



AUSTRALIAN RAIL TRACK CORPORATION LTD

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Signalling

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**Release of Track Locking or Indication
Locking**

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About This Standard

This Standard defines the signalling procedures to be implemented when it is necessary to release track or indication locking.

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1.1	14/03/2005	Disclaimer	Minor editorial change

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1 Introduction

Under failure conditions or when an incorrect route for an approaching train is set up or when made necessary by the presence of a train which is delayed on a particular section of track, it may be necessary to provide a manual "release" to reduce train delays.

INTERLOCKING between conflicting signals and/or points and/or level crossings shall not be released.

TRACK LOCKING, either approach locking or route holding, may be released in certain circumstances in accordance with procedures prescribed hereinafter.

INDICATION LOCKS on mechanical levers, either signal normal indication locks or points normal or reverse indication locks, may be released in certain failure circumstances in accordance with procedures as prescribed hereinafter.

CAUTION: In some installations, circuits may combine INTERLOCKING with TRACK LOCKING or TRACK LOCKING with INDICATION LOCKING and care is necessary to ensure that only the specific locking concerned is released in accordance with the respective procedure.

Manual releases are normally confined to release of approach locking in approach stick relays or to overcome failure of an NI electric lever lock on a mechanical signal lever or a normal or reverse electric lever lock on a mechanical points lever.

In exceptional circumstances only, where delays to trains would be otherwise extensive, manual releases may be provided as prescribed to release route holding locking in point lock relay circuits (route control interlockings) and to release point lock relays (standard relay interlockings) and signal normal indication relays (standard relay interlockings) or signal route normal lock relays (route control interlockings).

Manual releasing methods after observing the prescribed precautions are limited to: Manually lifting the electric lever lock on mechanical levers while the lever is moved.

Momentarily bridging out track circuit contacts in approach stick circuits (via the stick finger) or in point lock relay circuits (route control interlockings and Albury South) The bridge is to be immediately removed.

Momentarily energising a signal normal indication relay, a point lock relay (except Albury South and route control interlockings) and a signal route normal lock relay. The false feed is to be immediately removed.

1.1 General Releasing Conditions

Releases may be given in accordance with this procedure on receipt of a request from the signaller or traffic officer. Details of the release request are to be entered into the train register book and signed by both the signaller and maintainer.

Where no train register book is available, details may be entered on Infrastructure Booking Authority form NRF 003 in section 3 and signed by the maintainer and the signaller.

A separate request must be received for each and every release to be given and a separate entry made in the train register book or on Infrastructure Booking Authority form NRF 003.

The signaller is to place signals at stop to prevent trains approaching the signal/points involved while a release is being given. Lever sleeves/catch rod clips should be employed as reminders.

1.2 Release of Approach Locking

Approach locking is provided to prevent the alteration of a route in the face of a train that has received a signal indication that the route is cleared for the train, and thereby an assurance that all facing points are lying correctly secured for the passage of the train, that trailing points are set for the non-conflicting position (and hence no converging routes can be signalled) and that opposing signals are at stop.

Release of approach locking requires that the following be observed. The signalling maintainer giving the release must ensure that:

- a) The signal(s) involved is at stop and will remain so
- b) The train stop (where provided) is in the normal (tripping) position.
- c) Any train approaching the signal involved has been brought to a stand.

1.3 Release of Route Holding

Route holding is provided to prevent, in the face of a train that has entered a signalled route,

- i) the alteration of facing points in the overlap to an obstructed overlap,
- ii) the unlocking or movement of facing points within the route,
- iii) the alteration of trailing points in the route or the overlap,
- iv) the clearing of opposing signals.

Release of route holding, where prescribed, requires the following precautions to be observed. The signalling maintainer giving the release shall:

- a) Ensure that the signal(s) authorising entry into the route concerned is at stop and will remain so and the trainstop where provided is in the normal (tripping) position.
- b) Ensure that the exit signal from the route concerned is at stop and will remain so.
- c) Ensure that any train that has entered the route concerned is at a stand and will remain so.
- d) For points that are route held and are to be operated when released then, prior to the release being given, the suitably accredited signalling maintainer shall also:
 - i) Ensure that all ends of the points concerned are protected by signals at stop.

- ii) Ensure that any trains, which are approaching signals immediately protecting any end of the points concerned, have come to a stand.
 - iii) Ensure that no train, having passed an immediate protecting signal, is on the approach side of the point ends concerned.
 - iv) Ensure that no train or vehicle is foul of any of the point ends concerned.
- e) In any instance where it is intended to by-pass a train with a second train, by releasing converging points that are route held by the first train, then the signalling maintainer giving the release shall be assured that the driver of the first train is aware that another train will be signalled across the path of his/her train.

