Network Safeworking Rules and Procedures

Train Order Working

Rule Number: 5017

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Document History

Version	Effective Date	Pages updated	Reasons for change
2.02	01 03 2023	All	Updated reporting requirements, minor corrections and Glossary terms

Table of Contents

1. Purpose

The purpose of this rule is to describe the operation of the *Train Order* Working *System of Safeworking* used in the *Network*.

2. General

Train Order Working is a *System of Safeworking* where *Train Orders* are issued as *Movement Authorities* and are delivered, or dictated, over communications equipment, to *Rail Traffic Crews* and recorded in written form on a *Movement Authority* form in accordance with Procedure 9016 Written Authorities and Forms.

The movement of all *Rail Traffic* is controlled by *Authorities Issued* by the *Network Controller*.

The objective of the *Train Order Working* system is to prevent more than one *Rail Traffic* movement being between any two *Authorised Train Order Crossing* or Non-*Crossing Stations* at the same time.

The *Rail Traffic Crew* must have a valid *Authority* before entering a *Section*.

2.1 Network Controller

The *Network Controller* must:

- efficiently manage *Network* activities;
- formulate, *Authorise* and *Issue Authorities*;
- record *Occupancies*; and
- to avoid conflicts when formulating new *Authorities*, refer to the *Network Control Diagram*, the *Network* Control system, where available, and existing *Authorities*.

2.2 Network Control Diagram

The primary tool for operational safety is a *Network Control Diagram*, which details:

- planned, *Authorised* and actual *Rail Traffic Occupancies*;
- planned, *Authorised* and actual *Track Occupancies*; and
- events or conditions that may affect safety.

The *Network Control Diagram* is the primary Safeworking tool and should be kept up to date.

NOTE: Electronic *Network* diagrams will be used where available.

The *Network Controller* must refer to the *Network Control Diagram* in order to:

- plan *Rail Traffic* requirements; and
- avoid *Occupancy* conflicts.

3. Authority types

The *Network Controller Issues* the following *Authorities* for *Occupation* of *Running Lines*:

- *Proceed Authority*;
- *Proceed Authority* in Advance;
- Joint *Authority*:
- Crossing *Authority*:
- Conditional *Authority*;
- Conditional *Authority* in Advance and
- *Shunt Authority*.

4. Station Limits

NOTE: Signs are described in Rule 6007 Signs.

The start and end of *Train Order Territory* is identified by signs:

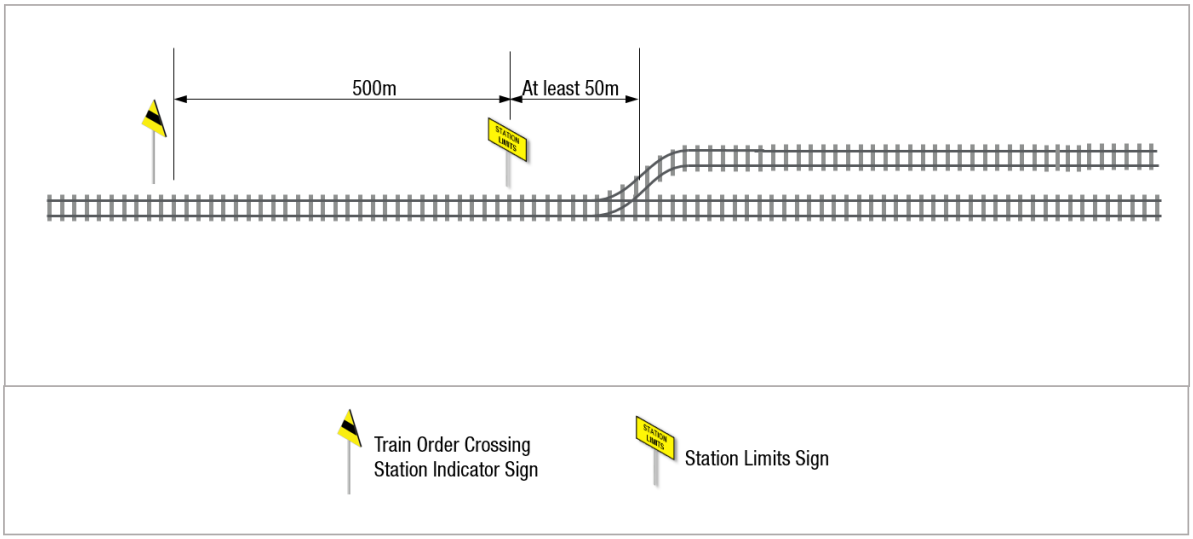
- a commencement of *Train Order Territory* sign will identify the start of *Train Order Territory*; and
- an End of *Train Order Territory* sign will identify the end of *Train Order Territory*.

4.1 Crossing Stations

Crossing Stations are designated by:

- *Crossing Station* indicator signs, located at least 500 metres from the *Station Limits* sign; and
- A *Station Limits* sign, located at least 50 metres before the first *Points*. The *Station* name is displayed on, and below, the *Station Limits* sign.

