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Specification

Edexcel NVQ/competence-based qualifications

Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF)

For first registration October 2011

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Our specialist suite of qualifications include NVQs, Apprenticeships, WorkSkills, Functional Skills, Foundation Learning, as well as our exclusive range of BTECs, from entry level right through to Higher National Diplomas.

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Authorised by Martin Stretton
Prepared by Paul Winser

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Qualification title covered by this specification

This specification gives you the information you need to offer the Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF):

Qualification title	Qualification Number (QN)	Accreditation start date
Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance	600/3213/3	01/10/2011

This qualification has been accredited within the Qualifications and Credit Framework (QCF) and is eligible for public funding as determined by the Department for Education (DfE) under Section 96 of the Learning and Skills Act 2000.

The qualification title listed above features in the funding lists published annually by the DfE and the regularly updated website. It will also appear on the Learning Aims Database (LAD), where relevant.

You should use the QCF Qualification Number (QN), when you wish to seek public funding for your learners. Each unit within a qualification will also have a unique QCF reference number, which is listed in this specification.

The QCF qualification title and unit reference numbers will appear on the learners' final certification document. Learners need to be made aware of this when they are recruited by the centre and registered with Edexcel.

Key features of the Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF)

This qualification:

- is nationally recognised
- is based on the Passenger Transport National Occupational Standards (NOS). The NOS, assessment requirements/strategy and qualification structure(s) are owned by GoSkills.

The Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF) has been approved as a component for the Rail Transport Engineering Apprenticeship/Advanced Apprenticeship framework.

What is the purpose of this qualification?

Rail travel has been experiencing strong growth. The infrastructure owners and the train operators have been investing heavily in assets to meet this growth. The assets that go to make up the railway – the track, signals and trains – need to be safely and efficiently maintained. Companies such as Network Rail require skilled staff to undertake the complete range of engineering tasks, including track maintenance. There are also major contractors and sub-contractors dealing with all the engineering tasks, including supplying skilled staff to support the maintenance and renewal work. The industry is always looking for innovative ways of doing things to reduce cost whilst maintaining its outstanding safety record.

The industry recognises the value of apprenticeships to deliver individuals with the right skills, underpinning knowledge and motivation to deliver the maintenance and renewal services to support a safe, efficient and effective railway.

The Apprenticeship in Rail Engineering (Track) will help employers address the challenges facing the industry, as identified by the National Skills Academy for Rail Engineering (NSARE):

- Recruitment of school leavers to train as apprentices, with a career path to becoming professional railway engineers (level 4+) for those sufficiently motivated and capable.
- Up-skilling of the engineering workforce to a minimum of level 2, including transient workers.
- General up-skilling of the workforce (levels 1 to 3) to meet the technology and efficiency demands of the railway of the future.
- Training of today's craftsmen to become the supervisors (level 3+) of tomorrow.

The Rail Engineering (Track) framework covers the Skilled Track Operative job role. Skilled Track Operatives play a key role in ensuring that the network of track across the UK is reliable and in good working order. They have to make sure that the track is in good condition for the safe and efficient running of trains.

Who is this qualification for?

This qualification is for all learners aged 16 and above who are capable of reaching the required standards.

Edexcel's policy is that the qualification should:

- be free from any barriers that restrict access and progression
- ensure equality of opportunity for all wishing to access the qualification.

What are the benefits of this qualification to the learner and employer?

This qualification gives learners the opportunity to perform many tasks, from repairing signals to maintaining tracks.

Trains, of course, need engineers to keep them running, but they also need Permanent Way (track) engineers to make sure the tracks are in good condition.

Train drivers know where to go, how fast to travel and when to approach a station, only because of a network of signals.

If these go wrong, it could mean delays, or even disasters. Signalling engineers and technicians keep everything in working order.

With other jobs involving laying the track and maintaining communication links between stations and trains, there are many opportunities for the technically minded in this qualification.

What are the potential job roles for those working towards this qualification?

- Permanent way renewals
- Permanent way maintenance
- Traction and rolling stock
- Electrification and plant.

What progression opportunities are available to learners who achieve this qualification?

On completion of this qualification, individuals may continue working as skilled track operatives. From this point, individuals can go on to become team leaders and supervisors and eventually move in to management positions.

Alternatively, completion of the Level 2 Certificate in Rail Engineering Track Maintenance (QCF) may support progression to the Level 3 Diploma in Rail Engineering Track Maintenance (QCF).

Further information is available in *Annexe A*.

What is the qualification structure for the Edexcel Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF)?

Individual units can be found in the *Units* section.

Learners must obtain a total of 37 credits. 2 credits from the mandatory unit group, and a minimum of 35 credits from the optional units group.

Mandatory unit				
Unit number	**Unit reference**	**Unit title**	**Credit**	**Level**
1	F/601/7815	Prepare to undertake duties in the rail industry	2	2

Optional units				
Unit number	**Unit reference**	**Unit title**	**Credit**	**Level**
2	M/502/6368	Undertake routine manual maintenance of the Permanent Way	3	1
3	T/502/6369	Carry out corrective manual adjustments to Permanent Way assets	3	1
4	Y/502/6395	Reinstate the work site after Permanent Way engineering activities	3	1
5	L/502/6507	Contribute to the security of the work environment in the rail industry	1	2
6	H/502/6366	Carry out routine inspection of the Permanent Way infrastructure	6	2
7	K/502/6367	Assist in preparing resources for Permanent Way activities	5	2

Optional units				
Unit number	**Unit reference**	**Unit title**	**Credit**	**Level**
8	K/502/6370	Undertake replacement of Permanent Way assets and components	4	2
9	D/502/6723	Restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	3	2
10	T/502/6372	Prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	1	2
11	F/502/6374	Deal with incidents and contingencies within the railway environment	2	2
12	J/502/6375	Lift and move Permanent Way materials, components and equipment	3	2
13	M/502/6385	Monitor the performance and condition of Permanent Way assets	5	2
14	J/502/6389	Restore plain line track geometry to operational condition	5	2
15	A/502/6390	Restore rail switches and crossings to operational condition	5	2
16	F/502/6391	Prepare work site for Permanent Way engineering activities	2	2
17	R/502/6394	Implement and monitor safe working systems for Permanent Way activities as a Protection Master	8	3
18	K/502/6398	Ensure that the rail track is fit for operational purposes following engineering activity	4	3

How is the qualification graded and assessed?

The overall grade for the qualification is a 'pass'. The learner must achieve all the required units within the specified qualification structure.

To pass a unit the learner must:

- achieve **all** the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- show that the evidence is their own.

The qualifications are designed to be assessed:

- in the workplace or
- in conditions resembling the workplace, as specified in the assessment requirements/strategy for the sector, or
- as part of a training programme.

Assessment strategy

The assessment strategy for this qualification has been included in *Annexe D*. They have been developed by GoSkills in partnership with employers, training providers, awarding organisations and the regulatory authorities. The assessment strategy includes details on:

- criteria for defining realistic working environments
- roles and occupational competence of assessors, expert witnesses, internal verifiers and standards verifiers
- quality control of assessment
- evidence requirements.

Evidence of competence may come from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning/training programme whether at or away from the workplace
- the **Recognition of Prior Learning (RPL)** where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of learning. They must submit sufficient, reliable and valid evidence for internal and standards verification purposes. RPL is acceptable for accrediting a unit, several units or a whole qualification
- a **combination** of these.

It is important that the evidence is:

Valid	relevant to the standards for which competence is claimed
Authentic	produced by the learner
Current	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
Reliable	indicates that the learner can consistently perform at this level
Sufficient	fully meets the requirements of the standards.

Types of evidence

To successfully achieve a unit the learner must gather evidence which shows that they have met the required standard in the assessment criteria. Evidence can take a variety of different forms including the examples below. Centres should refer to the assessment strategy for information about which of the following are permissible.

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation, where permitted by the assessment strategy (S)
- professional discussion (PD)
- assignment, project/case studies (A)
- authentic statements/witness testimony (WT)
- expert witness testimony (EPW)
- evidence of Recognition of Prior Learning (RPL).

The abbreviations may be used for cross-referencing purposes.

Learners can use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is, therefore, not necessary for learners to have each assessment criterion assessed separately. Learners should be encouraged to reference the assessment criteria to which the evidence relates.

Evidence must be made available to the assessor, internal verifier and Edexcel standards verifier. A range of recording documents is available on the Edexcel website: www.edexcel.com. Alternatively, centres may develop their own.

Centre recognition and approval

Centre recognition

Centres that have not previously offered Edexcel qualifications need to apply for and be granted centre recognition as part of the process for approval to offer individual qualifications. New centres must complete both a centre recognition approval application and a qualification approval application.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met. Centres already holding Edexcel approval are able to gain qualification approval for a different level or different sector via Edexcel online.

