# Rail Delivery Group



# RDG Guidance Note: Depot Good Practice

RDG-OPS-GN-007 Issue 1 – June 2021



# About this document

### **Explanatory Note**

The Rail Delivery Group is not a regulatory body and compliance with Guidance Notes or Approved Codes of Practice is not mandatory; they reflect good practice and are advisory only. Users are recommended to evaluate the guidance against their own arrangements in a structured and systematic way, noting that parts of the guidance may not be appropriate to their operations. It is recommended that this process of evaluation and any subsequent decision to adopt (or not adopt) elements of the guidance should be documented. Compliance with any or all of the contents herein, is entirely at an organisation's own discretion.

Other Guidance Notes or Approved Codes of Practice are available on the Rail Delivery Group (RDG) website.

#### **Executive Summary:**

The purpose of this document is to provide guidance to those railway undertakings that operate a Depot and to highlight good practice around the railway system. he Guidance provided is based on the Principles of Depot Operation that were developed by the Depot Working Group and are reproduced as Appendix A. This Guidance Note is a first step in building a comprehensive document which contains case studies and illustrations of good practice throughout the industry. As such, it is expected that this document will be subject to further review, development and change within 12 months.

#### **Issue Record**

Issue	Date	Comments
1	June 2021	A new document developed via the Depot Working Group to set out Depot Good Practice.

This document is reviewed on a regular annual basis as the document aims to continually be developed.

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# 1 Purpose and Background

#### 1.1 Purpose

The purpose of this document is to provide guidance to those railway undertakings that operate a Depot and to highlight good practice around the railway system. The Guidance provided is based on the Principles of Depot Operation that were developed by the Depot Working Group and are reproduced as Appendix A. This Guidance Note is a first step in building a comprehensive document which contains case studies and illustrations of good practice throughout the industry. As such, it is expected that this document will be subject to further review and change within 12 months.

#### 1.2 Background

Depots are critical for Railway Undertakings to maintain their fleet and ensure the reliability of their train services. Each Depot is unique, and its facilities are determined by the rolling stock for which the Depot provides maintenance, servicing, and cleaning.

The core function of a Depot is the provision of servicing, inspection, maintenance, cleaning and stabling of rolling stock. At designated Depots, heavy maintenance and overhaul work will take place and specialist equipment and plant will be provided for this. At all Depots, the provision of its services will require support systems including administration, stores and the management of Depot operations and security.

The Network Performance Board (NPB) and Passenger Operators' Safety Group (POSG) have identified that improvement is needed in train Depot service delivery and safety. An increase in late starts and wrong formations has caused the Depot delay (701A) incident count, in terms of performance, to increase by 86% since the start of Control Period 5 (CP5) although this has fallen during the time of the 2020/21 pandemic along with overall delay. There is also concern around the effectiveness of the recognition and management of Depot safety hazards, highlighted by three train Depot fatalities in the last seven years, each in very different circumstances. Train Depots are not seen as part of the national network which has led to less of a focus than would be expected in implementing the Leading Health and Safety on Britain's Railways (LHSBR) strategy.

The Depot Working Group was initiated following a discussion about the fatality at Tyesley Depot in December 2019 at POSG and a challenge from NPB to form a joint meeting for RDG Operations and Engineering Councils in January 2020. The Depot Working Group aims to provide information, guidance and good practice on Depots which includes the development of this Depot Good Practice Guidance Note.

Term	Definition in the context of this document
CET	Controlled Emission Toilet.
Cleaning	Maintaining the appearance of the train presented to the passenger.
Common Safety Method for Risk Evaluation and Assessment	This is a regulation that sets out the legal obligations and mandatory framework for the evaluation of and assessment of risk associated with engineering, operational and organisational changes to the railway.
Depot	This is a location consisting of maintenance sheds, siding and other equipment for the purposes of servicing, inspection, maintenance, cleaning and stabling of rolling stock.
Depot Induction	Training/briefing required to access the site by staff, contractors or visitors based on hazards and risk assessment including local instructions and trackside safety where Depots are not part of the core NR infrastructure.
Duty Holder	Duty holders' means transport undertakings such as Network Rail, the freight and train operating companies and contractors who have

