



COUNTRY  
REGIONAL  
NETWORK



# Engineering Procedure

## Signalling (Manual J)

### CRN SP 001

## INTRODUCTION TO SIGNALLING MAINTENANCE PROCEDURES

Version 1.2

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**Owner: Principal Signal Engineer**

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## Document control

Revision	Date of Approval	Summary of change
V2.0	Jan 2004	RIC SC 00 52 00 01 SI Introduction to Signalling Maintenance Procedures
V1.0	July 2011	Conversion to CRN SP 001
V1.1	May 2015	Update to reflect CRN practises
V1.2	January 2017	Review and Update

## Summary of changes from previous version

Section	Summary of change
1.0	Update wording
1.1	Update wording

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# 1 Introduction

The purpose of these procedures is to bring to the attention of licensed and authorised signalling practitioners engaged in work affecting installed signalling apparatus the essential features, standard practices, and special instructions, so that traffic movements can be made safely yet without delay.

The Network Rules and Procedures Manuals direct how work affecting the operation of signalling shall be safely carried out. All signalling personnel issued with Network Rules and Procedures Manuals shall be held responsible for complying with the relevant safeworking procedures contained in them.

The standard practices and procedures contained in this Signal Manual "Signalling Maintenance Procedures" shall be read and carried out in conjunction with the Network Rules and Procedures Manuals which they are intended to supplement, and in no way supersede.

Each licensed or authorised signalling practitioner who has duties prescribed by these signalling maintenance procedures must have a copy of this manual and shall comply with the prescribed procedures.

Users of these procedures shall promptly bring to the attention of the Principal Signal Engineer for his/her determination any perceived omission, error, ambiguity, inconsistency or lack of clarity with these Procedures as well as suggestions for improvement.

## 1.1 Persons undertaking work to be competent and accredited

Wherever terms such as signal engineer, signalling maintainer, mechanical maintainer, linesman, maintenance supervisor and such like are used it shall be taken as read that the respective persons are suitably trained, competent and accredited to perform the specific task required in the context referred to. If they are not suitably competent and accredited then they must arrange for others who are suitably competent and accredited to carry out the task.

Signalling personnel shall familiarise themselves with new and altered procedures by regularly visiting the CRN website and updating hard copies of manuals they may have made.

Where individual responsibility is not explicit in the text of these procedures, signalling personnel shall contact the Signal Maintenance Engineer for clarification.

For the purpose of this manual a Signal Engineer and Signal Maintainer, unless otherwise stipulated shall mean a trained, qualified and licensed person who has been accredited by the appropriate Signalling discipline licensing board in Signalling Safeworking.

## 1.2 Signal Maintenance Engineer

The Signal Maintenance Engineer is the senior signal engineer responsible for the signalling infrastructure within the CRN and unless otherwise stipulated may delegate the various tasks specified to them in these procedures to another accredited signal engineer, however in doing so, does not dispense with the responsibility and the Signal Maintenance Engineer is still ultimately accountable for ensuring the task/s are appropriately handled and completed safely and in accordance with these procedures.

## 1.3 Signalling Maintainer

The Signalling Maintainer is responsible for maintaining the signalling system as detailed throughout the procedures

## 2 Some Basic Requirements.

Some basic requirements relating to maintaining the signalling system are set out below. They are described in detail in the procedures in the following sections of this Manual.

- Signalling maintenance shall be managed and performed to meet the relevant requirements of Australian Standards for Railway Safety Management AS4292 Part 1 "General and interstate requirements" and Part 4 "Signalling and telecommunications equipment and systems".
- The installed signalling system and its components are to be maintained to prevent signalling system failures and associated train delays, and to ensure the safety provided by the system is maintained throughout its operational life.
- Failed signalling equipment is to be attended to and restored for operational use without undue delay.
- Details of signalling maintenance and signalling failures and irregularities are to be recorded and analysed to determine any corrective action necessary and to ensure equipment/system safety and reliability levels are maintained.
- Only signalling maintainers using approved practices, calibrated test equipment, tools, materials and equipment are to maintain the installed signalling system or its components. Test equipment and tools in use are to be in proper working order.
- Persons who are not suitably accredited shall not have access to enclosures housing vital signalling equipment except under the supervision of an authorised person or as permitted in accordance with stipulated conditions.
- Only suitably accredited signalling maintainers, or persons directly supervised by the signalling maintainers, are to disconnect or connect to the signalling system equipment and circuits.
- The movement of trains must be adequately protected when any maintenance action or other interference impairs or could impair the protection provided by the signalling system or could affect the safety of the line.
- Where the interlocking is disarranged or vital signalling equipment is disconnected from the interlocking, or is disassembled, or has safety critical adjustments altered, then its safe operation must be verified before it is certified fit for operational use.
- Signalling equipment which has failed in an unsafe manner must be taken out of service and the train movements affected must be immediately protected.
- The irregularity must be fully investigated, the defect rectified, and the equipment must be tested and certified as operating safely before being restored to use for traffic operations.
- Subject to the former, should signalling apparatus be defective in any manner which potentially might endanger traffic operations it is to be immediately repaired or replaced, if practical. If it cannot be immediately repaired or replaced its operation must be discontinued and traffic operations must be protected. Details must be immediately reported to Signal Maintenance Manager.
- When any function of the signalling system affecting traffic operations is to be taken out of service, the Network Control Officer of the affected area is to be advised.
- Release of track locking or signal indication locking must only be given as prescribed.
- Temporary bridging of contacts of vital signalling control devices must only be carried out as prescribed.
- Where locking facilities are normally provided, the signalling equipment is to be kept locked to prevent unauthorised interference.
- Alterations or additions to the configuration of the signalling system or its components must not be made unless properly authorised.

- Whenever maintenance of the signalling system requires additions or modifications to the signalling system or its safety related components then the requirements of Specification CRN SC 001 shall be observed.
- Prior approval of the Principal Signal Engineer is required before any aspect of the operational signalling system, vital or non vital, that could affect the safety and/or reliability of the system is introduced.
- This requirement includes, the application of experimental, new or modifications to design, signalling systems, signal equipment, train control systems, standards for manufacture, construction, operations, maintenance, disposal and procedures and practices, including practices that were not specifically covered by documented standards but for which a documented standard should apply.
- Signalling plans, diagrams and circuit books for operating and maintenance use must be available to those who need them to carry out their duties and be maintained up to date.
- Off-site repair and overhaul of vital signalling equipment shall only be carried out by the equipment manufacturers or their authorised agent. This is to ensure the equipment is restored to the required specification and standard before being available to be placed into service.
- Temporary repairs of vital signalling equipment shall be to an acceptable and safe standard and procedures shall ensure the temporary repairs are brought up to the permanent standard before they present an unacceptable risk to the safe and reliable operation of the signalling system.
- Malicious damage or interference to vital signalling equipment or circuits must be reported promptly to the Signal Maintenance Engineer and the local Police as necessary.
- Test equipment for measuring signalling system safety and reliability parameters shall be calibrated where required to verify acceptance/rejection criteria.
- Signal maintainers shall liaise with Network Control Officers at all times when carrying out activities that may interfere with either the operational signalling system or train operations.
- Signalling maintainers shall test equipment that has been interfered with to ensure that it is in operating order. Such operational tests shall be in addition to the precautions, inspections and tests carried out by the signal maintainer to ensure the equipment is left in order.
- Signalling maintainers shall ensure that their contact details are up to date so that controlling officers and/or Operators or relevant others know where to contact them for signalling failure attendance or other emergencies.