Figure 5017-1 Example layout of signs designating a *Crossing Station*. Only one end is shown.



The *Track Element* from the *Station Limits* sign to the *Facing Points* is known as the Up Approach or Down Approach. The first *Track Element* the *Rail Traffic* will occupy based on the usual direction of travel.

- For example: *Rail Traffic* Approaching a *Station* in the Up Direction would occupy the Up Approach as it passes the *Station Limits* Sign, and *Rail Traffic* approaching a *Station* in the Down Direction would occupy the Down Approach as it passes the *Station Limits* Sign.

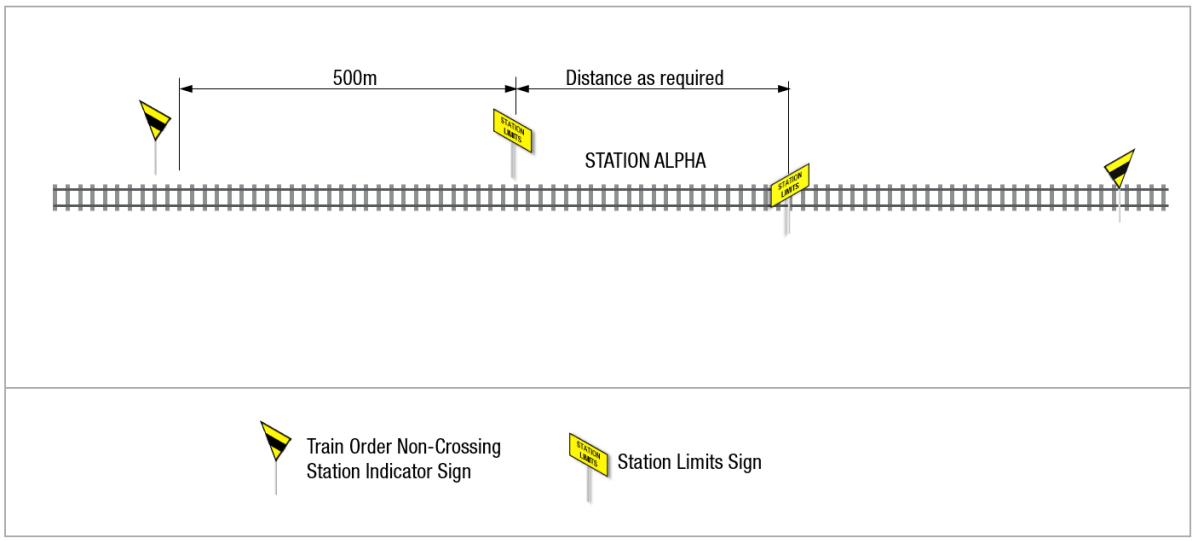
4.2 Non-Crossing Stations

Non-*Crossing* Stations are designated by:

- Non-*Crossing Station* indicator signs, located at least 500 metres from the *Station Limits* sign; and
- the *Station* name, which will be displayed on the *Station Limits* sign.

NOTE: The distance between the *Station Limits* signs at Non-*Crossing Stations* will be determined by operational requirements, such as the length of *Rail Traffic Consists*.

Figure 5017-2 Example layout of signs designating a Non-*Crossing Station*.



5. Designating Limits of Authority

The start and end points of the *Limit of Authority* must be specified.

The *Limit of Authority* must be designated by specifying the *Locations* between which the movement is *Authorised*.

5.1 Limit of Authority Start Point

The start point of a *Train Order* will be:

- the Track element where the *Train Order* is received; or
- in the case of a *Proceed Authority* in Advance, the track element nominated on the *Train Order*.