#### 1.3 Definitions

	responsibilities under health and safety law.
Inspection	Nonintrusive verification of the train's condition and consumable levels.
Maintenance	Intrusive activities to maintain the safety and reliability of the train.
Method of Work	The physical actions employed to perform a task, based on safety and task analysis, that has been documented.
NR	Network Rail is the owner and Infrastructure Manager of most of the mainline railway network in Great Britain. NR is responsible for the overall management of incidents over the majority of the network.
Safety Critical Work	Tasks defined in legislation that contributed directedly to the safe movement of trains set out in the Railways and Other Guided Transport Systems (Safety) Regulations 2006 (ROGS Regulations) which include train driving, shunting, train dispatch, signalling, installation of components and maintenance of trains.
Servicing	Replenishing consumables such as fuel, coolant, water, sand, and screen wash.
Stabling	This is when trains are stored in siding when not required for service or Maintenance
Taking Safe Decisions	Taking Safe Decisions is a published RSSB methodology that provides guidance on aspects of good practice that are properly grounded in risk- based evidence. Decisions that protect the safety of rail industry staff, passengers, and others, satisfy the law, and respect the interests of stakeholders, while remaining commercially sound.
Railway Undertaking	A Train Operating Company in any private or public undertaking whose business is to provide rail services for the transport of passengers (in this case) on trains.

# 2 Assessing the Capabilities of Depots

#### 2.1 General

Depots should be designed and developed to deliver and accept the required number of trains safely and on time onto and off the network in support of the train plan including at times of service disruption. It is important that the train plan, the train and Depot asset management plan work together to provide the optimal output for the industry. The internal layout of a passenger rolling stock Depot needs to be configured in a manner that enables the maintenance, inspection, servicing and cleaning requirements to be undertaken in as efficient manner as possible.

For existing Depots, the service specification and associated allocation of rolling stock and the physical and other constraints of the Depot need to be balanced so that the Depot can deliver an optimised Depot operation. This is to ensure that the risk to performance, capacity and capability is not either imported to or exported from the Depot and the railway network.

When planning any new Depot facilities, Railway Undertakings, should optimise its internal passenger train layout configuration. The Railway Undertaking should consider the whole maintenance and servicing requirements from the receipt of trains from the network, to delivery of the trains to the network in order to commence service operation.

Depot supply chain management processes should be optimised to provide timely procurement and the provision of key components and exploit modern technology where appropriate, so that maintenance downtime is minimised, availability is maximised, and risk of in-service failure of equipment is minimised.

#### 2.2 Depot capacity

Depot capacity is a matter of design. Service obligations, fleet mileage, structure of the Maintenance

plan and availability targets, along with an assessed level of service disruption, should be used to quantify the Stabling capacity and capability needed from a Depot to maintain the fleet and to support out-of-course activities, including potential fleet modifications. The role the Depot will play in the real-time railway should fit with scheduled work commitments.

Depot capacity does not just depend on the number and type of vehicle berths and equipment. The progression of vehicles through the facility and the sequencing of work and vehicle downtimes are equally important, as are team structure and their working methods. There are some Depot plant/equipment that is also vital such as CET, tanking points, wash plants, fuelling points and wheel lathes whose reliability is vital for the Depot operation.

Inappropriate Depot design is likely to jeopardise the quality of defect investigations, encourage the deferring of work to ease production pressures and risk not meeting availability targets with serviceable vehicles.

Depots should be operated within the capacity and the capability of the Depot personnel to perform a reasonable amount of work safely. The staffing of a Depot should enable and sustain long-term reliability growth. Studies have demonstrated that Depots with more staff per unit deliver higher levels of reliability. Deferred work trends can be a good indicator of whether there are enough frontline Maintenance staff (assuming optimal management, value for money etc.).

The capacity of the Depot will need to be the result of detailed planning of the trains/unit throughput. This should also include the ensuring efficiency and product quality of what is delivered for service.

The ability to complete work and deliver trains for service which is linked to capacity of the Depot should be measured, and trends analysed to understand changes and developments as they occur, and to identify the need/opportunity for further changes. Suitable measures include:

- a. Berth occupancy percentage in Maintenance shed.
- b. Late starts off Depot by cause.
- c. Efficiency.
- d. Quality of Servicing and Maintenance.

