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Level 3

Working On or About 25 kV A.C. Electrified Lines

Module 3 Management of Electrical Risks

(This module is one of a suite of modules forming Network Rail standard NR/L3/ELP/29987 'Working On or About 25 kV A.C. Electrified Lines')

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1 Purpose

This module will produce a consistent approach to the management of risks when working on or about 25 kV a.c. electrified lines. Further requirements for working on or about the electrified lines are contained in the Rule Book Module AC (GE/RT8000/AC).

2 Scope

This module states the requirements for the management of the electrical risks involved when work is to be carried out on or about 25 kV a.c. electrified lines in order to prevent danger arising from live overhead line equipment, and live pantographs and other roof-mounted electrical equipment on trains.

It is applicable to Network Rail personnel and to Network Rail's contractors.

To provide a consistent approach to working on or about 25 kV a.c. electrified lines, Train Operating Companies may, as best practice, apply this standard to infrastructure they control.

3 Assessment and Management of Risk before Attempting Work

3.1 General

Before any work is attempted on or about the electrified lines, the proposed work shall have been subjected to risk assessment in accordance with Module 2 and the risks shall be managed in accordance with this module.

3.2 Work More Than 2.75 metres (9 feet) from Live Equipment (See Appendix A of Module 2)

The competent person preparing the documented safe system of work required by Module 2 shall establish how it is intended to carry out the work without coming within 2.75 metres (9 feet) of any live part of the OLE, or within the vertically unbounded space above 2.75 metres to either side of the live OLE or within 2.75 metres of live pantographs and other roof-mounted electrical equipment on trains.

The competent person shall take into account:

- a) the nature and situation of the proposed work; **and**
- b) the tools, materials, plant, appliances and liquids to be used; **and**
- c) the competence and responsibilities of the persons involved in the proposed work; **and**
- d) any other relevant circumstances.

The competent person shall also establish the control measures to be taken.

The competent person shall not authorise the safe system of work unless the probability of any part of a person's body or clothing or anything being used coming within 2.75 metres (9 feet) of live equipment is negligible.

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If the competent person undertaking the risk assessment establishes that the probability is not negligible, the requirements of clause 3.3 shall be carried out.

For any work taking place in an area of reduced wire height (refer to Module 2, Section 3.1), the competent person must seek approval of the safe system of work from the Delivery Unit Electrification and Plant Maintenance Engineer or Designated Project Engineer as per Module 3, Section 3.3.

3.3 Work Less Than 2.75 metres (9 feet) but More Than 600 millimetres (2 feet) from Live Equipment (See Appendix A of Module 2)

The competent person preparing the documented safe system of work required by Module 2 shall describe in the safe system of work how it is intended to carry out the work without coming within 600 millimetres (2 feet) of any live part of the OLE, or live pantographs and other roof-mounted electrical equipment on trains.

Under no circumstances shall any work or any part of the body come within 600 millimetres (2 feet) of live equipment.

The competent person shall include in the safe system of work:

- a) a description of the access to, nature and situation of the proposed work; **and**
- b) the tools, materials, plant, appliances and liquids to be used; **and**
- c) the details of any isolation considered necessary; **and**
- d) the competence and responsibilities of the persons involved in the proposed work; **and**
- e) the control measures proposed to be taken, some typical examples of which follow.

EXAMPLES

- The establishment and indication of a suitable demarcation line and placing of a rope or temporary fence and/or suitable warning notices to define the limit beyond which no part of the body or anything to be used shall project towards the live equipment.
- The provision of suitable temporary screening between the work area and the live equipment.

Screens shall be of adequate size, shape and strength and be positioned to afford protection for persons against the risk of electric shock from the work activity. Where a screen is placed between an accessible standing place and live equipment, the screen shall extend so that the taut string distance from the standing point round the periphery of the screen to live equipment is not less than 2.75 metres (9 feet). Where practicable, screens shall not be perforated. Where this is not practicable, the screen shall not have holes with any dimension greater than 35 mm or 1200 sq mm.
- The prohibition of extending any part of the body or anything being used beyond a specified boundary.