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NR/L2/OHS/019

Module 06

Planning and working for isolation duties and possession support

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1 Scope

This module describes the additional considerations for planning a safe system of work for:

- 1.1 persons working on or near Overhead Line Equipment (OLE) or DC/3rd and 4th rail;
- 1.2 implementing an earthed isolation on OLE;
- 1.3 Implementing an isolation on DC/3rd and 4th rail;
- 1.4 possession support planning/activities.

This module applies to the responsible manager (RM), Planner and person in charge (person in charge).

2 Duties when persons are planning to work on or near OLE

2.1 RM duties

In addition to the requirements of NR/L2/OHS/019, the RM shall confirm that:

- 2.1.1 each task and task delivery method(s) has been assessed to determine if an [Overhead Line Permit](#) (OLP) is required to be issued as part of the task delivery's safe system of work;

NOTE: NR/L3/ELP/29987 sets out the requirements for the identification of tasks that require an OLP to be issued and an associated earthed isolation to be requested.

- 2.1.2 the requirement for the OLP is clearly identified within the SWP;
- 2.1.3 where an OLP is to be issued the requirements of NR/L3/ELP/27720 – Test before Touch for Overhead Line Equipment are assessed and, where required, relevant Test Before Touch (TBT) actions are requested for implementation.

2.2 Planner duties

In addition to the requirements of NR/L2/OHS/019, the Planner shall confirm that:

- 2.2.1 an OLP and associated earthed isolation has been requested that covers the extent of the worksite, in accordance with the requirements of NR/L3/ELP/29987 Working on or About 25kV A.C. Electrified lines;
- 2.2.2 where relevant, TBT actions have been requested in accordance with NR/L3/ELP/27720.

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2.3 Person in charge duties

In addition to the requirements of NR/L2/OHS/019, the person in charge shall:

- 2.3.1 communicate and confirm with the Planner that the requirements of the task and delivery methods fit with the details of the requested OLP and associated earth isolation;
- 2.3.2 communicate and confirm with the person in charge of the TBT actions form that any pre-planned and pre-documented TBT actions meet the requirements of the planned task(s) and task delivery method;
- 2.3.3 assist, as required, the [Nominated Person](#) that is issuing the OLP or the COSS (OLP) that is receiving the OLP so that they may check that:
 - a) the planned task(s) and task delivery method(s) fit within the lines and safe working limits defined on the OLP; and
 - b) any pre-planned and pre-documented TBT actions remain appropriate for the planned task(s) and task delivery method(s).

The person in charge shall confirm that they are briefed by the COSS (OLP) following each TBT action or set of actions.

3 Duties when implementing an earthed isolation on OLE

3.1 RM duties

In addition to the requirements of NR/L2/OHS/019, the RM shall confirm that:

- 3.1.1 there is a SWP for each team undertaking one or more of the following tasks within the same component planning:
 - a) switching; or
 - b) earthing; or
 - c) application of Reminder of Live Exposed Equipment (RoLE) device(s).
- 3.1.2 each team consists of a minimum of two-people where:
 - a) a person in charge is appointed for each team; and
 - b) at least one person within the team is competent to undertake the task(s) of switching or earthing or application of RoLE equipment device(s);
 - c) the minimum competence is Authorised Person (AP) i.e. [Authorised Person OLE AC Isolation](#)

NOTE: No person is allowed to work alone for tasks required to implement an earthed isolation.

A team member should hold the electrical first aid at work qualification and should not be responsible for implementing the isolation.

3.2 Planner duties

In addition to the requirements of NR/L2/OHS/019, the Planner shall:

- 3.2.1 check, using the published final Isolation Planning Form (IPF), that the earthing locations (circuit main earths) and switching locations are within the worksite limits; and

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3.2.2 check, using the endorsed Isolation Details Form (IDF), that the location(s) of the RoLE equipment devices are within the worksite limits.

3.3 Person in charge duties

In addition to the requirements of NR/L2/OHS/019 the person in charge shall:

3.3.1 consult with the Planner where it has been identified that the task(s) of switching or earthing or application of RoLE equipment device(s) are within the working limits of the SWP consult and agree with the Planner the additional safe system of work for task(s) which have been identified as being within the working limits of the SWP;

3.3.2 use the risk control briefing table on page 2 of the validation form NR/L2/OHS/019/F01 to:

- a) identify site, task and/or operational risks that need further control;
- b) identify the most competent person(s) to manage those risks, such as (but not limited to):
 - 1) Nominated Person (NP) if not already person in charge;
 - 2) Authorised Person (AP), when person in charge for each earthing team;
 - 3) Electrical first aid at work qualification.

4 Duties when persons are planning to work on or near DC/3rd rail/4th rail

4.1 RM duties

In addition to the requirements of NR/L2/OHS/019, the RM shall confirm that:

4.1.1 each task and task delivery method(s) has been assessed to determine if a [Conductor Rail Permit](#) (CRP) is required to be issued as part of the task delivery's safe system of work;

NOTE: NR/L3/MTC/EP0152 sets out the requirements for the identification of tasks that require a Conductor Rail Permit to be issued and an associated isolation to be requested.

