

Category 2 Standard

S2452 LU APD Fleet Depot Operational Procedures

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MAYOR OF LONDON

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1 Purpose

- 1.1 The purpose of this Standard is to set out high-level safety controls for the management of LU's depot operational activities as part of the processes of providing a safe operational environment and delivering a safe and reliable rolling stock.
- 1.2 This standard identifies management processes and specifies mandatory requirements associated with these activities.

2 Scope

- 2.1 The requirements of this document are applicable to all LU APD staff and any persons employed by, or contracted to, LU, Tubelines, Network Rail and other train operating companies, when operating within LU APD fleet depot limits.
- 2.2 For working in LU sidings, refer to Section 15 of Rule Book 20 (Engineering Staff – Traffic Hours Protection) and Section 18 of Rule Book 21 (Personal Safety on the Track).

3 Security and access to depots

- 3.1 Unless the depot is their normal place of work, staff requiring access to a depot must produce either an LU / Infraco staff pass or a valid LUCAS card. .
- 3.2 Visitors who require access to a depot and do not hold either an LU / Infraco staff pass or LUCAS card must report in the first instance to depot security and provide proof of identification. Security must then contact the Maintenance Manager to authorise access for the visitor to the General Office. Visitors should be escorted at all times.
- 3.3 Emergency services, statutory undertakers and routine deliveries such as mail are exempt from these requirements.

4 General Safety Points

- 4.1 Although trains move slowly in depots, they are still dangerous
- 4.2 Uncoupled cars can move
- 4.3 Be wary of stationary trains
- 4.4 Always use official walkways
- 4.5 Keep 20m away from stationary trains
- 4.6 Traction current is normally on all the time
- 4.7 Mobile phones must not be used except in a place of safety
- 4.8 Hands free mobile phones must not be used in the track environment

5 Personal Protective Equipment (PPE)

- 5.1 In all cases risk assessments (whether generic or specific) will specify the requirements for PPE that should be worn when carrying out a work activity. The following PPE must be worn by all personnel (including contractors) whilst at LU APD Fleet depot work sites.
 - a. Suitable high visibility clothing



b. Protective footwear

NOTE: 'rigger' type boots are not permitted on any Metronet worksite.

6 Protection of Staff Working in the Depot

6.1 General

6.1.1 Fleet Managers must make sure that

- I. only licensed staff operate trains and vehicles;
- II. procedures for the movement of trains and vehicles are known and understood by
- III. all persons working in depots; and
- IV. in depots fitted with traction current isolation equipment, all staff understand the
- V. visual indications of power supply status and know how to isolate the traction
- VI. current supply in emergency.

6.1.2 Before moving their train or track trolley in a depot, all Train Operator and Train Movements staff must tell either

- I. the Ground Shunter or Tower Operator; or
 - II. the Signal Control Centre Operator (Neasden);
- that they are ready to move their train or track trolley.

6.1.3 The Ground Shunter, Signal Control Centre (Neasden) or Tower Operator will give the train operators and Train Movement staff permission to move their train and then inform them of

- I. the route they will be taking;
- II. the track where their train will be moved to;
- III. any staff working on the track ahead; and
- IV. any obstruction on the route.

6.2 Classification of areas

Area 'A'

Maintenance sheds where there are no traction current rails at ground level.

Raised platform within cleaning sheds or any road in the cleaning sheds where traction is off.

If a train is NOT stabled in an area and the traction current is on then that area is considered as Area B – see below.

Area 'B'

Track within depot limits but not including area 'A'. This includes all track with conductor rails at ground level and all non-electrified track where trains can move.

If a train is NOT stabled in an area and the traction current is on then that area is considered as Area B.



Area 'C'

All other track outside depot limits and beyond siding outlet signal(s) to be considered as running lines.

