NR/L2/CTM/012/002 Competence & Training in Signal Engineering

Sig 2: Undertake preventative maintenance of electrical signals and AWS.

1 Purpose.

The purpose of this competence standard is to define the competence requirements for persons required to undertake maintenance of electrical signals.

2 Scope.

This competence standard applies in all circumstances where any person is required to maintain electrical signals on Network Rail managed infrastructure.

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 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 maintaining any of the following:

- Multi aspect colour light signal including LED signals.
- Position Light junction indicator (PLJI).
- Multi lamp route indicator (MLRI)
- Position Light signal (PL).
- Ground Position Light signal (GPLS).
- Limit of shunt indicators.
- Stencil

A separate competence standard applies when a person is required to work on mechanical signals or complete corrective maintenance on electrical signals.

3 Competence Standard.

This Competence Standard comprises three elements.

Element 1 Carry out planned maintenance of electrical signals and AWS.

Element 2 Adjust electrical signals to meet operating requirements.

Element 3 Conduct specified testing of electrical signals and AWS, analyse and interpret the results.

The first element is concerned with the safe completion of planned maintenance in accordance with instructions. The second element deals with adjusting the equipment to make sure that it meets its operating requirements. The third element deals with testing of the equipment and analysing and interpreting the results to make sure that the equipment meets its operating requirements.

To prove competence in this unit, the person shall demonstrate their ability to complete maintenance in accordance with instructions. The person will have to show they can follow recording, reporting and escalation procedures.

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4 Assessment.

4.1 Initial Assessment

Where the equipment is new to the person's area of responsibility evidence should be used from satisfactory completion of training and mentoring and shall be gathered of the person working on a range of signal types including as a minimum:

- Multi aspect colour light signal.
- Position Light junction indicator (PLJI).
- Ground Position Light signal (GPLS).
- Associated AWS equipment.

Performance evidence may come from a variety of sources and will include evidence derived from surveillance (direct observation) by an approved assessor. Evidence will also include detailed questioning and may additionally be supported by performance reports from the person's line manager.

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) How the maintenance and testing activity may affect the safe operation of the railway.

b) What procedures need to be followed to confirm operational and personal safety is maintained during the work.

c) How to avoid personal injury during the work.

d) How the signal is designed to function under normal operating conditions.

e) What each of the component parts contributes to the overall operation of the system.

f) What terminology and methods are used to identify signals and describe the aspects displayed.

g) What tools are required to complete the work and what equipment calibration is required.

h) What the limits of your responsibility and authority are.

i) Who is responsible for taking the equipment out of operational service and handing the equipment back the equipment to operational service.

j) Maintenance reporting documentation.

k) Reporting lines and escalation procedures.

l) Industry protocols relating to communication important safety information.

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