

UKTTWE06

Monitor the performance and condition of the Tramway assets, components and equipment



Overview

This standard is about monitoring the performance and condition of the Tramway assets, components and equipment. You will be required to select the appropriate monitoring equipment to use, based on the type of Tramway asset, component or equipment being monitored and the performance or condition you wish to check. You will then use this equipment to carry out diagnostic condition monitoring on a range of Tramway assets, components and equipment such as those relating to:

- Electrification
- Signalling
- Telecommunications
- Track
- Trackside environment

The assets, components and equipment may include those that are:

- Electrical
- Hydraulic
- Mechanical
- Pneumatic
- Electronic
- Thermal (fixed and temporary)

You will then be able to analyse and interpret the performance and condition information and present recommendations on suitable actions to be taken.

Your responsibilities will require you to comply with organisational policies and procedures for the monitoring activities undertaken, and to report any problems with the diagnostic equipment or monitoring activities that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with minimal supervision, taking personal responsibility for your own actions, and for the quality and accuracy of the work that you carry out.

This standard is for those who work in the Tramway engineering environment at supervisor/technician level.

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Performance criteria

You must be able to:

- P1 interpret and analyse **information** required for the **monitoring activity**
- P2 confirm the **health and safety procedures** that must be followed
- P3 correctly **set up** the equipment required for the monitoring being carried out
- P4 take precautions to prevent damage to surrounding equipment, assets, components and equipment during monitoring activities
- P5 carry out monitoring activities with the minimum disruption to routine activities and the wider environment
- P6 analyse and interpret the outcomes of the monitoring activities
- P7 present **recommendations** for suitable actions to be taken
- P8 complete monitoring records in line with your organisation's procedures
- P9 communicate any issues which may affect other areas of the Tramway

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Knowledge and understanding

You need to know and understand:

- K1 the importance of monitoring the performance and condition of the Tramway assets, components and equipment
- K2 the importance of **securing the area** prior to monitoring activities taking place
- K3 the basic principles of performance and condition/remote monitoring, and how it helps prevent asset, component or equipment failure
- K4 the different types of monitoring **equipment or sensors** and their application
- K5 how to check that monitoring equipment or sensors are fit for purpose, undamaged, and have a suitable monitoring range and value
- K6 the methods and procedures for monitoring the performance and condition of the Tramway assets, components and equipment
- K7 the range of precautions that can be taken to prevent damage or interference to the surrounding Tramway environment, assets, components and equipment
- K8 the problems that can occur during the monitoring activity, and how they can be overcome
- K9 the **operating environment** in which the monitoring activities take place
- K10 the importance of carrying out monitoring activities in the correct sequence and within agreed timescales
- K11 the methods and techniques for analysing and interpreting the outcomes of the monitoring activities
- K12 the potential consequences of not monitoring the performance and condition of the Tramway assets, components and equipment
- K13 the range of recommendations that can be made and how to present these in line with your organisation's procedures

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Additional Information

Scope related to performance criteria

P1 **Information** may include; electronic or paper records and documents such as, previous monitoring information, drawings, defect history, fault reports, handbooks, manuals, charts, maintenance specifications, maintenance history, permits, warrantee, instructions, schedules, catalogues, logbooks. **Monitoring activity** may include; emergency inspection.

P2 **Health and safety procedures** may include; authorised access/egress points, signage, lighting, CCTV, walking to and from a work site, planned protection arrangements, emergency stop protection arrangements, possession arrangements, speed restrictions, isolation requirements, communication/warning arrangements and techniques, positions of safety, safety zones, lookout arrangements, first aid points, emergency assembly point, safety briefings, fire evacuation, working at height requirements, working in confined spaces requirements, authorised walking routes, temporary traffic management systems, Personal Protective Equipment (PPE) requirements, insulated tools/rubber matting, emergency service support (as required), walking to and from a vehicle, designated parking areas.

P3 **Set up** may include; calibration, tests, checks, cleaning, adjusting, removing and replacing consumable components, tightening, sharpening.

P7 **Recommendations** may include; root cause, early indication of potential failures, predictive maintenance requirements, non-compliance with policies, equipment protection requirements, performance optimisation.

Scope related to knowledge criteria

K2 **Securing the area** may include; isolation, lock off, permit to work, warning notices.

K4 **Equipment or sensors** may include; those for measuring temperature, force, pressure, vibration, rotational, voltage, current, distance.

K9 **Operating environment** may include; open to traffic, closed to traffic, restricted track access, daytime, night time.

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Additional Information

Glossary

Tramway

Includes the tramway (a set of rails, switches and crossings which form the route of a Tram) , infrastructure (fixed assets used for the running of the Tram transport system, including, the tramway, bridges, tunnels, stops, stations and fixed equipment for signalling, communications and electrification), depots, stabling yards.

Trackside environment

Includes structures, platforms, embankments.

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