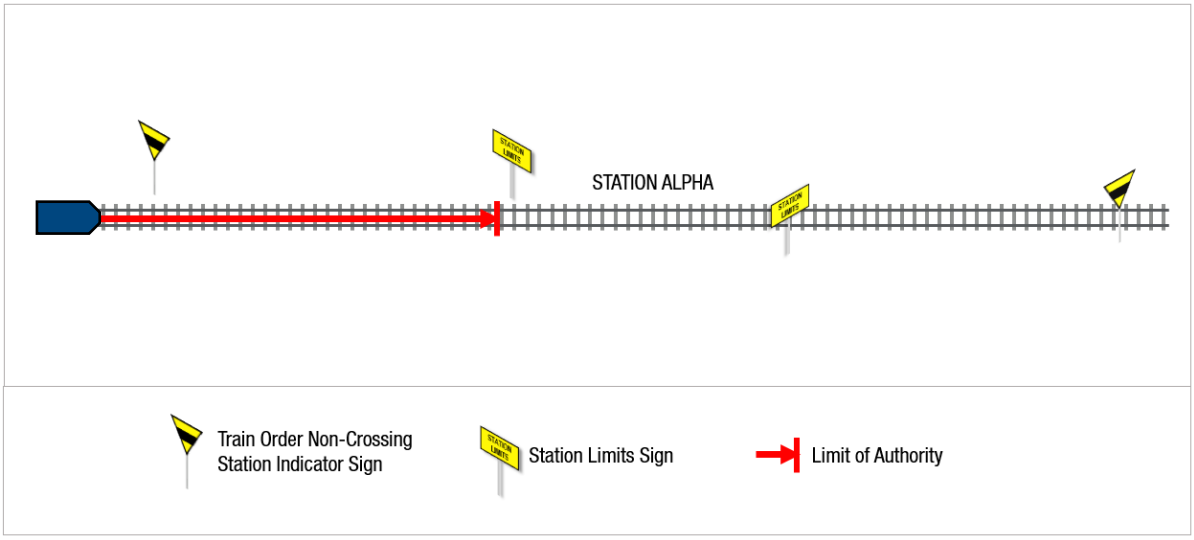
5.2 Limit of Authority End Point

A *Limit of Authority* end point must be designated as follows.

5.2.1 Station limits sign as the end point

If a *Station Limits* sign is designated as the end *Location* of a *Train Order*, the *Limit of Authority* extends to the arrival end *Station Limits* sign at that *Station*.

Figure 5017-3 Example of where the *Limit of Authority* end point is a *Station Limits* sign.



5.2.2 A location within a station as the end point

If a specified *Location* at a *Station*, such as *Main Line*, Loop or CBH *Siding*, is designated as the end *Location* of a *Train Order*, the *Limit of Authority* extends to the Clearance Point at the departure end *Points*.

The Clearance Point is defined by a Clearance board or *Catch Points*. Where there is no Clearance board or *Catch Points*, *Rail Traffic Crews* must stop their *Rail Traffic* short of the *Converging* line so other *Rail Traffic* has safe passage onto the *Adjacent* line or, where *Self Restoring Points* are installed, the “NO STANDING BEYOND THIS POINT” sign.

Figure 5017-4 Example of where the *Limit of Authority* end *Point* is a Main Line.

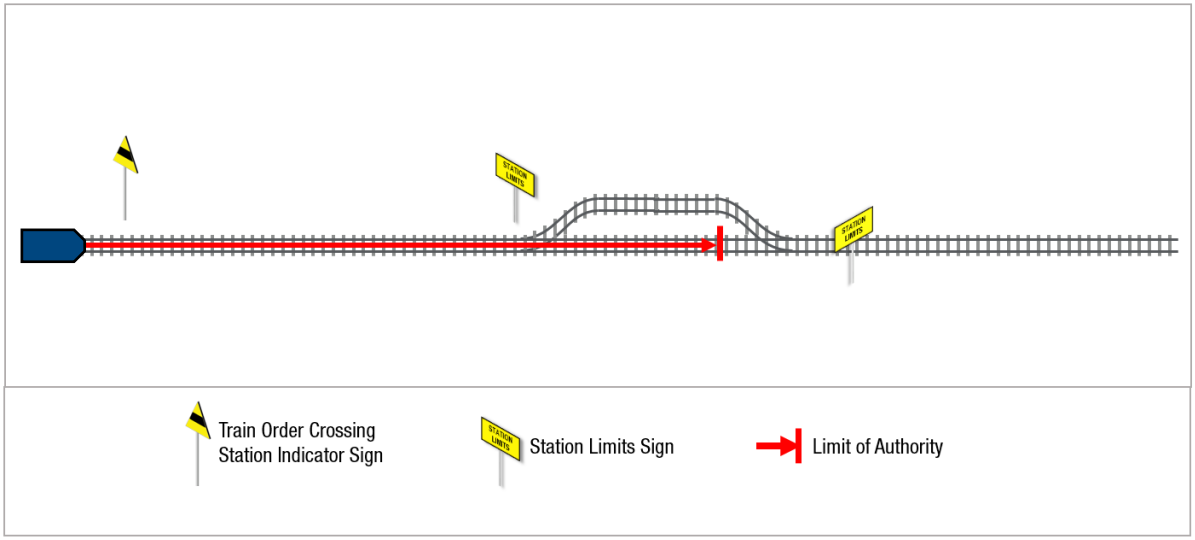
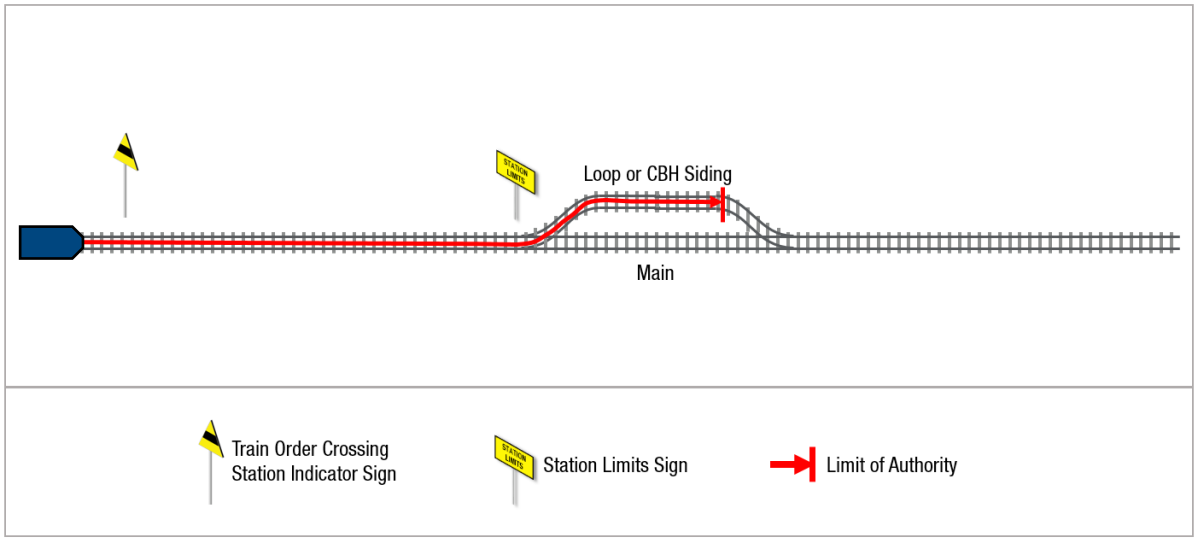