The appropriate procedures in LU's Rule Books 20 (Engineering staff –

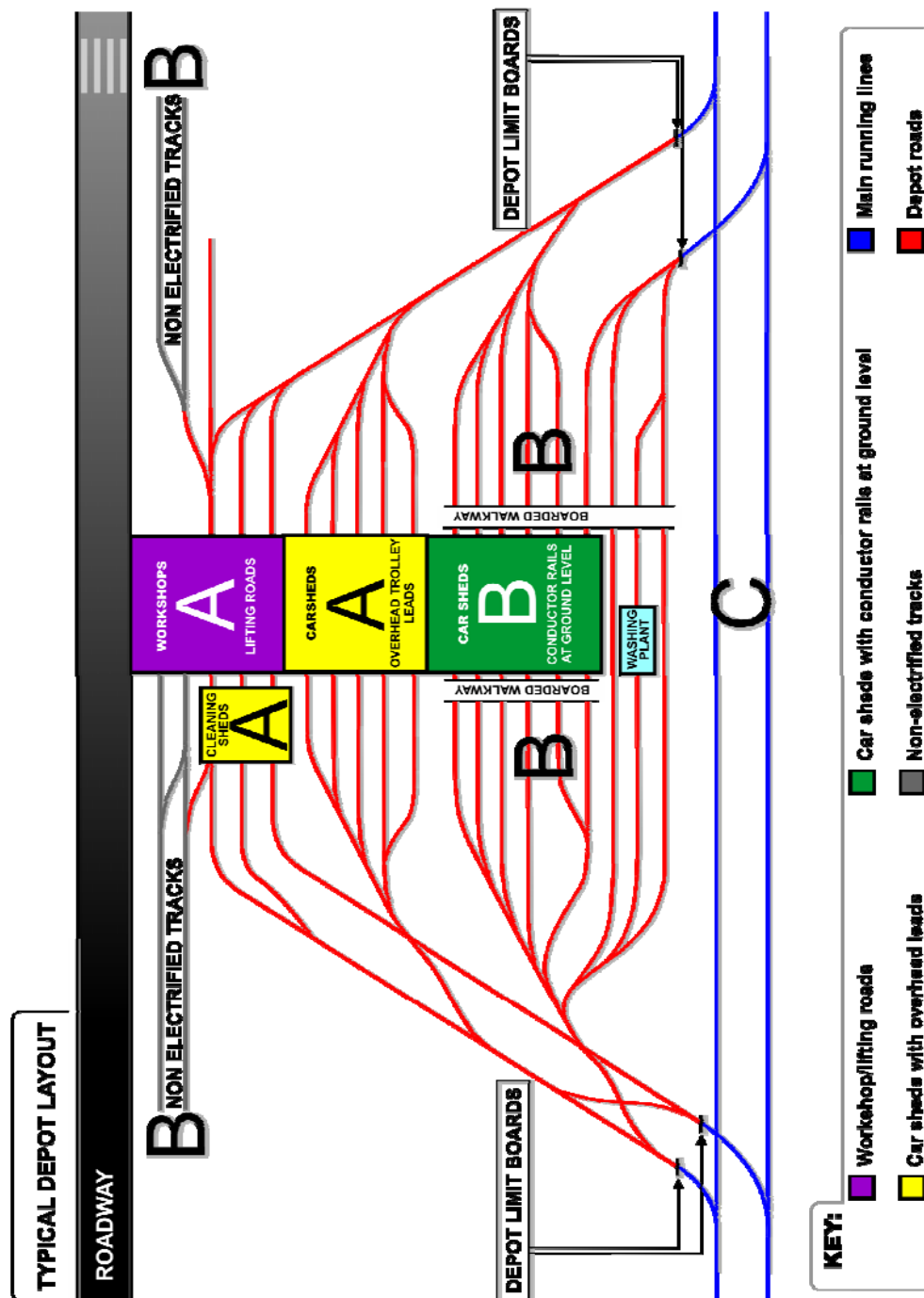
Traffic Hours protection) and 21 (Personal safety on the track) and associated documents must be used for protection in area 'C'.

A diagram of a typical depot showing the different areas is on the next page.





6.2.1 Typical Depot Layout





6.3 Depot track certification

Staff who need to cross tracks including where walk boards are provided in area 'B' to gain access to a work site or a train must be

- I. depot track accustomed and accompanied by a Depot Protection Master; or
- II. depot track competent or track access qualified if crossing the tracks alone.