4.1.2 the requirement for the CRP is clearly identified within the task's SWP;

4.1.3 where a CRP is to be issued, that the person who will be receiving the permit is competent to do so and to test the conductor rail as [dead](#).

4.2 Planner duties

In addition to the requirements of NR/L2/OHS/019, the Planner shall confirm that:

4.2.1 a CRP and associated isolation have been requested from an isolation planner that covers the extent of the worksite, in accordance with the requirements of:

- a) NR/L3/ELP/3091 DC Conductor Rail Electrified Lines Working Instructions; or
- b) NR/L3/ELP/27052 Working Instructions for DC Electrified Lines on the Northern City Line; or
- c) NR/L3/ELP/27051 Working Instructions for DC Electrified Lines in the Liverpool Area

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4.2.2 sufficient competent resource(s) are allocated to the work group so that the required [Live Line Test](#) actions can be implemented.

4.3 Person in charge duties

In addition to the requirements of NR/L2/OHS/019, the person in charge shall confirm with the Planner, that the requirements of the task and task delivery method(s) fit within the details of the requested CRP and associated isolation.

The person in charge shall confirm that the [COSS\(CRP\)](#) holding the CRP briefs all persons in the work party as to:

- 4.3.1 the limits of the CRP; and
- 4.3.2 the presence of any live equipment that is within or adjacent to the site of the work, such as:
 - a) [floaters](#);
 - b) live [hook switches](#);
 - c) adjacent live equipment and
- 4.3.3 demonstrate to each member of the work group that the conductor rail(s) at the site of the work are dead.

5 Undertaking switching and application of short circuits for DC/3rd rail/4th rail isolations

5.1 RM duties

In addition to the requirements of NR/L2/OHS/019 the RM shall:

- 5.1.1 confirm there is a SWP for all assigned switching and short-circuiting task(s) on or near the line;
- 5.1.2 appoint sufficient person(s) with [CRE Level A](#) competency to undertake the isolation and the protection of the worksite(s);
- 5.1.3 identify and resource sufficient isolation support teams to undertake the work, where:
 - a) the person in charge shall be appointed for each team.
 - b) at least one team member shall hold COSS competence.
 - c) at least one team member shall hold the DC Conductor Rail – [Level B competence](#) appropriate to the activity being undertaken.
 - d) both shall hold electrical First Aid at work qualification.
- 5.1.4 not allow working alone as part of switching or the manual application of short circuits.

NOTE 1: Where switching or application of short circuits can be undertaken using lineside switch gear (for example [NSCD](#), track feeder switch), the requirements of part (d) of this section of the standard do not apply.

NOTE 2: In Reference to 5.1/b – This role is referred to as Nominated Person for the Level A role on Mersey rail

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5.2 Planner duties

In addition to the requirements of NR/L2/OHS/019 the Planner shall:

- 5.2.1 assess whether the application of physical short circuits ([strapping](#)) is outside or within the worksite limits by reviewing the planned isolation arrangements;

NOTE: This includes identifying any short circuit locations that are within the mileage limits but are on adjacent lines that are operationally live.

- 5.2.2 confirm that, where the strapping location(s) are outside the worksite limits, they are within the possession limits.
- 5.2.3 Where a short-circuiting location is identified as being on an operational line, the Planner shall arrange for it to be moved to a location that is within the lines under possession and for the Isolation Form to be revised accordingly.
- 5.2.4 The Planner shall also identify the presence of any equipment that will remain live within the worksite after the isolation has been implemented i.e., residual electrical hazards such as floaters, live hook switches or adjacent equipment.
- 5.2.5 This shall be completed when producing the SWP(s) for the activities for which CRPs are required so that the COSS(CRP) receiving the CRP can be properly briefed as to the hazard(s) and any precautions required to identify it.

5.3 Person in charge duties

In addition to the requirements of NR/L2/OHS/019 the person in charge shall:

- 5.3.1 consult and agree with the Planner if switching or strapping tasks are inside or outside of the worksite;
- 5.3.2 consult and agree any additional safe system of work for switching or strapping tasks that are outside of the worksite;
- 5.3.3 use the risk control briefing table in page 2 of the validation form NR/L2/OHS/019/F01 to:
- a) identify site, task and/or operational risks that need further control;
 - b) consult and agree with the Planner the location of all equipment that will remain live within the limits of the worksite after the application of the isolation.
- 5.3.4 Prior to the commencement of any works being undertaken under the protection of a CRP, the person in charge shall confirm that the COSS (CRP) holding the permit has briefed the working party on any equipment within the worksite that is still Live.
- 5.3.5 The briefing shall, as a minimum, identify the location of any:
- a) floaters;
 - b) live hook switches;
 - c) adjacent live equipment.

