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Level 3

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

Module 11 Working On Overhead Line Equipment

(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 working on the overhead line equipment of 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 to be met when working on the overhead line equipment on 25 kV a.c. electrified lines.

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 of Risk Before Attempting Work

Before any work is carried out on or about the electrified lines, the proposed work shall have been subjected to risk assessment in accordance with Module 2 and the risks managed in accordance with Module 3.

4 Use of Live Line Tools and Live Line Measuring Devices

4.1 General

Live line tools and live line measuring devices shall conform to the relevant Network Rail and Euronorm standards including national and EU legislation. They shall be used only by persons who have been specifically trained, are competent and have been authorised in their use.

4.2 Live Line Tools

Where it is necessary to carry out work on or adjacent to live overhead line equipment, such work may be carried out using live line tools.

These tools shall be fitted to an earthing pole and used in accordance with the relevant Network Rail standard.

4.3 Live Line Measuring Devices

Where it is necessary to measure the dimensions of the overhead line equipment, or the overhead line equipment relative to the running rails, overbridges, adjacent structures, etc. on or adjacent to live overhead line equipment, such work may be carried out using live line measuring devices. These devices include insulated height and stagger gauges, insulated height sticks and system height poles.

The system height pole shall be fitted to an earthing pole and used in accordance with the relevant Network Rail standard.

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4.4 Removal of Objects From and Near To the Overhead Line Equipment

Removal of objects may be undertaken by staff trained and certificated in the use of live line tools conforming to, and used in accordance with, the relevant Network Rail standards.

The procedure to be followed for removal is stated in Module 5.

5 Use of Aluminium Triple Extension Ladders

When work on high overhead line equipment requires the use of a triple extension ladder of aluminium construction, it shall only be used when an overhead line permit is specifically issued by a Nominated Person in accordance with Module 7.

In addition the ladder shall:

a) be kept under lock and key at a depot or other secure premises except when it is issued for a specific task(s);

b) be issued only to a Nominated Person who shall sign a register on receipt of it. The Nominated Person shall be responsible for seeing that the ladder is handled in a safe manner and that it is used only for the task(s) for which it was issued;

c) be carried at all times by two or more persons in an underarm position when close to the track;

d) not be erected to the working position until the overhead line permit has been received. The overhead line permit shall be endorsed ‘use of aluminium ladder’;

e) be lowered to the ground before the overhead line permit is cancelled; and

f) be returned to the depot or other secure premises as soon as practicable after the task(s) for which it was issued has been completed.

If the Nominated Person responsible for the ladder is relieved, the relief shall assume responsibility for the ladder and record the fact on the overhead line permit.

6 Earthing Facilities Provided on OLE Access Vehicles

When an overhead line works train fitted with an earthed pantograph at each end is used, work may be carried out on or near the overhead line equipment between the raised earthed pantographs without additional intermediate portable earths being applied.

However if one or both pantographs are to be lowered, the matter shall be referred to the Nominated Person.

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When an on-track overhead line access vehicle is used and an earthed pantograph is provided on the vehicle, the earthed pantograph shall be raised before the working platform is raised. Work may then be carried out on or near the overhead line equipment from the vehicle without additional intermediate earths being applied, provided that the earthed pantograph continuously and effectively earths all the equipment being worked on or being approached within 600 millimetres (2 feet).

The application of additional portable earths shall only be undertaken by a person(s) authorised for such activities, and then only on the instruction of the Nominated Person.

7 Work On 25 kV A.C. Electrification Equipment

7.1 Requirements for Pre-planning

Where the risk assessment, carried out in accordance with Modules 2 and 3, determines that the work requires a pre-arranged isolation of the overhead line equipment and an overhead line permit to be issued, then the work shall be planned in accordance with Module 6.

7.2 Access to Switching Stations and Compounds

Access to the equipment and into buildings at switching stations, and any compounds surrounding them, shall be restricted to only those persons so authorised in accordance with local instructions.

All work on such equipment shall be carried out by persons competent and authorised for such work, and where necessary the work on such equipment shall be carried out in accordance with Network Rail instructions.

Where access is necessary, this shall be planned in accordance with Module 6. The appropriate Infrastructure Maintainer's staff shall be engaged to undertake the activities concerned, and the necessary contractual and logistical arrangements made.

7.3 Continuity of OLE between Earths

The electrical continuity of the overhead line equipment shall be maintained uninterrupted between successive earths.

If it is necessary to carry out work which would interrupt the electrical continuity of the OLE, a temporary continuity jumper shall first be applied across the position of the proposed break and it shall not be removed until the continuity of the OLE has been restored.

Where the continuity of the OLE is not to be restored (e.g. when cutting in a section isolator), earths shall be applied as for discontinuous OLE in accordance with Module 7.

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