#### 2.3 Depot planning

The Depot movements plan should be designed to reflect the capability in terms of throughput and capacity of the train Depot including trains arriving in enough time to be serviced and maintained, including at times of service disruption. This should be based on detailed planning with the diagram below outlining the components.



Each Depot should be assessed to determine its maximum capability. This would include, for example, the maximum number of trains that the Depot can stable and maintain. This should be detailed and include:

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- a. Number of reception roads.
- b. Siding length.
- c. Total Depot capacity in terms of vehicle length.

The diagram below is an example of a Depot throughput.



CWM = Carriage Washing Machine

Each Depot should then determine from the train plan the planned number of trains that are to be stabled and maintained within the Depot. This should be below the maximum number to give room for unplanned train arrivals. The plan should include such metrics as:

- a. How many trains can be accepted onto the Depot?
- b. What are the headways between trains being accepted?
- c. How many trains can exit the Depot?
- d. Formation lengths of trains; siding lengths; reception roads; total Depot capacity in terms of vehicles by formation etc.

In each Depot there should be a throughput plan for its activities which is often known as "Rules of the Depot". These plans should include, for example:

- a. Service examination cycle times.
- b. Cleaning examination cycle times.
- c. Train movement times.
- d. Depot operation constraints.
- e. Train arrival and departure times.
- f. Standard shift handover times.

This will facilitate the Maintenance Plan which is required for the exams that are required by the train maintenance plans.

To bring this together there will be a production plan i.e. the plan for the night ahead. The depot should detail its throughput plan on an overall map so that all staff are aware of progress being made. An example Depot flow map from Central Rivers Depot with permission of ALSTOM below.



It should be noted that this is the live production plan and is updated throughout the night.

These production plans should be kept up to date and be actively used at the start of shift and through management progress meetings. The production plan needs to include both locations and time.

The production plan should be situated in a room that is used constantly by staff, so that everyone is aware of what is happening on the Depot.

The Depot plan should have a business continuity/emergency plans that gives alternatives to cover foreseeable degraded situations and predicted emergencies which should be part of a Quality Management System. The emergency plan element should be consulted with local emergency services. This part of the plan should consider emergency/degraded situations based on losses of vital infrastructure such as points failures, derailments, electrical supply and felling point issues. The plan and Depot procedures should be updated following accidents and incidents from the Depot and across the industry. Audit of Depots should also provide an opportunity to improve plans and processes.

Each Depot should have a set of metrics so that its performance can be measured. Such metrics include:

- a. Delay minutes.
- b. Availability metrics such as:
  - i. Fleet functions.
  - ii. Examination plans.
- c. Lost Time Accidents.
- d. Non-Lost Time Accidents.
- e. Operational incidents.

# 3 Security, Safety Management and Risk Assessment

## 3.1 General

A train Depot should be a secure and safe place of work and hazards arising from the operational environment should be removed or the risk arising from them reduced and controlled so far as is reasonably practicable. The reduction and control of the risk should be done by operational and engineering controls into the environment wherever reasonably practicable with as little reliance on training, information and behavioural controls as possible. Changes to the operational environment should be validated using the principles described in Taking Safe Decisions and using the Common Safety Method for Risk Evaluation and Assessment (CSMREA). Depot procedures should be updated following accidents and incidents from the Depot and across the industry and use made of the Safety Management Information System (SMIS). Incident alerts should be issued following any operational incident to share learning points and to prevent reoccurrence of the incident.

There should be safe segregation of people and moving trains through Depot design and during everyday activities including the promotion of and adherence to authorised walking routes.

#### 3.2 Depot security

It is important that Depot security is always maintained to lessen the risk of trespass, theft and assaults on staff.

Railway Undertakings should, at each depot, should understand the risk to depots from crime and put in place measures to mitigate criminal activities. This could be achieved by commissioning a baseline risk assessment at each depot to understand:

- a. The strategic importance of the depot for example, disruption by terrorism
- b. The high-risk items that could be subject to criminal activity for example, stabled trains that could be subject to graffiti or arson
- c. The location of the depot for example, subject to trespass, isolated so could become a target for professional thieves.

Staff should be encouraged to report all instances of trespass and to ask for confirmation of identity of people they do not recognise or expect being on the Depot.

Tools, equipment and machinery should always be supervised and when not in use should be left securely.