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6 Possession Support

6.1 RM duties

In addition to the requirements of NR/L2/OHS/019 the RM shall confirm there is a person in charge for each [possession support task](#)

6.2 Planner duties

In addition to the requirements of the main standard the Planner shall:

- 6.2.1 plan access/egress within the planned possession limits; or
- 6.2.2 plan additional safe system of work requirements such as protection arrangements of lines open to train movements;
- 6.2.3 use the correct terminology for possession support arrangements, such as:
 - a) [On the approach to](#);
 - b) [Beyond](#);
 - c) At the signal/points.
- 6.2.4 aid site situational awareness by marking up photographs, screen shots and/or signal diagrams with:
 - a) lines at site;
 - b) direction of travel of each line;
 - c) access/egress points;
 - d) location and terminology for placing protection.

6.3 Person in charge duties

In addition to the requirements of NR/L2/OHS/019 the person in charge shall:

- 6.3.1 not allow possession support tasks to take place until the PICOP authorises access; and
- 6.3.2 confirm to the PICOP that all staff and equipment are clear of the line(s) at hand-back time.

7 The approval and implementation of the safe work pack

This should be in accordance with:

- 7.1 NR/L2/OHS/019.
- 7.2 HB 16 – AC electrified lines of GE/RT8000
- 7.3 HB 17 – DC electrified lines of GE/RT8000

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Appendix A Definitions

Term	Definition
Authorised Person (OLE)	Level B (Authorised) persons who are responsible for working under direction of the Level A (Nominated) Person to achieve isolations on AC OLE in their daily work such as test before touch, erecting & removing earths, operating lineside switches
Authorised Person (DC)	A person who has been certified as competent in accordance with the requirements of NR/L2/ELP/CTM015 Level A DCCR competency for Procedure A or B as appropriate to issue and cancel a Conductor Rail Permit NOTE: Normally, the duties of the Authorised Person will be undertaken by an Engineering Supervisor. On certain Routes the term Nominated Person (NP) is used instead of Authorised Person (AP).
Beyond	is on the far side of the signal or points when looking in the normal direction of traffic.
On the Approach	is on the near side of a signal (you can see the signal aspect) or points, when looking in the normal direction of traffic.
Conductor Rail Permit (CRP)	The permit that shows the times and limits of the 3 rd rail isolation and where the strapping locations are
COSS (CRP)	A person who is certified as competent to enable activities to be carried out by a group of persons on Network Rail railway infrastructure in accordance with the requirements of the Rule Book GE/RT8000 and in addition holds the Conductor Rail Permit competency
COSS (OLP)	A person who is certified as competent to enable activities to be carried out by a group of persons on Network Rail railway infrastructure in accordance with the requirements of the Rule Book GE/RT8000 and in addition holds the Overhead Line Permit competency
CRE Level A Competent Person	The role responsible for 3 rd rail/DC activities the safety of activities within a 3 rd rail worksite
CRE Level B strapping	The role responsible for strapping duties within a 3 rd rail location
CRE Level B switching	The role responsible for switching duties within a 3 rd rail location
Dead	Switched off and made secure from an electricity supply
DC 3 rd rail	The live rail which provides electric power to a train through a conductor placed alongside the rails.
Isolation Details Form (IDF)	Form produced by a Nominated Person to let all parties involved know in advance the specific details of each isolation.
Isolation Planning Form (IPF)	Form issued by a Network Rail Isolation Route Planner to let all parties involved in the isolation planning process know in advance the agreed isolations.

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Floaters	Floaters are short lengths of conductor rail that can remain live because they are fed from a different live conductor rail in a different electrical section
Hook Switch	A switch attached to the conductor rail that allows a sub-section of conductor rail to be electrically separated from another sub-section of conductor rail
Live Line Tester	Approved device used to test and prove dead, the 3 rd rail voltage
Nominated Person	Person certificated as competent to carry out isolation and earthing, to issue and cancel overhead line permits or other authorities to work as defined in local isolation instructions and nominated as such with electrical control in relation to particular equipment or locations.
Negative Short Circuit Device (NSCD)	Replacement for need to strap out 3 rd rail locations by using circuit breakers to switch off the 3 rd rail power
OLP (Overhead Line Permit)	<p>Form of declaration signed and issued by a Nominated Person to the Controller of Site Safety – Overhead Line Permit (COSS (OLP)) or Designated Person (DP) concerned with the work to be carried out on or near to electrical equipment using the Form C 'Overhead Line Permit'.</p> <p>NOTE 1: The purpose of the form is to make known to the recipient exactly which equipment is isolated and earthed, and upon which, or near to which, it is safe for the specified work to commence so far as the electrical equipment is concerned.</p> <p>NOTE 2: The issue of an Overhead Line Permit does not mean that train movements are stopped on the lines concerned and where necessary such arrangements are carried out in accordance with Rule Book GE/RT8000.</p>
Possession Support	The competent person for placing and removing detonator protection and possession limit boards (PLBs) under the instruction of the person in chargeOP
Strapping task	The activity of placing short circuit straps to the 3 rd rail as part of 3 rd rail isolation procedure