Figure 5017-5 Example of where the Limit of Authority end point is a Loop or CBH Siding.



6. Operating with Authorities

An *Authority* may be *Issued* for *Rail Traffic* to proceed through more than one single line *Section*.

The *Authority* to enter and *Occupy* a *Section* is:

- possession of the *Train Order*; or
- possession of an *Alternative Movement Authority*.

And where provided, clearing of relevant *Fixed Signals*.

The *Network Controller* must not *Issue* an *Authority* for a following *Rail Traffic* movement until it is confirmed that the previous *Rail Traffic* movement has reported as *Arrived Complete* at the *Station* in advance.

Rail Traffic with an *Authority* issued through a *Station* must only occupy the *Main Line* or other *Track* elements as specified on the *Train Order*.

Where a shunt is required at a *Station*, the *Train Order* must be issued to that *Station* only so that a *Shunt Authority* can be issued or permission to *Shunt* can be given.

Where a *Train Order* is *Issued* to the terminating *Location* of a *Train* service, the *Train Order* shall be *Issued* to *Station Limits* only. The *Network Controller* will then apply *Rail Traffic* blocking within the *Station* on the applicable track elements required for the service to enter and occupy within the *Station* as required.

When required by the *Network Controller*, *Rail Traffic Crews* must confirm their understanding of the *Limit of Authority*.

6.1 Reporting

Reporting in accordance with this rule is a Safety Critical requirement that assist *Rail Traffic Crews* in maintaining Situational Awareness, it also alerts the *Network Controllers* and other *Network* users of the position and presence of *Rail Traffic*.

6.1.1 Progress

In areas where Radio communications are provided, the *Rail Traffic Crew* must make a general broadcast over the radio of the *Rail Traffic* arrival at *Stations* as it occurs, *Network Controller* will respond to the broadcast, the *Rail Traffic Crew* must not depart the *Station* until the *Network Controller* has been advised.

Where radio communications are unavailable, *Rail Traffic Crews* must report progress to the *Network Controller* through *Stations* as it occurs and prior to departing that *Station*, using alternative on-board *Communications Equipment*.

Rail Traffic Crews must report to the *Network Controller* when *Shunting* at a *Station* is complete, and:

- that the *Siding* is *Secured*; and
- at Annett's locked *Sidings*, that the Annett's key is on the *Locomotive* (AKOL).

Departure must be reported only after the rearmost vehicle has cleared the departure end *Station Limits* of the specified *Station*.

Arrival at a *Station* must only be reported after the *Rail Traffic* has *Arrived Complete* within the specified *Station*.

Rail Traffic Crews must report to the *Network Controller* on departure from the *Station* prior to the *Limit of Authority* end point.

6.1.2 Prior to Crossing

When a *Crossing* is *Authorised*, *Rail Traffic Crews* must verify with the *Network Controller* their understanding of the *Crossing* instructions before departure from the *Station* prior to the *Station* where a *Crossing* is *Authorised*.

6.2 Rail Traffic Working Advice

The *Network Controller* must *Issue* a *Rail Traffic* Working Advice which provides relevant information, including:

- any opposing *Rail Traffic*;
- any preceding *Rail Traffic* which has not terminated;
- the next following *Rail Traffic*;
- *LPA*s; and
- *WoTA*s.

NOTE: *Rail Traffic* includes *Track Vehicles*.

6.3 Competent Workers Receiving Authorities

Competent Workers may receive *Authorities* and instructions and deliver them to *Rail Traffic Crews*.

Competent Workers at attended *Stations* must keep copies of *Authorities* received.

If a *Rail Traffic Crew* does not receive an *Authority* directly from the *Network Controller*, the *Rail Traffic Crew* must verify the *Authority*, with the *Network Controller*, before departure.

