

Ref:	NR/L2/CTM/012/038
Issue:	1
Date:	06 March 2010
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NR/L2/CTM/012/038 Competence & Training in Signal Engineering

Sig 38: Special Inspection of S&T Equipment.

1 Purpose.

The purpose of this Competence standard is to define the requirements for persons required to use test instrumentation in a controlled and safe manner. In particular the connection of measuring instruments, the internal wiring of which has the potential to create wrong side signalling failures, when attached to signalling circuitry.

2 Scope.

This Competence standard applies in all circumstances where any person is required to undertake short duration testing and temporary unattended monitoring of signalling circuits, including the production of any formal design where required.

The level and extent of responsibility will include their own safety and that of others who might be affected by their work. The person will be expected to refer to others for authorisation when required, will be responsible for the implementation of the Instrumentation Engineering instructions and will work within set procedures and specifications. The person is responsible for the quality of their completed work.

This competence standard shall be used to assess the competence of people undertaking the following activities:

- Close Proximity Monitoring
- Direct Measurement

3 Competence Standard.

This Competence Standard comprises three elements.

Element 1 Plan the requirements for instrumentation engineering activities.

Element 2 Undertake short duration attended monitoring of signalling equipment.

Element 3 Undertake temporary unattended monitoring of signalling equipment.

To prove your competence in this unit, you will be a currently competent Signal Maintenance tester and will demonstrate your ability to identify the requirement for the use of Monitoring and Test Equipment. You will demonstrate your ability to use Monitoring and Test equipment. You will show you can follow recording procedures and can follow reporting and escalation procedures.

4 Assessment.

4.1 Initial Assessment

Where the Instrumentation Engineer competence is new to the person's area of responsibility the evidence requirements defined in each element apply.

Performance evidence may come from a variety of sources and will include evidence derived from mentorship or direct observation by an approved assessor. Evidence will also include detailed questioning and will be supported by work experience record and may include performance reports from the person's line manager.

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4.2 Re-Assessment

Re-assessment shall be completed in accordance with the applicable requirements set out in 7.2 of NR/L2/CTM/012.

4.3 Knowledge Evidence that is common to the whole unit.

You shall have knowledge and understanding of:

- a) Signalling principles.
- b) The different types of signalling equipment which make up the operational signalling systems.
- c) How to interpret basic signalling terminology with relationship to the control and location of trackside equipment.
- d) How to use and apply industry standards for working on equipment which is in service.
- e) How to use and apply industry standards and regulations for making disconnections to signalling apparatus.
- f) How to use diagnostic tools & equipment (e.g. multimeters, insulation testers, track circuit shunt boxes) confirming calibration prior to use.
- g) The operating characteristics of equipment used for monitoring and testing.
- h) What procedures need to be followed to confirm operational and personal safety is maintained during the work.
- i) How to avoid personal injury during the work.
- j) What the limits of your responsibility and authority are.
- k) Who is responsible for taking the equipment out of operational service and handing the equipment back.
- l) Reporting lines and escalation procedures.
- m) Industry protocols relating to communicating important safety information.