

Signal Inspections

ESM-00-01

Applicability

ARTC Network Wide SMS

Publication Requirement

Internal / External

Primary Source

SMP 45

Document Status

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.4	09 Jan 19	Standards	Stakeholders	Manager Standards	General Manager Technical Standards 14/01/2019

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	27 Feb 09		First issue. Supersedes NSW Standard SMP 45 v1.2 Risk & Safety Committee Approval 10/03/2009
1.1	07 Oct 09		Disclaimer updated as per Risk & Safety Committee 14/09/2009
1.2	13 Aug 10	All	Issued as final.
1.3	18 Jan 18	1	Rebrand and new template. Delete reference to obsolete procedure PP-166.
1.4	09 Jan 19	All	Minor editorial updates to delete references to various document numbers, correction of references to asset management system, clauses and consistency in terminology.

© Australian Rail Track Corporation Limited (ARTC)

Disclaimer

This document has been prepared by ARTC for internal use and may not be relied on by any other party without ARTC's prior written consent. Use of this document shall be subject to the terms of the relevant contract with ARTC.

ARTC and its employees shall have no liability to unauthorised users of the information for any loss, damage, cost or expense incurred or arising by reason of an unauthorised user using or relying upon the information in this document, whether caused by error, negligence, omission or misrepresentation in this document.

This document is uncontrolled when printed.

Authorised users of this document should visit ARTC's intranet or extranet (www.artc.com.au) to access the latest version of this document.

Table of Contents

Table of Contents	2
1 General	3
2 Specific Signal Engineer Inspections and Tests	4

1 General

Surveillance inspections by experienced, senior level, signalling maintenance officers form part of the regime for monitoring the safety integrity of the signalling system. These are performed by staff with the appropriate competence and the responsibility form the respective area.

The primary objectives of the surveillance inspections are directed at signalling safety and reliability and are:

1. to monitor the condition of the equipment throughout the maintenance area in order to determine priority based programs and budgets for renewal, repair or rehabilitation.
2. to monitor the standard of maintenance throughout the maintenance area in order to direct any required corrective actions and to plan for improvement.
3. to monitor the level of compliance throughout the maintenance area with required procedures and practices, special instructions, etc. in order to direct any required corrective actions and/or recommend improvements to the procedures etc.

Secondary objectives of the inspections are:

4. to monitor the cost-effectiveness of maintenance in order to direct any required corrective actions and to plan for improvements.
5. to monitor the efficiency and effectiveness of the signalling system in meeting the operational requirements in order to correct deficiencies and propose improvements.
6. to communicate directly with maintenance staff in their work environment and to give them the opportunity to directly raise issues and receive feedback on matters affecting them.
7. to communicate directly with local operations and other discipline staff who are serviced by or provide services to the signalling discipline.

The signal inspections are to be scheduled on a regular basis to achieve the primary objectives over the maintenance area in a two year period or every four years for areas that meet the condition assessment criteria for application of the maximum TMP maintenance periodicities.

The surveillance inspections carried out shall be recorded and the results of the inspections are to be documented in a report to the line manager and a copy retained on file. The documentation shall provide objective evidence of the performance of the inspection.

Documented outcomes from the inspections should include:

- a detailed condition assessment of the equipment;
- report as to the standard of maintenance;
- details of any non-conformances;
- areas for improvement;
- details of any defects to be recorded for action in the asset management system and/or a TCR is raised;
- Other issues that may be identified for attention include training programmes to improve staff competency, arrangements for increased supervision, adjustments to rosters, local instructions to correct deficiencies, renewal programs, recommendations for changes to procedures, etc.

An important aspect of surveillance inspections is that it provides an opportunity to assess staff competence and compliance with procedures by observing staff carrying out their work. The most satisfactory way to know if people understand and can perform to the proper procedures is to observe them doing it or ask them to demonstrate how they do it. Signalling Maintenance Engineers and/or Signalling Maintenance Managers are to take every opportunity to satisfy themselves of staff competence and compliance in this manner, instances of these direct observations should be recorded.

While it will not be practical for the surveillance inspections to cover every single item of equipment on the district every two years, the breadth and depth of inspections of equipment and activities shall adequately achieve the seven objectives listed above. Inspections should be programmed to ensure a balanced representative sample of each maintenance team or maintenance region is inspected annually. In travelling along the whole of the signalled lines on the maintenance area, the surveillance inspections shall include in-depth examination and test of a selected representative sample of equipment items and activities and include inspections of selected areas or vital aspects that are out of the way or awkward to access or maintain, or that may be missed by inexperienced signalling employees. The inspections would include tests of the adjustment of some facing point locks and points detectors.

Inspections are to be scheduled in the asset management system and preferably be conducted with the respective signalling maintainers in attendance. The Signalling Maintenance Engineer or Signalling Maintenance Manager should also use any other opportunities to conduct complete or partial inspections, especially in areas of known poor performance and/or condition.

Note: The signal inspections are also to monitor environmental safety aspects.

2 Specific Signal Engineer Inspections and Tests

In addition to the signal Inspections set out in clause 1, there are a number of specifically nominated inspections and tests required to be carried out by a Signal Engineer or a suitably accredited and authorised delegate. Reference the standard for Signals Staff Competency Assessment.

The performance of these particular inspections and tests can contribute towards the two yearly surveillance inspections for that equipment and location by satisfying primary and/or secondary objectives listed in clause 1.

The specific Signal Engineer / Signal Maintenance Manager inspections should be coordinated (programmed) with the following tests:-

- a. Mechanical locking and mechanical interlocking tests every two years or four years as applicable
- b. Interlocking tests where required every five years
- c. Electric Staff instrument inspections and tests every two years
- d. Computer/Processor interlocking version verification check every five years
- e. Level crossing warning system inspections and tests every three months for actively protected level crossings without booms or remotely monitored level crossing monitors, or every six months for level crossings with automatic booms or LED lamps or remotely controlled level crossing monitors and every 12 months for level crossings with booms and remotely controlled level crossing monitors.