Area \ Minimum Track Certification	Depot induction	Depot induction & depot track accustomed	Depot induction and depot track competent	Depot induction and track access
Area A	✓			
Area 'B' accompanied by a Depot Protection Master.		✓		
Area B alone			✓	✓

These track certification requirements shown in the table above do not apply when staff are on a recognised training course.

Staff with medical restrictions will only be permitted to work alone in sections of area 'A' at the discretion of the Depot Manager in consultation with an LU medical adviser.

6.4 Permission to work on the track in depots

All non-emergency work or non-call staff work must be booked in with the Access and Resource booking desk and SABRE number obtained. If the work requires a possession/'current' off this will be published in the Engineering Works and Safety Arrangements or Engineering Notice.

Before starting work on the track in a depot, staff must obtain permit to work and visitors passes from the Maintenance Manager in accordance with local regulations. They must likewise follow the regulations when they book off.

Maintenance Manager verifies familiarisation training for the protection master.

The Maintenance Manager informs the ground shunter or tower operator that staff are working on the track

The Ground Shunter or Tower Operator must warn the Train Operator entering or moving around the depot that staff are working on the track ahead.

When they finish work on the track in a depot, staff must ensure that equipment are clear of the track or secured to prevent them moving.

6.5 Protection of staff working alone on track in Area B in a depot

Staff can work alone on the track in depots in area 'B' (see the table in Section 4.3 of this standard) provided that they

- I. are track certificated to at least depot track competent/track access qualified;
- II. have permission to work from the Maintenance Manager given as part of the permit to work process;



- III. are able to move to a temporary place of safety when any trains approach;
- IV. are familiar with the area and its speed limits;
- V. are able to look up every 5 seconds to check for moving trains or track trolleys; and
- VI. can get the minimum sighting distance in each direction from which any trains can approach. (See the table in section 6.6 below).

If staff cannot comply with any of the points in the section above and if, in addition, they are in a group they must be protected by a certificated Depot Protection Master.

6.6 Sighting distances

Staff working in depots must always have at least 25 seconds warning of an approaching train.

The following table shows the minimum sighting distance needed to make sure that staff have 25 seconds warning of an approaching train based on the principles that Train Operators and all Train Movements staff must obey depot speed restrictions and be able to stop their train short of any obstruction or group of staff working on the track

Speed Sighting	Distance	Carriages	Sighting time
8 kph / 5 mph	60 m / 66 yds	3	25 seconds
16 kph / 10 mph	110 m / 121 yds	6	25 seconds
24 kph / 15 mph	170 m / 187 yds	9	25 seconds

6.7 Protecting staff using a Protection Master only

All staff working on the track in area 'B' and protected by a Protection Master must be certificated at least depot track accustomed. (See the table in section 4.3)

The Protection Master must

- I. obtain permit to work from the Maintenance Manager
- II. be certificated Depot Protection Master;
- III. be familiar with and certificated for the location of the site of work;
- IV. make sure staff are track certificated for the location;
- V. have the minimum sighting distance in all directions that any trains can approach from;
- VI. set up a safe system of work;
- VII. establish a temporary place of safety for staff to move to when any trains approach;
- VIII. carry out a site safety briefing;
- IX. **NOT** carry out any other duties whilst protecting staff; and
- X. remain with the staff that he is protecting at all times.

6.8 Protecting staff using a Protection Master with a Lookout(s)

When a Protection Master cannot achieve the minimum sighting distance for approaching trains he must position a Lookout(s) to make sure that it is achieved.

The Protection Master must

- I. obtain permit to work from the Maintenance Manager
- II. **NOT** carry out the duties of Protection Master and Lookout at the same time;
- III. be certificated for the location of the worksite;



- IV. make sure staff are track certificated for the location (see the table in section of this standard);
- V. make sure the Lookout(s) is/are certificated Depot Protection Master;
- VI. agree the signals to be used;
- VII. position a Lookout(s) to achieve the minimum sighting distance;
- VIII. position a Lookout(s) in all directions from which any train can approach;
- IX. set up a safe system of work;
- X. establish a temporary place of safety for staff to move to when any trains approach;
- XI. carry out a site safety briefing; and
- XII. remain with the staff that he is protecting at all times.