1.4 Release of Approach Stick Relays

Approach locking in approach stick relay circuits may be released as follows: The signalling maintainer giving the release shall:

- a) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.
- b) Ensure that the signal is at stop and will remain so, and that the train stop, where provided, is in the tripping position.
- c) Ensure that any train approaching the signal involved is at a stand.
- d) Momentarily bridge the approach stick finger contact on the approach stick relay. The bridge must be removed immediately.

If the relay does not pick up traffic is to be conducted in accordance with Network Rule NSG 608 until the situation is rectified.

1.5 Release of NI Lever Locks on Signal levers.

Signal NI lever locks apply signal normal indication locking and generally incorporate approach locking and also, in some cases, route holding locking.

The signalling maintainer giving the release shall :

- a) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.
- b) Ensure that the signal involved is at stop and will remain so and that the train stop, where provided, is in the tripping position.
- c) Ensure that any train approaching the signal, or on track circuits included in the NI lock circuit, is at a stand and clear of any points in the route ahead of the signal.
- d) Manually lift the lock while the signal lever is placed full normal.

1.6 Release of Normal and Reverse Indication Locks on Point Levers

Normal or reverse indication locks on point levers apply indication locking and do not incorporate track locking.

Normal indication (NI) locks and Reverse indication (RI) locks on points levers may be released when the electric lock has failed to enable the points lever to be placed to the full normal or reverse position in correspondence with the points.

The signalling maintainer giving the release shall:

- i) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.
- ii) Ensure that the points are lying in the position corresponding with the position of the point lever and are securely locked by the facing point lock, where provided.
- iii) Ensure that the points won't be unlocked or moved prior to giving the release, if necessary by electrically disconnecting the points or by clipping and locking the points.
- iv) Manually lift the respective indication lock while the lever is placed fully over by the signaller.

If, after the release has been given, the points are found to be still out of order, the indication lock shall not be released again until the points have been disconnected or secured by clip and SL Lock.

Provided the points have been disconnected, and Network Rule NSG 608 and Procedure NPR 740 are in effect, the failed indication lock may be permanently released, if this is necessary, to enable the lever to be placed in correspondence with the points normal or reverse in order to obtain the sequence of the interlocking (when defective points are being manually operated and clipped and locked).

Note: While the lever is in the normal indication (NI) or reverse indication (RI) position, no traffic must be allowed to pass over the facing points unless they are properly secured by clip and SL lock.

1.7 Release of Normal and Reverse Locks on Point or FPL Levers.

Normal and Reverse locks on point or F.P.L. levers incorporate track locking, generally both approach locking and route holding.

Normal and Reverse locks on point or facing point lock levers may be released when the electric lock is inoperative due to lock failure or approach locking.

The signalling maintainer giving the release shall:

- a) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.

- b) ensure all protecting signals are at stop and will remain so and that train stops where provided are in the tripping position.
- c) ensure any approaching train has been brought to a stand.
- d) ensure that no train is foul of any of the connections worked by the points lever.
- e) manually lift the electric lock while the lever is moved by the signaller.

If subsequent releases are required, this may be done provided the signalling maintainer and signaller sign an entry in the Train Register Book. When this has been done the signalling maintainer may give a separate release for each lever movement required by the signaller provided all steps (a) to (e) are followed for each release.

As an alternative to releasing the lock each time, the points must be secured with a clip and SL lock and a handsignaller stationed at them to act under the directions of the signaller in accordance with Network rule NSG 608 and Procedure NPR 740. When this has been done and the entry prescribed by Network rule NGE 234 has been made in the Train Register Book and form Infrastructure Booking Authority form NRF 003 made out and signed, the lock may be permanently released or removed until repairs have been effected.

Note: In hybrid installations containing both mechanical and relay interlocking, the signalling maintainer shall, in addition to the above, ensure that all relay interlocked functions are non-conflicting before a normal or reverse electric lock is released on a point or facing point lock lever.

Note: The above procedure may also be used to release track locking (route holding) where a train has passed the outer protecting signal and has come to a stand at the immediate protecting signal provided the signalling maintainer has been assured and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003 that the driver of this train has been informed that another train is to cross his/her path.

1.8 Release of Signal Normal Indication (NI) Relays or Signal Route Normal Relays.

Failure of signal normal indication relays (standard relay interlockings) or signal normal route lock relays (route control relay interlockings) may be released as follows only if extensive train delays would otherwise occur.

