of running lines
 - or
- advises of opposing rail traffic to be crossed or passed:
 - the Limit of Authority extends to the departure end Shunt Limit sign and
 - rail traffic must shunt in clear of Running Lines and terminate
 - or
 - shunt in clear of Running Lines and cross or pass other rail traffic.

| | | | | |
|-------------------------------------|----------------------------------|-------------------------------|---------|---------------------|
| 3A | Proceed From | (Start of Limit of Authority) | To | BRAVO MAIN |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | C C 3 B | Key | Main or Loop |
| 4 | Special Instructions | Terminate at BRAVO | | |
| 7 | Report at Authority End Location | Arrival Code | 4 A 3 3 | Shunt Access Yes |

| | | | | |
|-------------------------------------|----------------------------------|--|---------|---------------------|
| 3A | Proceed From | (Start of Limit of Authority) | To | BRAVO MAIN |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | C C 3 B | Key | Main or Loop |
| 4 | Special Instructions | Train 2VB4 Loco XYZI will pass Cross Train 2296 Loco ED09 | | |
| 7 | Report at Authority End Location | Arrival Code | 4 A 3 3 | Shunt Access Yes |

Diagram 520.21



Example of End of Limit of Authority where Shunt Access is granted for rail traffic to shunt, cross, pass or terminate.

Originating from a Siding

If an Authority directs rail traffic to:

- proceed from a siding
and

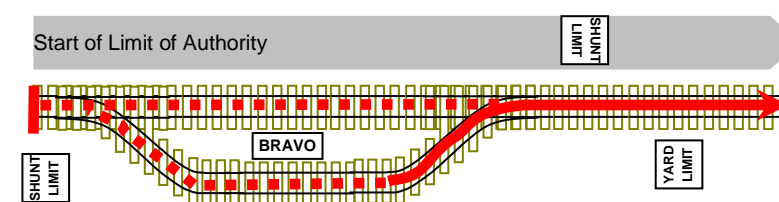
- grants Shunt Access

rail traffic must;

- originate at the siding
- shunt onto Running Lines
and
- proceed to the End Limit of Authority location.

| | | | | |
|-------------------------------------|--|---|---|--|
| 3A | Proceed From | <input type="text" value="BRAVO Main"/> | To | <input type="text" value="(End of Limit of Authority)"/> |
| <input checked="" type="checkbox"/> | Fulfilment or Security Code | <input type="text" value="5"/> <input type="text" value="1"/> <input type="text" value="A"/> <input type="text" value="3"/> | Key | <input type="text" value="Main or Loop"/> |
| 5 | Report clear of Authority Start Location | Departure Code | <input type="text" value="A"/> <input type="text" value="1"/> <input type="text" value="1"/> <input type="text" value="E"/> | Shunt Access <input type="text" value="YES"/> |

Diagram 520.22



Example of Start of Limit of Authority where Shunt Access is granted for rail traffic to originate, or following a cross.

Crew Changeover

Relieving rail traffic crew

Prior to departure of rail traffic from a crew change location, the relieving rail traffic crew must:

- check the status of the Authority in effect and make sure that it is:
 - understood
 - correctly recorded
 - clearly displayedand
 - not containing any unfulfilled conditional instructionsand
- tell the Network Controller about:
 - the change of crew
 - any change to communications arrangements
 - their understanding of the Limits of the Authority currently in effectand
 - any special instructions.

Rail traffic crew being relieved

The rail traffic crew being relieved must not leave until the relieving rail traffic crew has an understanding of:

- the status of the Authority in effect
 - the status of indicators and points
 - the speed limits applicable for the rail traffic
 - the status of track and temporary speed restrictions in place
- and
- other factors that could affect the safety of rail traffic.

Joint Occupancy Tables and Conditions

The Electronic Train Order safeworking system provides for occupancy of a track section by rail traffic or for work on track.

The joint occupancy conditions are the pre-requisites for the joint occupancy of a track section.

The Network Controller uses the technologies and procedures specific to the Electronic Train Order safeworking system to manage the conditions for joint occupancy of a track section.

Electronic Train Order Working Joint Occupancy Table

The Authorities used in the Electronic Train Order Working system are as follows:

| | | | |
|-----|--------------------------------|-----|------------------------------|
| PA | – Proceed Authority | RA | – Restraint Authority |
| PRA | – Proceed Restricted Authority | LPA | – Local Possession Authority |
| SPA | – Special Proceed Authority | TOA | – Track Occupancy Authority |
| LA | – Location Authority | TWA | – Track Work Authority |

| | | | | | | | | | | |
|--------------------------|------------|----------------------------|------------|------------|-----------|-----------|------------|------------|------------|--|
| Current Occupancy | PA | No | No | No | No | No | No | 3 | 4 | |
| | PRA | No | No | No | No | No | No | No | No | |
| | SPA | No | No | 6 | No | No | No | 3 | 4 | |
| | LA | No | 2 | No | No | No | No | No | 4 | |
| | RA | No | No | 1 | No | 6 | 8 | 8 | 4 | |
| | LPA | No | No | No | No | No | No | No | No | |
| | TOA | No | No | No | No | No | No | 7 | 5 | |
| | TWA | 4 | 4 | 4 | 4 | 4 | No | 7 | 6 | |
| | | PA | PRA | SPA | LA | RA | LPA | TOA | TWA | |
| | | Requested Occupancy | | | | | | | | |

Joint Occupancy Conditions

- 1 The request is permitted provided speed restrictions are placed on the approaching rail movement and the rail traffic crew is informed of the location of the restrained rail traffic.
- 2 The crews of rail traffic movements must liaise and movements must proceed at Restricted Speed.
- 3 The request is permitted provided it is issued after rail traffic has passed the proposed limits or starting point for travel and is not returning.
- 4 The request is permitted provided the Protection Officer who is required to manage the passage of rail traffic through a worksite is fully informed of all rail traffic likely to affect the works during the currency of the Authority.
- 5 The request is permitted provided the Protection Officer is fully informed of all rail traffic and work on track likely to affect the worksite.
- 6 The request is permitted provided the specified limits do not overlap.
- 7 The request is permitted provided the specified limits are the same limits or for overlapping limits and the Protection Officers have consulted.
- 8 The request is permitted provided the specified limits are the same limits or for overlapping limits and the rail traffic crew and Possession Protection Officer or Protection Officer have consulted.

Related ARTC Network Procedures

| | |
|-----------------|----------------------------------|
| ANPR 721 | Spoken and written communication |
|-----------------|----------------------------------|

Effective Date

11 October 2015