Approvals agreement

All centres are required to enter into an approvals agreement which is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any linked codes or regulations. Edexcel will act to protect the integrity of the awarding of qualifications, if centres do not comply with the agreement. This could result in the suspension of certification or withdrawal of approval.

Quality assurance

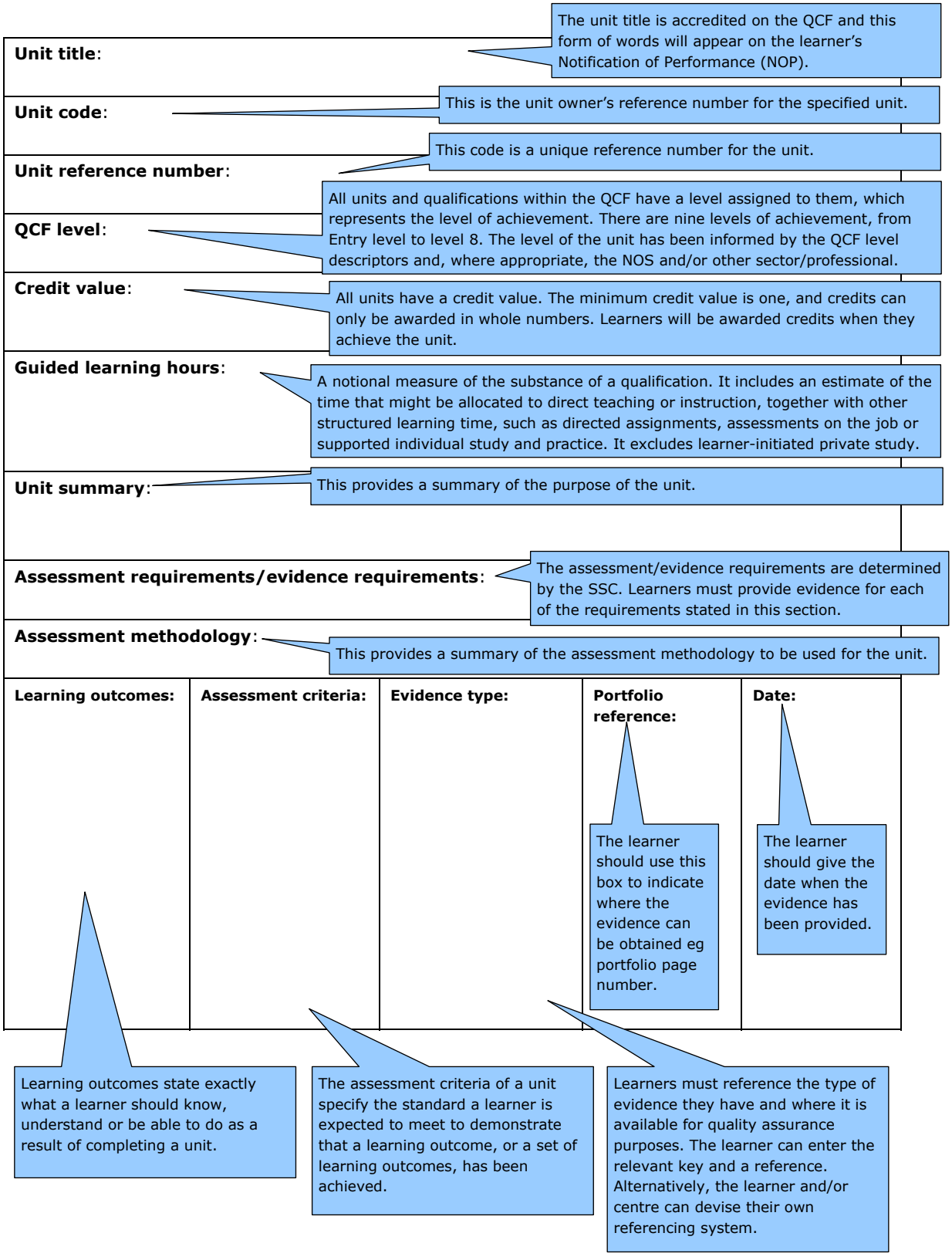
Detailed information on Edexcel's quality assurance processes is given in *Annexe B*.

What resources are required?

Each qualification is designed to support learners working in the Passenger Transport sector. Physical resources need to support the delivery of the qualifications and the assessment of the learning outcomes and must be of industry standard. Centres must meet any specific resource requirements outlined in *Annexe D: Assessment requirements/strategy*. Staff assessing the learner must meet the requirements within the overarching assessment strategy for the sector.

Unit format

Each unit in this specification contains the following sections.



Units

Unit 1: Prepare to Undertake Duties in the Rail Industry

Unit code: 1

Unit reference number: F/601/7815

QCF level: 2

Credit value: 2

Guided learning hours: 18

Unit summary

This unit is about identifying the rules, regulations, instructions and procedures that you must comply with to make sure you are fit for duty. It outlines the requirements that enable you to commence duties in a safe and knowledgeable manner and to ensure safe lines of communication within the working environment.

This unit consists of two elements:

- Complete Personal Preparation
- Prepare for Duty.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence including witness testimony and questioning. Simulation must not be used to assess this unit.

If this unit is used in the following qualifications:

Level 2 NVQ Certificate in Rail Services (Passenger Services) (QCF)

Level 2 NVQ Certificate in Rail Services (Shunting) (QFC)

Level 2 NVQ Diploma in Rail Services (Control Room Operations) (QCF)

Level 2 NVQ Diploma in Rail Services (Driving) (QCF)

Level 2 NVQ Diploma in Rail Services (Passenger Services) (QCF)

Level 2 NVQ Diploma in Rail Services (Signal Operations) (QCF)

the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to complete personal preparation	1.1	Meet organisational standards for appearance and conduct			
		1.2	Comply with organisational procedures relating to fitness for duty			
		1.3	Possess the required documentation and equipment as specified by the organisation			
2	Know how to complete personal preparation	2.1	List the standards of appearance and conduct required by the organisation			
		2.2	Describe the importance of appearance, conduct and fitness in relation to the role			
		2.3	Describe organisational procedures relating to fitness for duty			
		2.4	List the type of equipment required for duty			
		2.5	Describe how to access and use required equipment			
		2.6	List the documents required when completing personal preparation			
		2.7	Describe the standards of behaviour required by the organisation			
3	Be able to prepare for duty	3.1	Communicate to the relevant person any necessary information relating to personal duties			
		3.2	Access and confirm information relating to the work to be undertaken			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.3	Comply with organisational procedures relating to personal safety			
		3.4	Complete preparations for duty within the allocated time			
		3.5	Complete required documents accurately and process them correctly			
4	Know how to prepare for duty	4.1	Describe organisational procedures relating to booking on and booking off duty			
		4.2	List the duties that are to be undertaken and describe organisational procedures relating to them			
		4.3	Describe organisational and legal requirements relevant to personal duties			
		4.4	List the people within the organisation who are relevant to the work role			
		4.5	Describe the relevant documentation completion requirements within the organisation			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 2: Undertake Routine Manual Maintenance of the Permanent Way

Unit code: 2

Unit reference number: M/502/6368

QCF level: 1

Credit value: 3

Guided learning hours: 16

Unit summary

This unit is about undertaking routine maintenance to the Permanent Way using basic tools and equipment.

This unit consists of one element:

- Undertake Routine Maintenance of the Permanent Way.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner will be expected to work within their organisation's procedures and also within the limits of their own responsibility.

The assets or equipment to be maintained will be aspects of the track and its associated infrastructure. It could include the maintenance requirements for plain line, switches, drains and vegetation.

The types of maintenance activities involved will follow set procedures and must take account of track access limitations. The activities include, as appropriate:

- tightening bolts, nuts and screws to specific requirements
- filling and replenishing lubricators
- cleaning out ditches, drains and catch pits
- fixing, fitting or refitting pads, insulators, rail fastenings, fishplates and bolts
- applying lubricants – point oiling/fishplate greasing
- cutting back/clearing vegetation
- removing and disposing of waste
- boxing in ballast.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Extreme weather plans
- Track work instructions
- Task risk control sheets
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment criterion 2.5

The methods, techniques and procedures include as appropriate:

- method statements
- hot weather restriction
- extreme weather plans
- track work instructions
- task risk control sheets.