6.4 Identification Numbers

If the leading *Locomotive* is to be replaced, the *Rail Traffic Crew* must advise the *Network Controller*.

The *Network Controller* must *Cancel* existing *Authorities* that contain references to the replaced *Locomotive* and *Issue* new *Authorities* showing the new *Locomotive*.

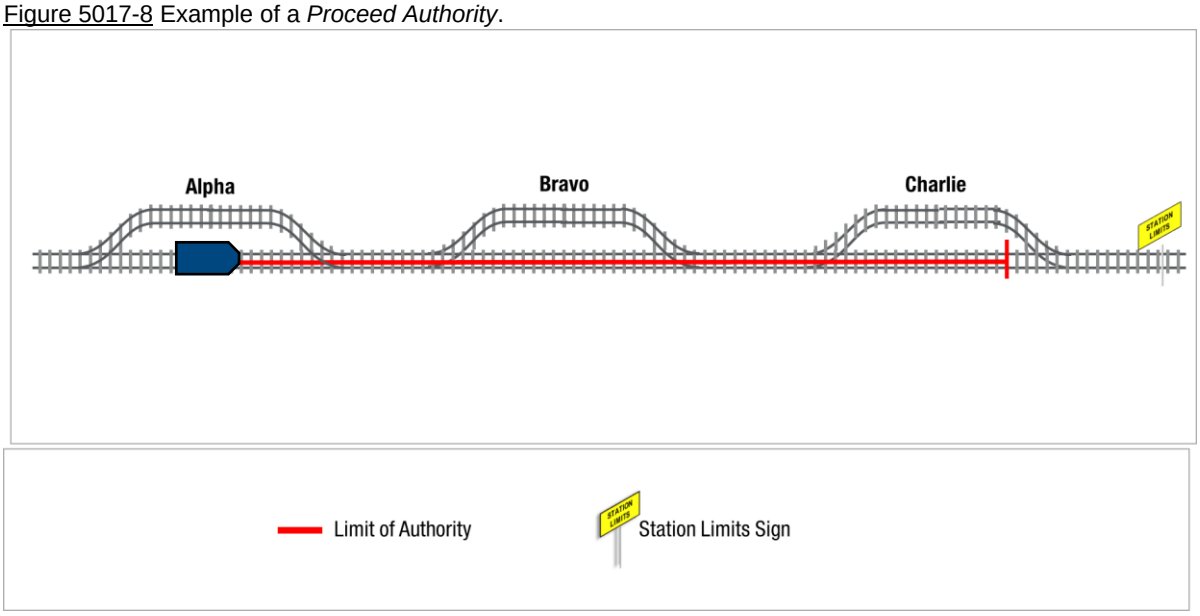
6.5 Challenging an Authority

Competent Workers must challenge an *Authority* if they believe or become aware that the *Authority* is incorrect.

6.6 Proceed Authority

A *Proceed Authority* is a *Train Order* that *Authorises Rail Traffic* to *Occupy* and proceed on the *Main Line* or other designated *Track*, between limits defined on the *Authority*.

Figure 5017-8 Example of a *Proceed Authority*.



6.7 Conditional and Crossing Authorities

A Conditional *Authority* is a *Train Order* that *Authorises Rail Traffic*:

- to proceed to a *Station* in advance in order to *Cross* another *Rail Traffic* movement; and
- after the *Crossing* movement has been completed, proceed to the end limit of the *Authority*.

A Crossing *Authority* is a *Train Order* that *Authorises Rail Traffic* to:

- Proceed to an end point and *Cross* another *Rail Traffic* movement; or
- *Cross* another *Rail Traffic* at the Start Point of a *Train Order*.

All *Rail Traffic Crossings* must be included in the *Authority*.

Only one intermediate *Crossing* may be shown on an *Authority*.

NOTE: An *Authority* may contain more than one *Crossing*. The *Authority*'s end point must be the *Station* where the second *Crossing* occurs.

Rail Traffic Crews approaching a *Station* where a *Crossing* is *Authorised* must, where communications are available, confirm with the opposing *Rail Traffic Crew*, the *Crossing* instructions.

Where communications are not available the *Rail Traffic Crew* must proceed in accordance with section 7.2 of this rule.

6.7.1 Failure of Network Control System

Where the *Network* Control System is unavailable, Conditional *Authorities* are not permitted.

Train Orders including a *Crossing* may be issued as *Crossing Authority* only and must not include instructions to Proceed to another *Location* after the *Crossing*.

6.7.2 Crossing instructions

A *Crossing* occurs when:

- opposing *Rail Traffic* movements meet at an *Authorised Crossing Station*; or
- a following *Rail Traffic* movement passes a preceding *Rail Traffic* movement at an *Authorised Crossing Station*.

Rail Traffic must not depart a *Station* at which a *Crossing* has been arranged until:

- the opposing *Rail Traffic* movement has *Arrived Complete*; or
- an *Authority* has been *Issued* for *Rail Traffic* to depart.