Depot staff should be encouraged to wear uniform, high visibility clothing and other supplied personal protective equipment as necessary, with relevant company identification that makes it easy to recognise them as part of Depot staff.

### 3.3 Key performance indicators

The performance and safety of a train Depot should be measured with KPIs which are used to drive continuous improvement. Leading (rather than lagging) KPIs should be applied. Leading KPIs that should be used could include metrics on:

- a. Safety tours/planned general Inspections completed by senior managers.
- b. Staff safety briefings carried out.
- c. Safe Method of Work reviews.
- d. Risk Assessments carried out or refreshed.
- e. Planned General Inspections.
- f. Continuous improvement audits.

#### 3.4 Workload planning and assessment

Train Depot capacity and capability should be planned and assessed to ensure that the workload is safe and that the required number of trains can be provided for service on time as required by the train plan – including at times of service disruption.

People engaged in working at Depots should be involved in the planning and assessment of work and in the assessment and control of risk to ensure that they can be assured that the environment, operation, equipment and management of the Depot are safe.

Staff base rosters need to be developed that provide the required staffing levels to cover the Depot planned activity whilst considering efficiency and fatigue. Processes should be in place to monitor rest dav working / overtime.

#### 3.5 Safety guidance, safety representatives and reporting

Depot safety arrangements should be set out in localised guidance that is easily understood and is commensurate with the level of risk.

Safety Representatives elected by the staff within the Depot should be involved in developing any safety guidance, risk assessments, briefing packs or safety notices issued within the Depot.

Safety briefings should take place within the Depot on a regular basis with the content of such briefings agreed with Safety Representatives in advance.

Senior managers accompanied by the Safety Representatives should jointly undertake safety tours of the Depot in accordance with the railway undertaking's safety management system. These safety tours should be targeted at identifying hazards, unsafe practices, Depot tidiness and condition of walking routes.

The reporting of all injuries, incidents and near misses should be actively encouraged.

#### 3.6 **Risk assessments**

Local site-specific task-based risk assessments should be carried out at Depots to identify hazards and either prevent or mitigate risk. This should include the appropriate employees including Safety Representatives, safety champions and task / area experts.

These risk assessments should include the following as a minimum:

- a. Safe movement of rolling stock.
- b. Working with live electrical supply.
- c. Working on or under trains.d. Provision and use of walking routes.
- e. Operation and use of fuel and fuelling points.
- f. The operation of potable and non-potable toilet tanks.
- g. Controlled emission of toilet discharge.
- h. Undertaking diesel engine treatment, for example Ad Blue.
- i. Replenishing sanding apparatus on trains.
- Exterior Cleaning including fatality Cleaning. j.
- k. Manual handling.
- Tasks involving the use of electricity. Ι.
- m. Working at height.
- n. Control of persons on site.
- o. Depot protection.
- p. Getting on or off rail vehicles.
- q. Pre-movement safety checks.
- r. Communications.
- s. Coupling and uncoupling of rail vehicles.

#### 3.7 **Drugs and alcohol**

The abuse of drugs and alcohol should not be tolerated on a Depot along with the whole railway network.

Anyone suspected of being under the influence of either drugs or alcohol should be tested for such

and suspended from duty whilst awaiting the results.

Following an incident on the Depot, staff should be tested for drugs and alcohol in line with the railway undertaking's policy for "for cause" testing.

Railway Undertakings should arrange for random testing for drugs and alcohol to take place in Depots. There is no need to suspend staff whilst awaiting the results from random drug testing.

#### 3.8 Safety clothing

Railway Undertakings should assess the requirements for safety clothing and personal protective equipment for all their staff based on task risk assessment. This assessment should include the consideration of the following items of safety clothing as well as the associated Cleaning and replacement processes:

- a. High visibility clothing.
- b. Safety footwear including ankle protectors.
- c. Hard hats/bump caps.
- d. Gloves.
- e. Masks, ear defenders, safety glasses or goggles.
- f. Any other specialised safety clothing.

Records of safety clothing associated with specific tasks should be kept and those tasks only undertaken by staff wearing the appropriate clothing.

#### 3.9 Walking routes

Walking routes should be clearly marked and a schematic of where they are should be on all appropriate staff notice boards.

Walking routes should be well maintained and kept clear of any hazards such as spilt liquids and litter.