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to undertake routine manual maintenance of the Permanent Way	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Follow the relevant maintenance schedules to carry out the required work			
		1.3	Carry out the maintenance activities within the limits of own personal authority			
		1.4	Carry out the maintenance activities in the specified sequence and in an agreed time scale			
		1.5	Report any instances where the maintenance activities cannot be fully met or where there are identified defects outside the planned schedule to the appropriate person			
		1.6	Complete relevant maintenance records accurately and pass them on to the appropriate person			
2	Know how to undertake routine manual maintenance of the Permanent Way	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to follow the organisation's approved maintenance schedules and related specifications			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.3	List the types of maintenance activities that could be required			
		2.4	Describe how to identify and confirm the assets, equipment or components to be maintained			
		2.5	List organisational methods, techniques and procedures for maintenance of the permanent way			
		2.6	Describe the organisation's procedures for the – recording of work carried out – component and equipment care and control			
		2.7	Describe the implications of not following the policies and procedures for the care and control of components and equipment			
		2.8	Describe how to check the maintenance activity to ensure compliance with the original specification			
		2.9	Describe the relevant approved reporting lines and procedures			
		2.10	Describe the likely impact of own work on the operations of other departments and the impact of their work on the activity			
		2.11	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 3: Carry out Corrective Manual Adjustments to Permanent Way Assets

Unit code: 3

Unit reference number: T/502/6369

QCF level: 1

Credit value: 3

Guided learning hours: 16

Unit summary

This unit is about carrying out adjustments to Permanent Way assets, including sleepers, rails and ballast profiles on plain line and switches and crossings. The adjustments will be routine and use simple engineering processes and techniques.

This unit consists of one element:

- Carry out Routine Adjustments to Permanent Way Assets.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The type of asset or component to be worked on will be that associated with plain line switches and crossings involving a single stage process.

The type and complexity of adjustments to be made, including as appropriate:

- rail adjustment and regulation
- adjustment switch setting
- sleeper spacing and squaring
- ballast re-profiling and boxing-in
- operational support for stressing rails
- operational support for straightening of rail ends
- operational support for point testing
- conductor rail (pots, anchors).

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to carry out corrective manual adjustments to Permanent Way assets	1.1	Set up a safe system of work for the activity in line with organisational procedures and work to the system			
		1.2	Follow the appropriate schedules and related specifications for the asset/component being adjusted			
		1.3	Carry out required adjustments in the specified sequence and in an agreed timescale within limits of own authority in line with organisational requirements			
		1.4	Confirm that the adjusted asset/component meets the required operating specification			
		1.5	Report instances where the asset/component fails to meet the required operational specification after adjustments or where there are identified defects outside the required adjustments			
		1.6	Ensure all required documentation is processed accurately in line with organisational procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to carry out corrective manual adjustments to Permanent Way assets	2.1	List the relevant health and safety legislation, regulations and safe working practices appropriate to the activity and organisation			
		2.2	Describe how to follow maintenance schedules and related specifications as approved by own organisation			
		2.3	Describe the methods, techniques and procedures for the adjustment of permanent way assets and components including: – method statements – risk assessments – hot weather precaution plans – extreme weather plans – emergency preparedness plans			
		2.4	Describe the types of maintenance records and documentation procedures required by own organisation			
		2.5	Describe the organisation's procedures for the use, care and control of tools and equipment including calibration and the implications of not following these procedures			
		2.6	Describe the waste disposal procedures and whom to apply to for authorisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.7	Describe the relevant reporting lines and procedures relating to carrying out routine adjustments to permanent way assets within own organisation			
		2.8	Describe the impact of the activity on the operations of other departments and their impact on the activity			
		2.9	Explain the limits of own authority and responsibility when carrying out routine adjustments to permanent way assets			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 4: Reinstate the Work Site after Permanent Way Engineering Activities

Unit code: 4

Unit reference number: Y/502/6395

QCF level: 1

Credit value: 3

Guided learning hours: 16

Unit summary

This unit is about reinstating the work area after Permanent Way maintenance or renewal activities by the safe storage or reusable materials and equipment.

This unit consists of one element:

- Reinstate the Work Area after Permanent Way Engineering Activities.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to reinstate the work site after Permanent Way engineering activities	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Reinstate the work site to a safe condition in accordance with agreed requirements and schedules			
		1.3	Separate equipment, components, and materials for re-use from waste items and materials			
		1.4	Store reusable materials and equipment in an appropriate location			
		1.5	Identify, mark and secure any scrap material that cannot be removed immediately in such a way that the safe operation of the railway is maintained			
		1.6	Check that all materials and equipment that cannot be removed are secured and stored where they do not interfere with the safe operation of the railway			
		1.7	Dispose of waste materials in line with own organisation's procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.8	Deal with problems within own control promptly and report those that can not be resolved in line with organisational procedures			
2	Know how to reinstate the work site after Permanent Way engineering activities	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe the requirements for reinstating the work site			
		2.3	Describe how to identify items for re-use and/or waste items			
		2.4	List the types of materials and equipment that can be stored			
		2.5	Describe own organisation's methods and procedures for storing materials and equipment			
		2.6	Describe the different types and methods of waste disposal procedures in own organisation			
		2.7	Describe reporting lines and procedures that are approved by own organisation including knowing whom to approach for authorisation to dispose of waste			
		2.8	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 5: Contribute to the Security of the Work Environment in the Rail Industry

Unit code: 5

Unit reference number: L/502/6507

QCF level: 2

Credit value: 1

Guided learning hours: 5

Unit summary

This unit is about making sure you understand the importance of maintaining the security of the work environment. It outlines the rules, regulations and procedures which ensure a secure work environment and identifies how to respond to security breaches and emergencies which may arise.

This unit consists of one element:

- Contribute to the Security of the Work Environment.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to contribute to the security of the work environment in the rail industry	1.1	Comply with security systems and procedures			
		1.2	Obtain confirmation of visitor credentials			
		1.3	Respond to breaches of security within the limits of own personal authority			
		1.4	Report any actions taken to the relevant person(s) in line with organisational procedures			
2	Know how to contribute to the security of the work environment in the rail industry	2.1	Describe how to maintain a secure work environment			
		2.2	Describe organisational security procedures			
		2.3	List the types of security breaches that may occur			
		2.4	Describe the organisation's emergency situation procedures in relation to security			
		2.5	Describe the security systems and procedures in the local facilities and work areas			
		2.6	Describe the organisation's policy for receiving visitors			
		2.7	Describe the limits of own authority in relation to security			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 6: Carry out Routine Inspection of the Permanent Way Infrastructure

Unit code: 6

Unit reference number: H/502/6366

QCF level: 2

Credit value: 6

Guided learning hours: 40

Unit summary

This unit is about the patrolling and routine inspection work undertaken to ensure the immediate safety of the line and the identification of medium-term and long-term deterioration.

This unit consists of one element:

- Carry out Routine Inspection of the Permanent Way Infrastructure.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to carry out routine inspection	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Follow the correct specification for the product or equipment being inspected			
		1.3	Identify and confirm the inspection checks to be made and acceptance criteria to be used			
		1.4	Carry out all required visual inspections safely			
		1.5	Identify any defects or variations from the specification of the product or equipment being inspected			
		1.6	Record the results of the inspection in the appropriate format			
		1.7	Deal with problems within own area of control promptly in line with organisational procedures			
		1.8	Report problems that cannot be resolved to the appropriate person			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to carry out routine inspection	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe what constitutes the track or line side environment as defined by own organisation			
		2.3	Describe the operational and environmental constraints on the organisation that could occur whist undertaking visual inspections including: – Open to traffic – Closed to traffic – Restricted track access – Day work/night work			
		2.4	Describe the organisation's methods and techniques for inspection relevant to own role			
		2.5	Describe what constitutes a defect or variation to the permanent way infrastructure			
		2.6	Describe how to identify defects and variations in products, equipment or systems by visual means			
		2.7	Describe the circumstances in which immediate action is required			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.8	Describe what quality control systems and documentation procedures are required by own organisation			
		2.9	Describe the relevant reporting lines and procedures as approved by own organisation			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 7: Assist in Preparing Resources for Permanent Way Activities

Unit code: 7

Unit reference number: K/502/6367

QCF level: 2

Credit value: 5

Guided learning hours: 12

Unit summary

This unit is about supporting colleagues in identifying and preparing resources for Permanent Way engineering activities. You will be able to plan and identify what resources are required and source information regarding those resources. You will also ensure that there are sufficient resources available for the activities to be undertaken and that the resources are used safely, appropriately and in a timely manner.