The *Authority* containing the instructions for the *Crossing* movement must include the *Rail Traffic* identification and:

- the leading *Locomotive* identification; or
- all *Track Vehicles* identifications.

Figure 5017-9 *Train* No 1234 has an *Authority* to Proceed to Bravo Loop, *Cross Train* No 2345 then Proceed to Charlie. The condition to depart Bravo is that *Train* No 2345 has arrived *Complete* at Bravo.

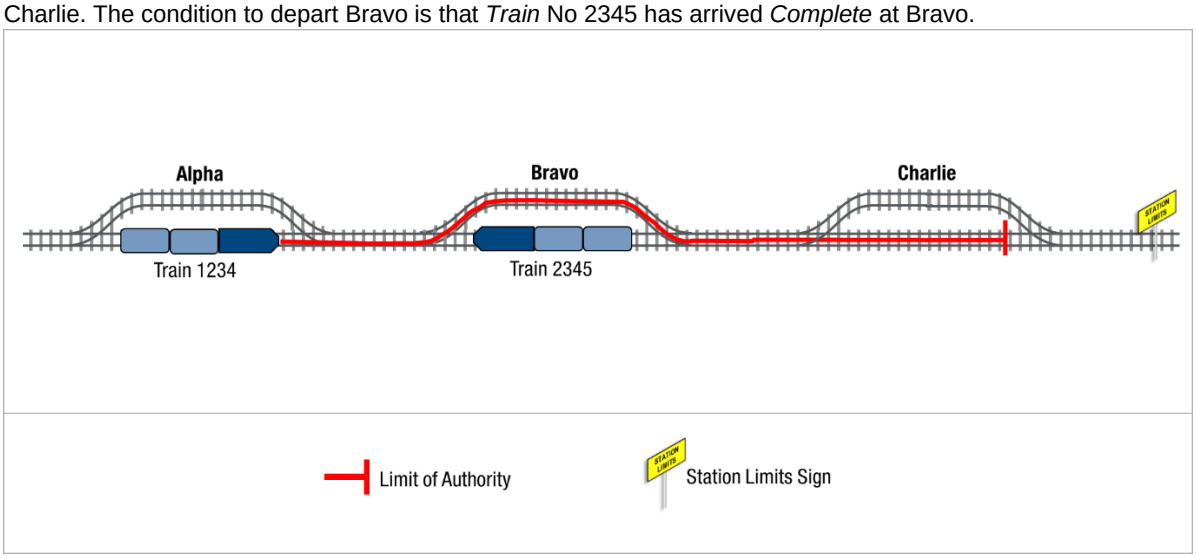
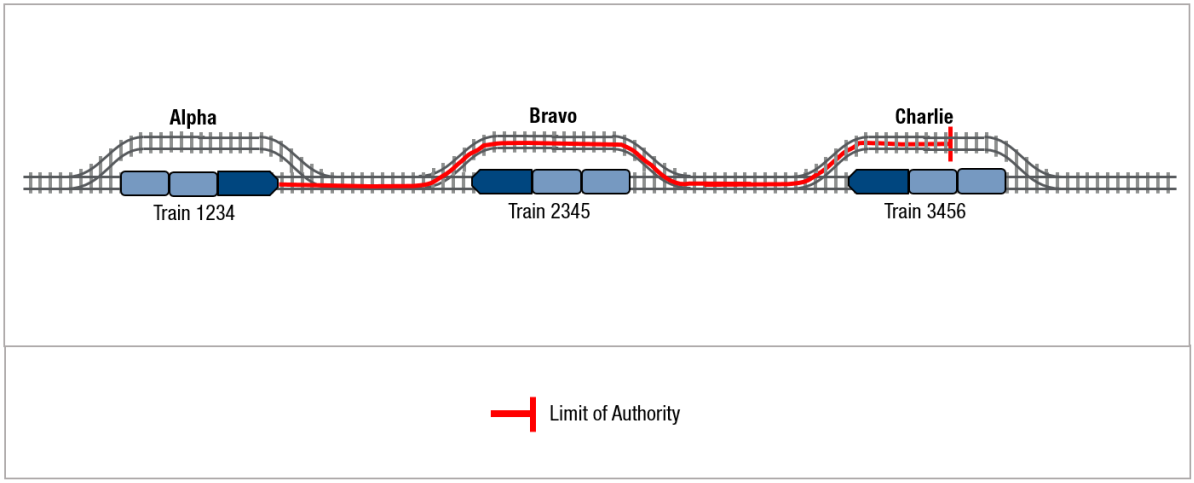


Figure 5017-10 *Train* No 1234 has an *Authority* to Proceed to Bravo Loop, *Cross Train* No 2345 (this is the one permitted Intermediate *Crossing*), then Proceed to Charlie Loop, Cross *Train* No 3456. The end point of this *Authority* must be Charlie as this is the *Station* where the second *Crossing* occurs.