The Lookout(s) must

- I. be in a place of safety at all times;
- II. stop any trains that approach the worksite;
- III. tell the Train Operator the location of staff working on the track ahead;
- IV. indicate staff to move to a temporary place of safety, if necessary; and
- V. allow trains to proceed when staff are in place of safety, track is clear of tool and equipment, and is safe for the train to pass.

6.9 Protecting staff using a possession

The Possession Master or the Protection Assurance Manager currently fulfils the role of the Engineer in Charge as far as depot minor possessions are concerned. The role of the Engineer in Charge is described in Rule Book 14, Possession Planning and Management.

All those working in the possession must have the correct certification for the site and task.

- 6.9.1 Work on the track must be carried out using the relevant possession methods as specified in Rule Book 15 (Possession Protection Methods) when any of the following conditions exist:
 - I. staff cannot be protected by a protection master and lookout(s);
 - II. the work is spread over a wide area;
 - III. the work will make the track unsafe for trains to run;
 - IV. the track is required for a long period; and
 - V. if traction current has to be switched off from any section of track published to remain on continuously.
- 6.9.2 The possession plan must be signed by the Depot Manager or their representative.
- 6.9.3 Maintenance Manager must give permission to the Site Person in Charge/Possession Master as authority to take the possession.
- 6.9.4 The Possession Master must arrange for
 - I. the switching off of traction current or isolations, if necessary;



- II. the securing of all appropriate points by scotching and clipping and using padlocks as shown in Rule Books 14 (Possession Planning and Management) and 15 (Possession Protection Methods) ;
 - III. detonators to be placed as required in Rule Book 15 (Possession Protection Methods) ;
 - IV. warning lamps to be placed as required in Rule Book 15 (Possession Protection Methods);
 - V. informing Maintenance Manager the possession is in place after receiving confirmation that all blocks and markers have been placed and all methods of protection have been implemented as required in Rule Book 15 (Possession Protection Methods); and
 - VI. arranging a short circuit device to be placed on each traction section, or part of a traction section, within the possession unless the Possession Plan explains why they are not required - adequate justification must be provided for any non-deployment of short circuit devices.
- 6.9.5 The Possession Master completes details of any isolations on the Permit to Work Form.
- 6.9.6 The Maintenance Manager confirms the possession plan and gives the SPC/Possession Master permission for the work to start via the Permit to Work.
- 6.9.7 When the work is complete, the Site Person in Charge must tell the Possession Master that the possession can be given up, and to contact Maintenance Manager before removing the protection method(s).
- 6.9.8 Possession Master must ask Maintenance Manager for permission to remove the protection method.
- 6.9.9 The Possession Master must arrange for the
- I. the removal of all padlocks and the un-securing of all appropriate points as shown in Rule Books 14 and 15;
 - II. the removal of detonators as required in the relevant possession standard in Rule Book 15;
 - III. the removal of warning lamps as required in Rule Book 15;
 - IV. the removal of SCDs if placed;
 - V. the removal of blocks and markers; and
 - VI. informing the Maintenance Manager the work is complete and seeking permission to give up the possession.
- 6.9.10 After receiving confirmation that all of the possession protection methods have been removed the possession master must hand the section of the depot back to Maintenance Manager.
- 6.9.11 Maintenance Manager must agree with the Possession Master that it is safe for traction current to be switched on. Possession Master must then tell the controller that traction current can be switched on.
- 6.9.12 The use of a physical barrier in un-signalled depots to protect possession is detailed in Section 12 of Rule Book 15. (Possession Protection Methods)
- 6.9.13 A possession can be protected by maintaining a semi-automatic or 'PNX' protection signal at danger or in a signalled depot, using an LU approved method, e.g. collaring the switch, or by using a protection key switch.