This unit consists of one element:

- Assist in Preparing Resources for Permanent Way Activities.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare resources to meet a plan	1.1	Set up a safe system of work for the activity in line with organisational procedures and work to this system			
		1.2	Identify the resources to be used to meet the plan			
		1.3	Demonstrate sufficient resources are available to meet the plan			
		1.4	Prepare resources for Permanent Way activities in line with the plan			
		1.5	Take action when changes to the planned use of resources arise			
		1.6	Report completion of activities in line with the organisation's procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to prepare resources to meet a plan	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe the types of resources available for permanent way activities including: – Documentation – Tools and equipment – Materials, assets components – Communications equipment – Personnel			
		2.3	Describe how to obtain up-to-date information on engineering activities and the resources required			
		2.4	Explain how to obtain up-to-date documentation on the resources to be used			
		2.5	Describe own organisation's procedures on the care and use of resources including: – Identification – Calibration			
		2.6	Describe how to follow schedules and instructions when preparing resources to meet a plan			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.7	Describe how the planned use of resources could alter and the implications that may follow			
		2.8	Describe the relevant reporting lines and procedures as approved by own organisation when preparing resources to meet a plan			
		2.9	Explain the limits of own authority and those of others involved in preparing resources			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 8: Undertake Replacement of Permanent Way Assets and Components

Unit code: 8

Unit reference number: K/502/6370

QCF level: 2

Credit value: 4

Guided learning hours: 24

Unit summary

This unit is about undertaking the replacement of Permanent Way assets and components during maintenance activities.

This unit consists of one element:

- Undertake Replacement of Permanent Way Assets and Components.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The type of asset to be worked on will be either plain line or switches and crossings equipment and associated fastenings.

The type of components to be replaced in respect of either plain line or switches and crossings, including as appropriate:

- ballast (wet beds)
- rails
- sleeper/bearers
- drains
- fastenings
- insulations
- chairs and base plates
- fish-plated joints
- welded joints (preparatory work)
- lubricators.

The assembly methods and techniques to be used will either be manual and mechanical methods and may include the use of small plant and equipment.

The complexity of the assembly operations will be influenced by:

- track configuration
- using variable/diverse sources of information
- track stability
- environmental procedures.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to undertake replacement of Permanent Way assets and components	1.1	Set up a safe system of work for the activity in line with organisational procedures and work to the system			
		1.2	Follow the appropriate engineering diagrams and related specifications for the components/asset being replaced			
		1.3	Obtain all the required components and ensure that they are in a suitable condition for replacement and fit for purpose			
		1.4	Ensure that any replacement components used meet the required specification			
		1.5	Prevent damage to components, tools and equipment during replacement			
		1.6	Replace the components in the correct sequence using appropriate tools and techniques			
		1.7	Make necessary settings or adjustments to the components to ensure they will function correctly			
		1.8	Deal promptly with problems within own control and report those that cannot be resolved			
		1.9	Maintain documentation in line with own organisation's procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to undertake replacement of Permanent Way assets and components	2.1	List the relevant health and safety legislation, regulations and safe working practices appropriate to the activity and organisation			
		2.2	Describe how to follow engineering diagrams and related specifications as approved by own organisation			
		2.3	Describe the methods and techniques for component and asset replacement appropriate to own role			
		2.4	Describe the methods and techniques for ensuring that components meet the required specification			
		2.5	Explain how defects in components can affect the performance of the Permanent Way assets			
		2.6	Describe the methods and techniques for handling equipment including: – manual handling – mechanical handling – use of small tools – equipment handling			
		2.7	Describe the organisation's procedures for the use, care and control of tools and equipment including calibration			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.8	Describe the organisation's approved relevant reporting lines and procedures			
		2.9	Describe the impact of the activity on other departments and the impact of their actions on the activity			
		2.10	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 9: Restore Track Geometry Faults to Operational Condition by the Manual Repair of Permanent Way Assets and Components

Unit code: 9

Unit reference number: D/502/6723

QCF level: 2

Credit value: 3

Guided learning hours: 18

Unit summary

This unit is about restoring track geometry to operational condition by the manual repair of Permanent Way assets.

This unit consists of one element:

- Restore Track Geometry to Operational Condition by Manual Repair.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner will be expected to work to within their organisation's approved procedures and specifications and will be responsible for the quality of their work within the limits of their responsibility.

The type of asset to be repaired will be on plain line.

The learner will be able to deal with basic manual track repairs as defined by the organisations standards and procedures.

The complexity of repairs to be carried out will be influenced by geometrical tolerances and clearances.

This will involve measuring using tapes and gauges. The repairs may include, as appropriate:

- manual lifting and packing
- restoring gauge
- restoring alignment
- fitting packings.

The quality standards and accuracy to be achieved will be as approved by the learners organisation and the manufacturer and must include restoring components to within operational tolerances.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Identify the asset to be restored			
		1.3	Follow the relevant specifications for the track to be repaired			
		1.4	Prepare the track for repair			
		1.5	Carry out the repairs within agreed timescale using approved materials and components, methods and procedures			
		1.6	Ensure that the repaired track meets the specified operating conditions			
		1.7	Produce accurate and complete records of all repair work carried out in line with organisational procedures			
2	Know how to restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to access and follow the related engineering specifications as approved by own organisation for the components concerned			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.3	Describe the methods and techniques for track repair including those that are temporary and permanent			
		2.4	Describe own organisation's procedures for the use, care and control of tools and equipment including calibration			
		2.5	Describe how incorrectly repaired track can affect the safety and performance of the permanent way			
		2.6	Describe the maintenance recording and documentation procedures for track as approved by own organisation, including: – paper based records – computer-based records			
		2.7	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.8	Describe the likely impact of the work on the operations of other departments and the impact of their work on the activity			
		2.9	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 10: Prepare Small Plant, Measuring Equipment and Tools for Permanent Way Renewal or Maintenance

Unit code: 10

Unit reference number: T/502/6372

QCF level: 2

Credit value: 1

Guided learning hours: 7

Unit summary

This unit is about the preparation of small plant, measuring equipment and tools for renewal or maintenance activities to ensure they are safe, in date and ready for use.

This unit consists of one element:

- Prepare Small Plant Measuring Equipment and Tools.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion.

Realistic workplace simulation may be used to assess areas that cover non-routine situations. All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take pace in the normal workplace environment. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner will be required to carry out equipment safety and preparation checks which will be concerned with establishing:

- certification/calibration validity
- wear and defects
- suitability for task
- environmental acceptability
- quarantine requirements
- fuel and lubricant levels
- defect reporting.

The equipment may be manual, mechanical, hydraulic or electrical.

The types of equipment to be prepared may include, as appropriate:

- small powered plant (eg rail cutting, drilling and adjusting devices)
- hand-held permanent way tools
- measuring equipment (gauges)
- application devices (eg brushes, sprays)
- lifting tackle
- rail tensioning equipment
- temporary lighting
- rail mounted plant (eg rail grinder, trolley, iron man).

For the assessment of 2.3 the equipment includes as appropriate:

- hand tools
- small plant
- measuring equipment
- application devices
- lifting tackle.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines

- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Obtain all the required equipment and ensure that it is in safe and usable condition			
		1.3	Carry out the necessary preparations to equipment in line with own organisation's procedures			
		1.4	Make sure that required safety arrangements are in place to protect other workers from activities likely to disrupt normal working			
		1.5	Report completion of preparations in line with own organisation's procedures			
		1.6	Deal promptly and effectively with problems within own control			
		1.7	Report problems that cannot be resolved in line with organisational procedures			
2	Know how to prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe the methods and techniques for small plant, measuring equipment and tool preparation relevant to own role			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.3	List the types of manual, mechanical or hydraulic equipment available			
		2.4	Describe own organisation's procedures for the use, care and control of tools and equipment including calibration			
		2.5	Describe the implications of not following the policies and procedures for the use, care and control of tools and equipment			
		2.6	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.7	Describe the likely impact of the activity on the operations of other departments and the impact of their work on the activity			
		2.8	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 11: Deal with Incidents and Contingencies within the Railway Environment

Unit code: 11

Unit reference number: F/502/6374

QCF level: 2

Credit value: 2

Guided learning hours: 4

Unit summary

This unit is about dealing with the immediate actions that need to be taken in the event of any incident and understanding their effect or implication on the safety of the line, life and the environment.

This unit consists of one element:

- Deal with Incidents and Contingencies within the Railway Environment.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion.

Realistic workplace simulation may be used to assess areas that cover non routine situations. All simulations using specially constructed environments need to be approved by the awarding organisation prior to use. The setting up or devising of assessment situations do not need to be approved by the awarding organisation if they take pace in the normal workplace environment. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The types of contingencies will be those affecting:

- safety of the line
- safety of life
- safety of the environment.