Trains should always be driven from the end that is going to traverse the walking route first. Reversing a train over a walking is not acceptable and should only be done in exceptional circumstances with the walking route closed for staff use.

Multiple units or coaching stock that need to be coupled should, if possible, not have to cross a walking route to enact the coupling up movement. If a train movement is to cross a walking route, then the driver should sound the horn or use or an alternative means of warning staff of the movement of vehicles. Whenever possible staff in the Depot should be aware of when a train movement is about to take place. Prior to any coupling up movement on a Depot, the driver should sound the horn before the movement commences.

Trains should not be left stabled over a walking route. Trains that are stabled close to a walking route should be at such a distance from the walking route that the train driver can see from their driving position an individual approaching or using such a walking route.

Staff using a walking route that passes close to a stabled train should look at the train driving position and satisfy themselves that the train is not about to move prior to crossing in front of the train.

Staff should use an alternative official walking route if they feel that the walking route is unsafe to use. Staff should report to the Depot Manager any walking route that is seen to be blocked or unfit for use.

Ear defenders should not be worn when using a walking route except when passing an idling train after making sure that the train is not going to be moved.

Staff in Depots should wear high visibility clothing when using a walking route.

#### 3.10 Management of contractors and visitors

All contractors and visitors should sign into a Depot register when arriving at the Depot.

Visitors should always be accompanied when on the Depot and issued with appropriate personal protective equipment when necessary.

Contractors should be given a safety briefing on the Depot prior to commencing any work activity this is usually known as a Depot Induction. This briefing is to identify any hazards that the contractors may come across and to agree the risk control measures that should be in place.

Contractors should be made aware of the boundaries of their work.

Depot staff should be made aware of the work being carried out by contractors and briefed on any changes to the Depot's safety arrangements.

#### 3.11 Infrastructure and plant

Depot infrastructure and plant is vital for the safe and efficient management of the Depot.

Track and plant such as washer and fuel points should be maintained in line with required specification developed by the Depot operators. Some Depot infrastructure and plant should be considered as "golden assets" hence are vital to service delivery and the Maintenance plan should be enhanced to factor this in. Depot plant will have specific environmental risks such as fuel spillage which should be part of the maintenance and management plan. Further Guidance is provided in RDG-OPS-GN-004 Reducing Diesel Emissions in Stations and Depots to be published in July 2021.

# 4 Depot Protection and Interfaces with Network Rail Managed Infrastructure

#### 4.1 Depot protection

All Depot movements should be defined through robust Method of Work arrangements that are risk based.

Requirements for the control of train movements internally within a Depot should be assessed against the complexity of operation and the volume of train movements required. Systems integration requirements with the railway network should also be considered.

#### 4.2 Controlling movements into and out of depots

When considering the type and standard of signalling to be used to control train movements both into and out of Depots, the following should be considered:

- a. The train service specification and number of and complexity of train movements between the Depot and the railway network.
- b. The impact on operational capability of both Depot and railway network.
- c. The impact on capacity for both the Depot and railway network.
- d. The impact on performance for both the Depot and railway network.
- e. Whether all the available connections need to be signalled to the same standard.
- f. The method of communication between Depot and signallers in both normal and perturbed operations and the ease of dispatch of rolling stock onto the Depot.
- g. Rolling stock compatibility.
- h. The synergy with planned network signalling renewals.

#### 4.3 Diversionary routes

The availability of diversionary routes (where they exist) between the locations at which rolling stock

will normally be planned to commence and finish service operation and a Depot, should be considered where appropriate, for empty stock train movements where:

- a. Network capacity is scarce.
- b. Network performance can be improved by using alternative routes.
- c. Rolling stock is compatible with diversionary routes.
- d. Traincrew have or can obtain appropriate route knowledge.
- e. Planned engineering works can impact upon the train plan.

Where diversionary routes are not available, consideration should be given where appropriate, to what other interventions could mitigate risk to meeting the service specification and impacting upon network capability, capacity and performance.

#### 4.4 Design and management of key infrastructure assets

Existing Depots should assess the requirements for the Maintenance and renewal of key infrastructure assets (where this can present a performance risk to both the Depot and the railway network) which may have greater use placed upon them as long term growth of demand for rail use drives changes to passenger rolling stock Depot requirements. Renewal and reliability-based Maintenance should be considered for all assets.