If the failure is due to track locking then a release of the approach stick relay is to be provided. If the failure is due to another cause then a release may be provided as under. The signalling maintainer giving the release shall:

- a) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.

- b) ensure that the signal involved is at stop and will remain so and that the trainstop where provided is in the tripping position.
- c) electrically disconnect the signal to prevent its operation and book it out of use
- d) ensure that any approaching train has come to a stand
- e) momentarily energise the NI relay or NLR relay (after driving the RLR relay down, if necessary). Immediately remove the false feed.
- f) Conduct traffic past the disconnected signal in accordance with Network Rule NSG 608.

1.9 Release of Point Lock Relays at Standard Relay Interlockings (Not Albury South or Route Control Type Interlockings).

Point lock relays in N.S.W. standard relay interlockings (except Albury South) apply track locking, generally route holding and in some cases approach locking.

If approach stick relays are provided in the point lock relay circuit and approach locking needs to be released then the respective procedure for releasing approach stick relays shall be provided.

In exceptional circumstances it may be necessary to energise a point lock relay to minimise excessive train delays. The relay may be energised after the following precautions have been observed :

- a) After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.
- b) ensure all protecting signals are at stop and will remain so and that train stops where provided are in the tripping position.
- c) ensure any approaching train has been brought to a stand.
- d) ensure that no train is foul of any of the connections worked by the points lever.
- e) momentarily energise the point lock relay while the points are operated by the signaller. Immediately remove the false feed.

Where it is necessary to bypass a train occupying route holding track circuits, provided that in addition to the above the signalling maintainer is assured that the driver of the train to be by-passed is made fully aware of the by-passing movement and a notation to this effect is made on the release form by the signaller, the signalling maintainer may give the release.

1.10 Release of a Point Lock Relays at Albury South and Route Control Type Interlockings

At Albury South and at Route Control type relay interlockings if a failure occurs in the circuit of a point lock relay, traffic must be conducted in accordance with Network Rule NSG 608 until the defect has been rectified, except as set out below.

At these interlockings in addition to track locking, the point lock relay circuits incorporate interlocking functions which must not be released.

In exceptional circumstances, if a failure of a point lock relay circuit occurs due to a failure of the track locking within the circuit, or if for other reasons, it is necessary to release the points with the route holding tracks occupied, and it is ascertained that the failure cannot be rectified quickly to avoid serious train delays, then the applicable point lock relays may be energised as follows to allow operation of the points from the lever, or to allow the point lock relays to be placed in correspondence with defective points which have been operated locally by hand by the signalling maintainer in the case of EP points, or wound over in the case of electrically operated points, and have been secured by clip and SL lock.

The signalling maintainer must fully explain the circumstances to the controlling officer and obtain permission to effect the release as follows:

1. After receiving a request from the signaller for the release and an entry made in the train register book or on Infrastructure Booking Authority form NRF 003.
2. The signalling maintainer giving the release shall:
 - a) ensure that all signals that interlock with the points are normal and that any approaching trains are at a stand;
 - b) ensure that any points or releases which interlock with the points are in nonconflicting positions;
 - c) ensure there are no trains on routes over the points concerned;
 - d) ensure that no train or vehicle is foul of any of the connections worked by the points lever.
3. Place the point lever in route control interlockings to the position in correspondence with the points and fit lever sleeves on any signals which control routes which lead over any connections of the points.
4. In the point lock relay circuit concerned, bridge the appropriate contacts applying track locking and double check that the correct contacts and only those contacts are bridged. Then place the point lever to the centre position and observe the points 'free' indication. The signaller shall then operate the point lever to the position concerned. Remove the bridge immediately the respective point lock relay picks up and check that the opposite point lock relay is down.

Note 1: No attempt shall be made to operate the point lock relay or the points by operating route set buttons.

Note 2: No contacts in the point lock relay circuit are to be bridged except those that apply track locking and on no account shall point lock relays be lifted or unplugged and replaced by a relay in the up position.

5. Where it is necessary to by-pass a train which is occupying the route holding track circuits which lock the points to be used for the by-passing movements, then, provided that in addition to the above requirements the driver of the train to be by-passed is made

fully aware of the by-passing movements and that a notation to this effect is made in the train register book or on Infrastructure Booking Authority form NFR 003 by the signaller, the signalling maintainer may provide the release.

6. Separate requests and entries in the train register book or on Infrastructure Booking Authority form NFR 003 must be completed and a separate release must be given on each occasion it is necessary to operate the point lock relays and the points.