The actions to be taken will follow approved procedures, including as appropriate, those for:

- broken rails
- track distortion
- bridge strikes
- obstructions
- security alert
- fencing defects
- unstable embankments/cuttings
- trespass
- contacting of emergency services
- implementing flood procedures
- oil spillage
- fire
- leaf-fall procedures
- fumes
- adverse weather arrangements (heat duties, manual de-icing)
- implement speed restrictions.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to deal with incidents and contingencies within the railway environment	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Call for expert help in the event of contingencies occurring in line with organisational procedures			
		1.3	Take prompt and appropriate action to minimise risk of personal and third party injury as a first priority and then damage to property and equipment			
		1.4	Follow shutdown and evacuation procedures promptly and correctly			
		1.5	Deal safely with dangers that can be contained using appropriate equipment and materials, in line with organisational procedures			
2	Know how to deal with incidents and contingencies within the railway environment	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe the relevant first aid procedures that are approved by own organisation			
		2.3	List the relevant evacuation procedures that are approved by own organisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Describe how to deal with the various incidents and contingencies in line with own organisation's procedures, including: – the advice and support to give when dealing with requests for rapid response – communicating effectively with others			
		2.5	Describe how to obtain feedback on the support and advice provided			
		2.6	Describe own organisation's procedures for incident and contingency reporting			
		2.7	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.8	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 12: Lift and Move Permanent Way Materials, Components and Equipment

Unit code: 12

Unit reference number: J/502/6375

QCF level: 2

Credit value: 3

Guided learning hours: 20

Unit summary

This unit is about lifting and moving Permanent Way materials, components and equipment, using the correct plant/equipment and techniques.

This unit consists of one element:

- Lift and Move Permanent Way Materials, Components and Equipment.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The moving methods and techniques to be used are manual or mechanical with the aid of lifting devices and considerations must be given to the nature of the load and its final destination. In order to lift, move and handle loads and equipment the learner must understand the level and extent of their authority and responsibility. The type of moving, lifting and handling equipment to be used must be appropriate for the load to be moved.

The type and characteristics of the load to be moved are those associated with loads of an unwieldy nature, with an uneven weight distribution, and of irregular shape. Some will be robust and some will be fragile, including as appropriate:

- rails
- switches and crossings
- bearers
- sleepers
- ballast
- associated fastenings.

The final location of the load will be in the approved safe location. This location must ensure that there is little or no chance of damage to the load and that the load does not cause a hazard to people and train/vehicle movements.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment criterion 2.2

The documentation includes as appropriate:

- licence and/or permit
- lifting plan.

Assessment criterion 2.5

The equipment includes as appropriate:

- chains
- straps
- beams
- sleeper lifting devices.

Assessment criterion 2.7

The assessments methods/techniques include as appropriate:

- observational means
- load assessment devices
- weight charts
- tolerance devices
- gauging devices.

Assessment criterion 2.8

The methods include as appropriate:

- visual inspection
- clearances and tolerances
- load bearing capacities
- angle of repose.

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to lift and move Permanent Way materials, components and equipment	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Confirm all necessary documentation is in place prior to movement of the load			
		1.3	Check the moving equipment to ensure the weight of the load is evenly distributed			
		1.4	Attach the appropriate handling equipment securely to the load, using approved methods to eliminate slippage			
		1.5	Confirm that the load is secure before moving			
		1.6	Move the load over the selected, suitable route			
		1.7	Position and release the load safely in its intended final location			
2	Know how to lift and move Permanent Way materials, components and equipment	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Explain how to confirm the documentation required for the movement of a load is in place			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.3	Describe how to check for, and what constitutes, an uneven load			
		2.4	Describe the methods and techniques for securing loads, including, how to eliminate slippage			
		2.5	List the methods and techniques for moving loads			
		2.6	Describe how to identify and use relevant lifting, moving and handling equipment			
		2.7	Describe the methods and techniques for load assessment			
		2.8	Describe the methods and techniques to determine a suitable route			
		2.9	Describe own organisation's procedures for the use, care and control of handling equipment, including calibration requirements			
		2.10	Describe how to check and confirm the load is safely in its final location			
		2.11	Describe the methods and techniques for the safe release of the load			
		2.12	Describe the relevant reporting lines and procedures as approved by own organisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.13	Describe the likely impact of the activity on the operations of other departments and the impact of their work on the activity			
		2.14	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 13: Monitor the Performance and Condition of Permanent Way Assets

Unit code: 13

Unit reference number: M/502/6385

QCF level: 2

Credit value: 5

Guided learning hours: 32

Unit summary

This unit is about monitoring the performance and condition of Permanent Way assets and covers ongoing periodic checking of the Permanent Way infrastructure of a pre-existing condition to monitor its condition using gauges and other equipment, and comparing this to previous inspection data.

This unit consists of one element:

- Monitor the Performance and Condition of Permanent Way Assets.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The types of assets to be monitored may include as appropriate:

- plain line (eg side-wear, corrosion)
- switches and crossings
- track substructure
- off-track structures.

The manual measuring methods may include the use of gauges and other relevant equipment for:

- measurement
- static and dynamic tests
- friction monitoring.

The monitoring conditions or operating environment may include as appropriate:

- open to traffic
- closed to traffic
- restricted track access
- day time
- night time.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to monitor the performance and condition of Permanent Way assets	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Set up correctly and check the monitoring equipment in line with organisation procedures, including calibrating as appropriate			
		1.3	Carry out the monitoring activities effectively with minimum disruption to normal activities			
		1.4	Record and review the outcomes and take action in line with organisational procedures			
2	Know how to monitor the performance and condition of Permanent Way assets	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to source and interpret information and document systems relevant to the engineering activity			
		2.3	Describe how to access and interpret the performance requirements of engineering assets			
		2.4	Describe the methods and procedures for monitoring engineering assets including how to minimise disruption to the operation of the railway			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Explain when and why the monitoring of the performance and condition of the Permanent Way takes place			
		2.6	List the range of monitoring equipment available			
		2.7	Describe the methods and techniques for analysing the types of monitoring information obtained			
		2.8	Describe own organisation's procedures for the care and control of equipment, including calibration			
		2.9	Explain the importance of equipment calibration and authorisation procedures for the care and use of the equipment			
		2.10	Describe own organisation's procedures for the setting, care and control of monitoring equipment			
		2.11	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.12	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 14: Restore Plain Line Track Geometry to Operational Condition

Unit code: 14

Unit reference number: J/502/6389

QCF level: 2

Credit value: 5

Guided learning hours: 24

Unit summary

This unit is about restoring plain line track geometry to operational condition by manual or mechanised means.

This unit consists of one element:

- Restore Plain Line Track Geometry to Operational Condition.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner must be able to mark out and carry out repairs on all types of track including those with steel, concrete and wood bearers. Dimensional clearances must be taken into account at all times. The nature of the repairs using manual equipment may include as appropriate:

- top
- alignment
- cross level
- track gauge.

The type of assets to be repaired will be:

- plain line.

The quality standards and accuracy to be achieved will be approved by the learner's organisation and the manufacturer and must include restoring components to within operational tolerances.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to restore plain line track geometry to operational condition	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Source and interpret the relevant specifications			
		1.3	Prepare the worksite for repair			
		1.4	Carry out the repairs within agreed timescales using approved materials and components, methods and procedures			
		1.5	Ensure that the repaired asset meets the specified operating conditions			
		1.6	Produce accurate and complete records of all repair work carried out			
2	Know how to restore plain line track geometry to operational condition	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to source and interpret engineering specifications as approved by own organisation			
		2.3	Describe the methods, techniques and procedures for worksite repair as approved by own organisation including those that are both temporary and permanent			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Describe how incorrectly repaired plain line can affect the safety and performance of the permanent way			
		2.5	Describe own organisation's procedures for the care and control of mechanised equipment, including calibration requirements			
		2.6	Describe own organisation's procedures for recording maintenance activities, including both paper based and computer based			
		2.7	Describe own organisation's methods and techniques for ensuring that repaired assets meet the specified operational conditions			
		2.8	Describe the importance of carrying out repair activities in the specified sequence and agreed timescale			
		2.9	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.10	Describe the likely impact of the activity on the operations of other departments and the impact of their work on the activity			
		2.11	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 15: Restore Rail Switches and Crossings to Operational Condition

Unit code: 15

Unit reference number: A/502/6390

QCF level: 2

Credit value: 5

Guided learning hours: 24

Unit summary

This unit is about restoring switches and crossing to operational condition by manual or mechanised means.

This unit consists of one element:

- Restore Switches and Crossings to Operational Condition.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner must be able to mark out and carry out repairs on all types of track including those with steel, concrete and wood bearers. Dimensional clearances must be taken into account at all times. The nature of the repairs using manual equipment may include as appropriate:

- top
- alignment
- cross level
- track gauge.