6.8 Check of Crossings with the Network Controller

After the read back or confirmation of a *Train Order* including a *Crossing* has been confirmed as correct by the *Network Controller*, the *Rail Traffic Crew*, must:

- ascertain whether the opposing *Rail Traffic* has been *Issued* with a *Train Order* for the intended *Crossings*; and
- request the *Network Controller* to confirm the *Stations* where *Crossings* are to be affected by repeating the particulars of the *Train Order Issued* to the opposing *Rail Traffic*.

The *Network Controller* and the recipient must endorse details of information given on the bottom portion of their *Train Order*.

NOTE: It is not necessary for the *Rail Traffic Crew* to prepare a copy of the *Train Order* that has been *Issued* to the opposing *Rail Traffic*.

6.9 Shunt Authority

Rail Traffic may be authorised to *Travel* on the *Network* by *Issue* of a *Shunt Authority*.

A *Shunt Authority* is a *Train Order* that *Authorises* the *Occupation* of the *Section* and *Track* elements as specified in the *Train Order* for *Shunting* requirements at a *Station*.

WARNING: *Rail Traffic* must not *Occupy* the *Section* beyond the *Limit of Shunt* sign, unless the *Rail Traffic Crew* are in possession of an *Authority* for the *Section*, even where the *Rail Traffic* movement will not go beyond the *Station Limits* sign.

If there is no *Authority Issued* for the shunting *Rail Traffic* to *Occupy* the *Section* in advance, a *Shunt Authority* must be *Issued* for *Shunt* movements beyond the *Limit of Shunt* sign where provided or beyond the *Station Limits* sign where a Limit of *Shunt* sign is not provided.

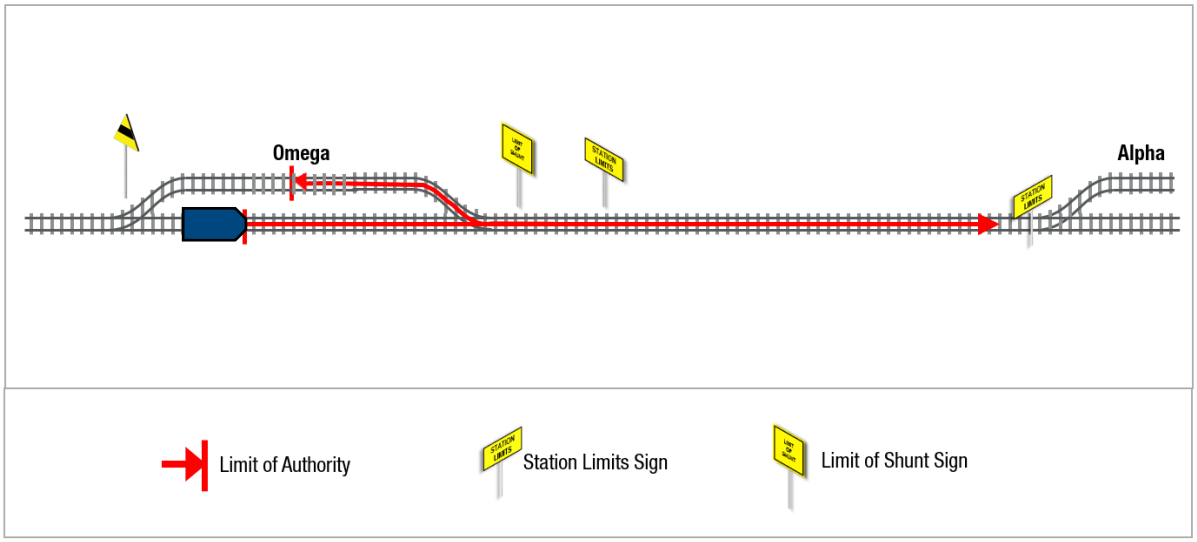
A *Shunt Authority* permits *Rail Traffic* to move in either direction.

Shunt movements within *Station Limits* or, where provided, *Limit of Shunt* signs, must be approved by the *Network Controller*. In this circumstance a *Train Order* is not required. Before approving *Shunting* movements within *Station Limits* the *Network Controller* must ensure that:

- no *Authority* has been *Issued* for other *Rail Traffic* into or through that *Station*;
- where the *Network* Control system is available, *Blocking Facilities* are applied; and
- after giving approval for a *Shunt* movement, not *Issue* other *Rail Traffic* an *Authority* into or through that *Station*.

The approval to *Shunt* and the application of *Blocking Facilities* must be recorded on the *Network Control Diagram*.

Figure 5017-11 Example of a *Shunt Authority* for a *Rail Traffic* movement beyond the *Limit of Shunt* sign or *Station Limits* sign. This *Authority* is for the *Section* but must be *Fulfilled* at Omega.



7. Crossings

The *Network Controller Issues* written instructions about *Crossing* movements, and the *Track* to be *Occupied*, within the *Train Order*.

Rail Traffic Crews set *Points* as required.