Inspection records should be made available to Depot staff to raise awareness of any outstanding work or limitations of equipment/infrastructure.

Key infrastructure assets in new Depots should be designed to maximise availability, reliability and maintainability of movement between the Depot and the railway network, having regard to the required level of movements, in order to minimise risk to the performance of both facilities.

Special attention is required for key assets, along with a recorded degraded mode of working should a failure arise. Strategic spares and lineside storage for key switches and crossings is good practice, with clear ease of access for machinery. Arrangement should be in place with call out contracts with rapid response time for key assets. In addition, arrangements should be in place for rerailing vehicles within Depots.

#### 4.5 Operating instructions

The safe and efficient movement of trains around the Depot need to be set out in local Depot rules available to all staff.

These local rules should set out, for example, maximum speed of trains on depot, distances stabled trains should be away from walking routes, reporting procedures, how trains should depart from the Depot and any other local instructions.

Local Depot rules, regulations and operating instructions and Network Rail operating instructions at the interface between a passenger rolling stock Depot facility and the railway network should be assessed so that no safety or performance risks are introduced between the passenger rolling stock Depot and the railway network and vice versa.

# 5 Competence, Training, Fitness and Skills

#### 5.1 Competence management and training

People engaged in working at train Depots should be competent, receive adequate training and be provided with adequate resources to conduct their duties safely. This should be complemented with management and supervision of the activity being undertaken especially when it is Safety Critical Work.

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The Depot should have in place a Competency Management System (CMS) that is proportionate to the tasks carried out by the Depot and its size. The CMS should include, as a minimum, all staff that undertake safety critical tasks, including Depot drivers, shunters, Maintenance engineers, cleaners, plant engineers and managers. The CMS should record the competencies of all staff and include both technical and non-technical skills. Each staff member should be subjected to an individual risk-based training needs analysis in order to identify any specific training needs. This should be supported by a trainer and assessor who meet the relevant competence standards.

Training should be developed with structured and approved railway undertaking training materials. Depots should consider using the RSSB safety critical communications course which covers both written and oral communications.

Good practice is to roster training days for all staff. This enables the delivery of a defined development plan within a specified timescale and sustain continuous progress.

Railway Undertakings should facilitate training programmes to support team leaders with a balanced range of skills to reliably deliver production and quality targets safely.

#### 5.2 Fitness for duty

Depot staff should be fit for undertaking their roles with relevant medical fitness to be part of the Depot management system.

#### 5.3 The developing of engineering skills

Depots should have a plan to develop skills via the use of apprenticeships for staff to gain the required skills and qualifications. In addition, operators should consider using the Railway Engineering Graduate Scheme (REGS), managed by RDG, which aims to provide the railway industry with a succession of competent engineering managers to take senior positions in the future via a structured training schemes that leads to engineers becoming chartered.

# 6 Quality Management Systems and Assurance

#### 6.1 Quality Management Systems

Depot processes should have a documented Quality Management System (QMS). The QMS should document all relevant business processes that aim to consistently meet passenger requirements. Furthermore, initiatives aimed at improving passenger satisfaction should also be outlined. The typical QMS regime used is the ISO 9000 family of standards.

#### 6.2 Assurance

Duty holders should already have assurance arrangements in place - including the use of the Risk Management Maturity Model (RM3) which has been developed by the Office of Rail and Road (ORR). RM3 sets out the criteria which the ORR assess an organisation's ability to achieve excellence when controlling health and safety risks and the RM3 criteria for depots is on the RDG Passenger Operator Safety Group hub and allows Duty Holders to undertake their own assessment of risk maturity.

# 7 References to Other Documents

## 7.1 Other documents

Other documents that relate to Depots include:

- 20 Point Plan Fleet Management Good Practice Concise Version
- <u>20 point plan Section 7 The Depot Issue 15</u>
- GIGN7621 Iss 1 Guidance for the Development and Design Considerations of Passenger Rolling Stock Depots
- RIS-1800-ENE Iss 1 Rail Industry Standard for Network and Depot Interface Management -Isolation Documentation

# **Appendix A – Depot Principles**

#### Principles overview

These high-level principles provide guidance to help ensure that train Depots are operated safely. For ease of understanding they are split into three areas: the operational environment, the equipment and machinery used; the management, cultural and behavioural aspects.