The type of assets to be repaired will be:

- switches and crossings.

The quality standards and accuracy to be achieved will be approved by the learner's organisation and the manufacturer and must include restoring components to within operational tolerances.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to restore rail switches and crossings to operational condition	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Source and interpret the relevant specifications			
		1.3	Prepare the worksite for repair			
		1.4	Carry out the repairs within agreed timescales using approved materials and components, methods and procedures			
		1.5	Ensure that the repaired asset meets the specified operating conditions			
		1.6	Produce accurate and complete records of all repair work carried out			
2	Know how to restore rail switches and crossings to operational condition	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to source and interpret engineering specifications as approved by own organisation			
		2.3	Describe the methods, techniques and procedures for worksite repair as approved by own organisation including those that are both temporary and permanent			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.4	Describe how incorrectly repaired switches and crossings can affect the safety and performance of the permanent way			
		2.5	Describe own organisation's procedures for the care and control of mechanised equipment, including calibration requirements			
		2.6	Describe own organisation's procedures for recording maintenance activities, including both paper based and computer based			
		2.7	Describe own organisation's methods and techniques for ensuring that repaired assets meet the specified operating conditions			
		2.8	Describe the importance of carrying out repair activities in the specified sequence and agreed timescale			
		2.9	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.10	Describe the likely impact of the activity on the operations of other departments and the impact of their work on the activity			
		2.11	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 16: Prepare Work Site for Permanent Way Engineering Activities

Unit code: 16

Unit reference number: F/502/6391

QCF level: 2

Credit value: 2

Guided learning hours: 12

Unit summary

This unit is about preparing work areas for Permanent Way engineering activities and covers the provision of supplies and services to enable work activities to take place thus ensuring the health, safety and welfare of all persons involved.

This unit consists of one element:

- Prepare Work Areas for Permanent Way Engineering Activities.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment criterion 2.2

the methods and procedures include as appropriate:

- your organisation's procedures
- local policies and procedures
- site security and safety
- surface preparation
- site access and egress
- safety signs
- water provision
- power and lighting
- toilets and hygiene facilities
- storage areas
- accommodation
- identification and protection arrangements for all services including those that are buried
- notifying neighboring residents and businesses.

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to prepare work site for Permanent Way engineering activities	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Ensure that the work environment is suitable for the work activities to be undertaken			
		1.3	Ensure that all necessary service supplies are connected and ready for use			
		1.4	Prepare the work site so that they are ready for the engineering activities to be carried out			
		1.5	Make sure that required safety arrangements are in place to protect other workers from activities likely to disrupt normal working			
		1.6	Report completion of preparations in line with organisational procedures			
		1.7	Deal promptly with problems within own control in line with organisational procedures			
		1.8	Report the problems which cannot be resolved in line with organisational procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to prepare work site for Permanent Way engineering activities	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe the methods and procedures for preparing the work site			
		2.3	Describe the consequences of not preparing work site correctly			
		2.4	Describe own organisation's procedures relating to service supply and connection			
		2.5	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.6	Describe the likely impact of the activity on the operations of other departments and the impact of their work on the activity			
		2.7	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____

(*if sampled*)

Unit 17: Implement and Monitor Safe Working Systems for Permanent Way Activities as a Protection Master

Unit code: 17

Unit reference number: R/502/6394

QCF level: 3

Credit value: 8

Guided learning hours: 40

Unit summary

This unit is about implementing and monitoring safe working systems for Permanent Way maintenance or renewal activities and also covers methods to establish safe systems of work using technical knowledge and experience of renewal and maintenance activities. This will include the use of necessary documentation to establish safe systems of work.

This unit consists of one element:

- Implement and Monitor Safe Working Systems for Permanent Way Maintenance or Renewal Activities.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The learner is protecting other people from the effects of the engineering work and from the movement of rail vehicles.

The type and complexity of the environment will be that associated with being on or about the Permanent Way and must take account of, as appropriate:

- lines open/closed to operational traffic
- maintenance or renewals activities
- requirements for depots, sidings, and the mainline including bi-directional operations
- day/night working
- noise
- weather.

The learner will know and understand the level and extent of their responsibility, including both their own safety and that of work colleagues. Where necessary, authorisation must be obtained before work is carried out and the learner will be expected to work within their organisation's procedures and specifications.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to implement and monitor safe working systems for Permanent Way activities as a Protection Master	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Source and interpret approved system procedures and information relating to the work area/site			
		1.3	Identify and set access controls to meet agreed and approved system procedures			
		1.4	Check that the requirements for safe access meet own organisation's requirements			
		1.5	Ensure the requirements for safe access to work are implemented			
		1.6	Ensure that system records are accurate, up-to-date and complete and are stored correctly in line with organisational procedures			
		1.7	Advise other person(s) as required of the requirements for safe access			
		1.8	Communicate system requirements and the responsibilities of individuals to the appropriate person in line with organisational procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.9	Review systems operations regularly and forward suggestions for improvement to the appropriate person in line with organisational procedures			
		1.10	Deal with problems within own control promptly and report those that can not be resolved in line with organisational procedures			
2	Know how to implement and monitor safe working systems for Permanent Way activities as a Protection Master	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Explain how to source and interpret own organisation's approved system procedures and information relating to the work area/site			
		2.3	Explain own organisation's methods and techniques for conducting safety assessments			
		2.4	Explain own organisation's procedures and guidelines for obtaining resources for permanent way activities			
		2.5	Explain own organisation's procedures for setting access controls and how to monitor these are in place			
		2.6	Explain how to monitor safe working systems during maintenance or renewal activities			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.7	Explain the implications of not implementing and monitoring a safe working system			
		2.8	Explain how to present relevant information using set proformas and templates as used by own organisation			
		2.9	Explain the relevant reporting lines and procedures as approved by own organisation			
		2.10	Explain the limits of own authority and responsibility and those of others involved in the activity			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Unit 18: Ensure that the Rail Track is Fit for Operational Purposes following Engineering Activity

Unit code: 18

Unit reference number: K/502/6398

QCF level: 3

Credit value: 4

Guided learning hours: 30

Unit summary

This unit is about ensuring that the track is fit for operational purposes and covers the assessment of the condition of the infrastructure, following completion of maintenance, inspection and/or renewal work, to determine its fitness for use. This includes track that has been taken out of use and takes account of appropriate speed restrictions.

This unit consists of one element:

- Ensure that the Track is Fit for Operational Purposes.

Assessment requirements/evidence requirements

This unit is assessed in the workplace through observation, along with other sources of evidence such as witness testimony, questioning and professional discussion. Simulation must not be used to assess this unit. If this unit is used in the Level 1, Level 2 or Level 3 Rail Engineering NVQ qualifications, the overarching assessment strategy must be followed.

This can be accessed at the link below:

http://www.goskills.org/index.php/industries/6/6

The scale of the work could range from minor maintenance to major renewal/repair activities. This may include as appropriate:

- raising/removing speed restrictions
- temporary and permanent situations
- major geometrical repair
- removal of environmental hazards
- maintenance works or inspections
- track infrastructure
- emergency inspections.

When assessing the unit the following points should be covered as appropriate:

Assessment criterion 2.1

- The organisation's safety management system
- Relevant sections of the Health and Safety at Work Act
- Control of Substances Hazardous to Health (COSHH)
- Track access restrictions
- Track work instructions
- Task risk control sheets
- Current rule book
- Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines
- Manual handling regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
- Safety sign regulations
- Personal Protective Equipment (PPE)
- Health and Safety at Work Act (HASWA)

Assessment criterion 2.3

The situations include as appropriate:

- raising/removing speed restrictions
- temporary and permanent situations
- major geometrical repair
- the removal of environmental hazards.

Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes and assessment criteria

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to ensure that the rail track is fit for operational purposes following engineering activity	1.1	Set up a safe system of work in line with organisational procedures and work to the system			
		1.2	Confirm that everyone involved accepts the asset is in a satisfactory condition for the hand-over to take place			
		1.3	Identify and confirm any unusual features of the condition of the asset			
		1.4	Make the hand-over and obtain agreement between everyone involved on the precise moment of transfer of responsibility			
		1.5	Make sure that clear, accurate and complete records of the hand-over are made in line with organisational procedures			
		1.6	Deal effectively with problems within the limits of own authority in line with organisational procedures			
		1.7	Report the problems that cannot be resolved to the appropriate person in line with organisational procedures			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Know how to ensure that the rail track is fit for Operational purposes following engineering activity	2.1	List the organisation's procedures that define the appropriate safe system of work for the activity			
		2.2	Describe how to source and interpret engineering specifications as approved by own organisation			
		2.3	Explain the hand-over procedures as approved by own organisation			
		2.4	Explain the procedures and systems for records and documentation as approved by own organisation			
		2.5	Describe own organisation's methods and techniques for effective communication including the appropriate method for communicating changes			
		2.6	Describe the relevant reporting lines and procedures as approved by own organisation			
		2.7	Describe the likely impact of own work on the operations of other departments and the impact of their work on the activity			
		2.8	Explain the limits of own authority and responsibility and those of others involved			

Learner name: _____ Date:_____

Learner signature: _____ Date:_____

Assessor signature: _____ Date:_____

Internal verifier signature: _____ Date:_____
(*if sampled*)

Further information

Our customer service numbers are:

BTEC and NVQ	0844 576 0026
GCSE	0844 576 0027
GCE	0844 576 0025
The Diploma	0844 576 0028
DiDA and other qualifications	0844 576 0031

Calls may be recorded for training purposes.

Useful publications

Related information and publications include:

- *Centre Handbook for Edexcel QCF NVQs and Competence-based Qualifications* published annually
- functional skills publications – specifications, tutor support materials and question papers
- *Regulatory Arrangements for the Qualification and Credit Framework* (published by Ofqual, August 2008)
- the current Edexcel publications catalogue and update catalogue.

Edexcel publications concerning the Quality Assurance System and the internal and standards verification of vocationally related programmes can be found on the Edexcel website.

NB: Some of our publications are priced. There is also a charge for postage and packing. Please check the cost when you order.

How to obtain National Occupational Standards

To obtain the National Occupational Standards please contact:

National Occupational Standards for Rail Engineering
GoSkills
Concorde House, Trinity Park
Solihull
West Midlands
B37 7UQ

Telephone: 0121 635 5520
Email: info@goskills.org

Professional development and training

Edexcel supports UK and international customers with training related to NVQ and BTEC qualifications. This support is available through a choice of training options offered in our published training directory or through customised training at your centre.

The support we offer focuses on a range of issues including:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing student-centred learning and teaching approaches
- building functional skills into your programme
- building effective and efficient quality assurance systems.

The national programme of training we offer can be viewed on our website (www.edexcel.com/training). You can request customised training through the website or by contacting one of our advisers in the Training from Edexcel team via Customer Services to discuss your training needs.

The training we provide:

- is active
- is designed to be supportive and thought provoking
- builds on best practice
- may be suitable for those seeking evidence for their continuing professional development.

Annexe A: Progression pathways

The Edexcel qualification framework for the passenger transport sector

Level	General qualifications	Diplomas	BTEC vocationally-related qualifications	BTEC specialist qualification/ professional	NVQ/competence
8					
7					
6					
5					
4					
3					Edexcel Level 3 NVQ Diploma in Rail Engineering Track Maintenance (QCF)

Level	General qualifications		Diplomas	BTEC vocationally-related qualifications	BTEC specialist qualification/ professional	NVQ/competence
2					Edexcel Level 2 Certificate in Rail Engineering Underpinning Knowledge (QCF) Edexcel Level 2 Award in Rail Services (QCF)	Edexcel Level 2 NVQ Diploma in Rail Services (Control Room Operations) (QCF) Edexcel Level 2 NVQ Certificate/Diploma in Rail Services (Passenger Services) (QCF) Edexcel Level 2 NVQ Diploma in Rail Services (Signal Operations) (QCF) Edexcel Level 2 NVQ Diploma in Rail Services (Driving) (QCF) Edexcel Level 2 NVQ Certificate in Rail Services (Shunting) (QCF)
1						
Entry						

Annexe B: Quality assurance

Key principles of quality assurance

- A centre delivering Edexcel qualifications must be an Edexcel recognised centre and must have approval for qualifications that it is offering.
- The centre agrees, as part of gaining recognition, to abide by specific terms and conditions relating to the effective delivery and quality assurance of assessment. The centre must abide by these conditions throughout the period of delivery.
- Edexcel makes available to approved centres a range of materials and opportunities to exemplify the processes required for effective assessment and provide examples of effective standards. Approved centres must use the guidance on assessment to ensure that staff who are delivering Edexcel qualifications are applying consistent standards.
- An approved centre must follow agreed protocols for: standardisation of assessors; planning, monitoring and recording of assessment processes; internal verification and recording of internal verification processes and dealing with special circumstances, appeals and malpractice.

Quality assurance processes

The approach to quality assured assessment is made through a partnership between a recognised centre and Edexcel. Edexcel is committed to ensuring that it follows best practice and employs appropriate technology to support quality assurance processes where practicable. The specific arrangements for working with centres will vary. Edexcel seeks to ensure that the quality-assurance processes it uses do not inflict undue bureaucratic processes on centres, and works to support them in providing robust quality-assurance processes.

The learning outcomes and assessment criteria in each unit within this specification set out the standard to be achieved by each learner in order to gain each qualification. Edexcel operates a quality-assurance process, designed to ensure that these standards are maintained by all assessors and verifiers.

For the purposes of quality assurance, all individual qualifications and units are considered as a whole. Centres offering these qualifications must be committed to ensuring the quality of the units and qualifications they offer, through effective standardisation of assessors and internal verification of assessor decisions. Centre quality assurance and assessment processes are monitored by Edexcel.

The Edexcel quality-assurance processes will involve:

- gaining centre recognition and qualification approval if a centre is not currently approved to offer Edexcel qualifications
- annual visits to centres by Edexcel for quality review and development of overarching processes and quality standards. Quality review and development visits will be conducted by an Edexcel quality development reviewer
- annual visits by occupationally competent and qualified Edexcel Standards Verifiers for sampling of internal verification and assessor decisions for the occupational sector
- the provision of support, advice and guidance towards the achievement of National Occupational Standards.

Centres are required to declare their commitment to ensuring quality and appropriate opportunities for learners that lead to valid and accurate assessment outcomes. In addition, centres will commit to undertaking defined training and online standardisation activities.

Annexe C: Centre certification and registration

Edexcel Standards Verifiers will provide support, advice and guidance to centres to achieve Direct Claims Status (DCS). Edexcel will maintain the integrity of Edexcel QCF NVQs through ensuring that the awarding of these qualifications is secure. Where there are quality issues identified in the delivery of programmes, Edexcel will exercise the right to:

- direct centres to take action
- limit or suspend certification
- suspend registration.

The approach of Edexcel in such circumstances is to work with the centre to overcome the problems identified. If additional training is required, Edexcel will aim to secure the appropriate expertise to provide this.

What are the access arrangements and special considerations for the qualifications in this specification?

Centres are required to recruit learners to Edexcel qualifications with integrity.

Appropriate steps should be taken to assess each applicant's potential and a professional judgement should be made about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Edexcel's policy on learners with particular requirements.

Edexcel's policy on access arrangements and special considerations for Edexcel qualifications aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the 1995 Disability Discrimination Act and the amendments to the Act) without compromising the assessment of skills, knowledge, understanding or competence. Please refer to *Access Arrangements and Special Considerations for BTEC and Edexcel NVQ Qualifications* for further details. www.edexcel.com.

Annexe D: Assessment requirements/strategy

1. Introduction

GoSkills, as the Sector Skills Council for the Passenger Transport Sector, is responsible for developing an assessment strategy for the qualifications based on its national occupational standards. This assessment strategy includes the Additional Requirement for Qualifications that use the title NVQ within the QCF.

This responsibility means that *GoSkills* must:

a) Recommend how external quality control of assessment will be achieved;

b) Define which aspects of the national occupational standards must always be assessed through performance in the workplace;

c) Define the extent to which simulated working conditions may be used to assess competence and any characteristics that simulations should have, including definitions (where appropriate) of what would constitute a `realistic working environment' (RWE) for the qualifications concerned;

d) Define the occupational expertise requirements for assessors and verifiers in consultation with industry and in agreement with awarding organisations.

This Assessment Strategy for the following qualifications:

Level 1 NVQ Certificate in Basic Track Maintenance (QCF)

Level 2 NVQ Award in Rail Engineering Track Maintenance (QCF)

Level 2 NVQ Certificate in Rail Engineering Track Maintenance (QCF)

Level 2 NVQ Diploma in Rail Engineering Track Maintenance (QCF)

Level 3 NVQ Award in Rail Engineering Track Maintenance (QCF)

Level 3 NVQ Certificate in Rail Engineering Track Maintenance (QCF)

Level 3 NVQ Diploma in Rail Engineering Track Maintenance (QCF)

Level 2 NVQ Certificate in Rail Engineering Protection Master (QCF)

Level 2 NVQ Certificate in Non-Destructive Rail Testing (QCF)

Level 2 NVQ Certificate in Track Patrolling (QCF)

addresses the four areas indicated above.