7.1 Communications Available

7.1.1 Crossing Rail Traffic

Rail Traffic Crews must:

- comply with instructions provided within the *Authority*; and
- communicate with the *Crew* of the *Rail Traffic* to be *Crossed* and reach agreement on which *Rail Traffic* is to enter the *Station* first.

The crew of the *Rail Traffic* that is to enter first; must:

- set the *Route*, if required, and enter the *Station* on the specified *Track*;
- report arrival to the *Network Controller* when the *Rail Traffic* has *Arrived Complete*;
- set the *Route* for and admit the opposing *Rail Traffic*;
- obtain an *Authority* to Proceed if not in possession of an *Authority*; and
- after the *Crossing* movement has been completed, set the *Route* for departure.

7.1.2 Passing Rail Traffic

Rail Traffic Crews must comply with instructions provided within the *Authority*.

The crew of the *Rail Traffic* that is to arrive first must:

- set the *Route*, if required, and enter the *Station* on the specified *Track*;
- report arrival to the *Network Controller* when the *Rail Traffic* has *Arrived Complete*; and
- set the *Route* for and admit the passing *Rail Traffic* as required.

The passing *Rail Traffic Crew* must:

- confirm with the *Rail Traffic Crew* to be passed that:
  - the instructions within the *Authorities* are not in conflict; and
  - the *Route* is set or needs to be set.
- If the *Route* is not set, set the *Route*;
- arrive on the specified *Track*; and
- obtain an *Authority* to proceed if not in possession of an *Authority* to do so.

7.2 Communications not Available

7.2.1 Crossing Rail Traffic

If communications are not available between *Rail Traffic Crews*, the *Rail Traffic* to *Occupy* the *Main Line* must:

- stop at the arrival end *Station Limits* sign; and
- wait to be admitted by the opposing *Rail Traffic Crew*.

The crew of the *Rail Traffic* to *Occupy* the *Crossing* Loop must:

- set the *Route* and enter the *Station* on the specified *Track*;
- set the *Route* for and admit the opposing *Rail Traffic* to the *Main Line*;
- obtain an *Authority* to proceed if not in possession of an *Authority* to do so; and
- after the *Crossing* movement has been completed, set the *Route* for departure.

7.2.2 Passing Rail Traffic

If communication is not available between *Rail Traffic Crews*, the *Rail Traffic* to arrive first must:

- set the *Route*, if required, and enter the *Station* on the specified *Track*;
- report arrival to the *Network Controller* when the *Rail Traffic* has *Arrived Complete*; and
- set the *Route* for and admit the passing *Rail Traffic* as required.

The passing *Rail Traffic* must:

- wait to be admitted by the preceding *Rail Traffic Crew*; and
- obtain an *Authority* to proceed if not in possession of an *Authority* to do so.

8. Change of Crossing Location

If it is necessary to change a *Crossing Location* specified on current *Authorities*, the *Network Controller* must:

- first, *Cancel* the *Authority* held by the *Rail Traffic* whose journey is being shortened, then *Cancel* the *Authority* held by the *Rail Traffic* whose journey is being extended; and
- then, *Issue* new *Authorities* with altered *Crossing* instructions, with the *Authority* for the *Rail Traffic* whose journey is to be shorten *Issued* first..

9. Issuing a Proceed Authority in Advance

A *Proceed Authority* in *Advance* is a *Proceed Authority Issued* while *Rail Traffic* is en-route and may be *Issued* while the *Rail Traffic* is in motion.

Where the *Proceed Authority* in *Advance* is to be *Issued* while *Rail Traffic* is in motion, the *Rail Traffic* must be under the control of more than one crew member.

If there is only one *Rail Traffic Crew* member, then the *Rail Traffic* must be stationary to receive a *Proceed Authority* in *Advance*.

A *Proceed Authority* in *Advance* will not come into effect until the *Rail Traffic* arrives at the *Limit of Authority* end *Point* for the current *Authority*.

10. Cancelling an Authority

An *Authority* that cannot be *Fulfilled* must be *Cancelled*.

An *Authority* may be *Cancelled* and a new *Authority Issued* whilst *Rail Traffic* is in motion, provided that the *Rail Traffic*:

- has not passed the current *Limit of Authority*;
- will not pass the limit of the new *Authority*; and
- is under the control of more than one crew member.

If there is only one *Rail Traffic Crew* member and the *Authority* is a written *Authority*, then the *Rail Traffic* must be stationary before the *Authority* is *Cancelled*.

If there is any doubt as to whether the *Rail Traffic* cannot be prevented from exceeding the proposed *Limit of the Authority*, the *Rail Traffic* must be stopped, and its *Location* determined before an *Authority* is *Cancelled*.

11. Fulfilling an Authority

An *Authority* is *Fulfilled* after all instructions contained within it have been carried out.

12. Keeping records

Network Controllers must keep a *Permanent Record* of relevant details and movements in the *Network*.

13. References

6007 Signs

9016 Written Authorities and Forms

14. Effective date

02 March 2023