These principles do not specify how specific aspects should be assessed and controlled, that is a matter for the Duty Holders involved in the operation of the train Depot. Nor do they replace any regulatory requirement placed on Duty Holders with regards to their responsibilities for the management of health and safety.

#### The operational environment

- i. A train Depot should be a safe place of work within the meaning of existing health and safety regulation and guidance. This principle extends to all areas of any train Depot however used.
- ii. Hazards arising from the operational environment should be removed or the risk arising from them reduced and controlled so far as is reasonably practicable.
- iii. The reduction and control of the risk should be done by operational and engineering controls in the environment wherever reasonably practicable with as little reliance on training, information and behavioural controls as possible.
- iv. Changes to the operational environment should be validated using the principles described in Taking Safe Decisions and using the Common Safety Method for Risk Evaluation and Assessment (CSMREA).
- v. The train Depot should be designed/developed to deliver the required number of trains safely and on time onto the network in support of the train plan including at times of service disruption.
- vi. The train Depot movements plan should be designed to reflect the capability and capacity of the train Depot including trains arriving in enough time to be serviced and maintained including at times of service disruption.
- vii. All train Depot movements should be defined through defined Method of Work arrangements that are risk based.
- viii. There should be safe segregation of people and moving trains through train Depot design and during everyday activities.

#### The equipment (inc. tools and rolling stock)

This principle includes all equipment, tools and rolling stock, whether owned or leased, used and operated within the train Depot.

- i. The Depot should be built or updated with the aim of designing out risk in the first place.
- ii. All equipment should be safe for use within the meaning of existing health and safety regulation.
- iii. Hazards arising from the use and operation should be removed or the risk arising from them reduced and controlled so far as is reasonably practicable. This should include working at height and electrical safety.
- iv. The reduction and control of the risk should be done by operational and engineering controls in the design of the equipment wherever reasonably practicable with as little reliance on training, information and behavioural controls as possible.
- v. Changes to equipment should be validated using the principles described in Taking Safe Decisions and using the CSMREA.
- vi. The need for close proximity (or contact) with live 25kV and 750 V dc electrical supplies should be designed out.
- vii. Points, powered where appropriate, and crossings Maintenance should be suitable.

#### Management, cultural and behavioural aspects

- i. The management of train Depots should comply with existing health and safety regulation.
- ii. The performance and safety of a train Depot should be measured with Key Performance Indicators (KPIs) which are used to drive continuous improvement. Leading (rather than lagging) KPIs should be applied.
- iii. Train Depots should be operated safely with regard to their capacity and the capability of the Depot infrastructure and personnel to perform whatever reasonable work placed before them

safely.

- iv. Train Depot capacity and capability should be planned and assessed to ensure that the workload is safe and that the required number of trains can be provided for service on time as required by the train plan including at times of service disruption.
- v. People engaged in working at train Depots should be competent and they should always be provided with adequate resources to conduct their duties safely.
- vi. People engaged in working at train Depots should be involved in the planning and assessment of work and in the assessment and control of risk to ensure that they can be assured that the environment, operation, equipment and management of the Depot are safe.
- vii. Arrangements in Depots are set out in localised guidance that is easily understood and is commensurate with the level of risk.
- viii. The reporting of all injuries, incidents and near misses should be actively encouraged.
- ix. All organisations involved in Depot activity should cooperate and collaborate in these processes.
- x. The principles of safety management (Plan, Do, Check, Act) should be applied to ongoing train Depot management and any unsafe act reported to the Duty Holder for the train Depot.
- xi. Unsafe behaviour and unsafe activity should be identified, controlled and prevented.
- xii. A safety culture should be developed utilising the RM<sup>3</sup> model of safety management maturity and "Chapter 13 – Leadership and culture" of the ORR's strategy for regulation of health and safety risks. This should include employee involvement in safety arrangements.
- xiii. Everyone should understand the need for task-based risk assessments and only use the correct tools and equipment that are designed for the job.
- xiv. There should be robust application of manual handling training where colleagues are confident to use correct lifting techniques.
- xv. There should be promotion and adherence to authorised walking routes.
- xvi. The workforce should fully understand the risks of electricity and work should be undertaken on 'dead' equipment so far as is reasonably practicable.





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