2. Review and Evaluation of this Strategy

GoSkills and awarding organisations will continually monitor the effectiveness of this strategy. It will be reviewed annually and revised where necessary every two years. *GoSkills* will therefore establish arrangements for awarding organisations to provide feedback which will assist in the evaluation and review of this strategy. This feedback will also be used to evaluate assessment and verification practices, identify and promulgate good practice and inform any improvements to be made to this strategy.

Awarding organisations and their approved centres will be encouraged to submit comments and suggestions for improvements. This will be through formal dialogue between *GoSkills* and the awarding organisations.

3. External Quality Control of Assessment

The quality of the assessment process is the responsibility of the awarding organisations. *GoSkills* encourages flexibility and innovation of approach alongside robust systems to support quality control. However, awarding organisations must detail their approach to each of the following.

3.1 External Verification

External Verifiers (EVs) should verify assessments at approved centres. The normal frequency of external verification visits is two per year (a total of two days per year). However, the exact frequency should be determined by the risk assessment.

The verification should include inspection of the records of evidence and assessment. Awarding organisations should consider rotating their external verifiers in order to encourage standardisation, independence of assessment and the sharing of good practice.

3.2 Risk Assessment

In order to promote appropriate levels of monitoring of centres, GoSkills requires awarding organisations to adopt a risk management system. This approach is consistent with the approach taken by the regulatory authorities. Where there is a risk to the quality and consistency of assessment (eg as a result of commercial interests or as a result of relationships between candidates and assessors), awarding organisations should ensure that appropriate mechanisms are in place to ensure the reliability of the assessment.

Awarding organisations should show that a risk assessment has been carried out for each approved centre and that a strategy to minimise any identified risk has been implemented.

3.3 Awarding Organisation Forum

GoSkills will arrange regular awarding organisation meetings. The aim of the meetings will be to promote consistency in the assessment process. All awarding organisations offering NVQ qualifications as listed in paragraph 1 will be required to attend the awarding organisation forum at least once per year.

4. Evidence

4.1 Evidence from Workplace Performance

Wherever possible, evidence of occupational competence should be generated and collected through performance under workplace conditions. These conditions would be those typical of the candidate's normal place of work. The evidence collected under these conditions should also be as naturally occurring as possible.

It is accepted that not all employees have identical work place conditions and therefore there cannot be assessment conditions that are identical for all candidates. However, assessors must ensure that, as far as possible, the conditions for assessment should be those under which the candidate usually works. Assessment of an individual against the qualification standard must not put that individual under more, or less, pressure than found normally in the workplace. It could be the case that the individual could feel more pressure simply because he or she is being assessed. However, it is the skill of the assessor to reduce this pressure to a minimum.

It is important that the correct asset/component/equipment, in the correct environment, is used when assessing the learner.

The rail industry is a live production environment and assessment "on the job" is not suitable in all instances. The industry has provided guidance as to where an alternative is possible. To support the alternatives the following definitions have been used:

Replication

The asset, component or equipment is in its normal operating condition/status (as in the live environment) but any task is carried out purely for the purposes of the assessment.

An alternative is where the assessment is undertaken in the live environment but the asset, component or equipment has been modified to allow for the assessment (for example, for the replication of fault conditions).

Simulation

The asset component or equipment is reproduced in a protected environment, entirely separate from the live environment (for example, test rig or simulator).

4.2 Use of Simulation in Assessments

As stated above, it is intended that learners should be assessed under normal workplace conditions. However, there are situations where the actual workplace may not be appropriate, or where waiting for naturally occurring evidence is impractical. Therefore, the setting up or devising of assessment situations will be allowed, when it can be demonstrated that the following circumstances require it in areas related to:

- safety
- legislation
- regulation
- contingency
- cost
- significant interruption to candidate's or employer's business

It is recognised that there may be other assessment situations where simulation would be appropriate. In such instances, awarding organisations should give consideration to the reliability and validity of the likely evidence. In all cases, the centre should agree its plans for simulation with the EV to ensure that it is satisfactory.

5. Competence of Assessment Personnel

GoSkills acknowledges the very important role and responsibility that assessors and verifiers have in maintaining the quality and integrity of NVQ QCF Qualifications. Awarding organisations and other stakeholders therefore have to have confidence in the actions and decisions of assessors and verifiers.

5.1 Competence of External Verifiers

A primary responsibility of the external verifier is to assure quality of internal verification and assessments across the centres for which they are responsible and to ensure that centres are assessing in line with the requirements of the National Occupational Standards for Rail Engineering. External verifiers therefore need to have a thorough understanding of quality assurance and assessment practices as well as in-depth technical knowledge related to the qualifications that they are externally verifying.

It will be the responsibility of the awarding organisation to select and appoint external verifiers. Potential external verifiers should:

- hold (or be working towards) an appropriate qualification confirming their competence to externally verify qualifications.
- have an up to date and working understanding of the occupational area they are externally verifying together with a sound knowledge of the occupational standards.
- demonstrate their commitment to maintaining their industry knowledge by ongoing professional development eg through undertaking training courses and/or membership of industry organisations.

5.2 Competence of Internal Verifiers

A primary responsibility of the internal verifier is to assure the quality and consistency of assessments by the assessors for whom they are responsible. Internal verifiers therefore need to have a thorough understanding of quality assurance and assessment practices, as well as sufficient technical understanding related to the qualifications that they are internally verifying.

It will be the responsibility of the approved centre to select and appoint internal verifiers. Potential internal verifiers should:

- hold (or be working towards) an appropriate qualification confirming their competence to internally verify qualifications;
- hold (or be working towards) an appropriate qualification, as specified by the appropriate regulatory authority, confirming their competence to verify candidates;
- have the necessary and sufficient experience of the role for which they intend to verify assessments. This experience will have provided potential verifiers with detailed knowledge of the functions described by the occupational standards that comprise the qualification

5.3 Competence of Assessors

The primary responsibility of the assessor is to assess candidates to the required quality and consistency, against the national occupational standard. It is important that an assessor can recognise occupational competence as specified by the national standard. Assessors therefore need to have a thorough understanding of assessment and quality assurance practices, as well as have in depth technical understanding related to the qualifications for which they are assessing candidates.

It will be the responsibility of the approved centre to select and appoint assessors. Potential assessors should:

- hold (or be working towards) an appropriate qualification confirming their competence to assess candidates.
- have the necessary and sufficient experience of the role for which they intend to undertake assessments and actual experience of the functions described by the occupational standards that comprise the qualification

5.4 Continued Personal and Professional Development

It is important that verifiers and assessors continue their own development to help them in their respective NVQ roles. It is expected that each approved centre will provide development programmes for its assessors and internal verifiers to maintain their technical or occupational expertise. Awarding organisations should provide development programmes, workshops, seminars, etc, to promote good practice, quality and consistent assessments.

Evidence requirements for the units of assessment in the qualification are listed below at unit level. The list below indicates which units can be assessed through simulation.

Unit name	Unit number	Simulation allowed
Prepare to undertake duties in the rail industry	1	N
Undertake routine manual maintenance of the Permanent Way	2	N
Carry out corrective manual adjustments to Permanent Way assets	3	N
Reinstate the work site after Permanent Way engineering activities	4	N
Contribute to the security of the work environment in the rail industry	5	N
Carry out routine inspection of the Permanent Way infrastructure	6	N
Assist in preparing resources for Permanent Way activities	7	N
Undertake replacement of Permanent Way assets and components	8	N
Restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	9	N
Prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	10	Y
Deal with incidents and contingencies within the railway environment	11	Y
Lift and move Permanent Way materials, components and equipment	12	N
Monitor the performance and condition of Permanent Way assets	13	N
Restore plain line track geometry to operational condition	14	N
Restore rail switches and crossings to operational condition	15	N
Prepare work site for Permanent Way engineering activities	16	N
Implement and monitor safe working systems for Permanent Way activities as a Protection Master	17	N
Ensure that the rail track is fit for operational purposes following engineering activity	18	N

Employers in the sector have indicated specific assessment criteria where they have included specific assessment guidance to ensure that the units of assessment are being assessed consistently across all Awarding Organisations centres. This guidance is listed below and should be referred to when producing centre guidance.

1 – Prepare to undertake duties in the rail industry	
Assessment guidance specified by a sector or regulatory body (if appropriate)	None

2 – Undertake routine manual maintenance of the Permanent Way	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner will be expected to work within their organisation's procedures and also within the limits of their own responsibility. The assets or equipment to be maintained will be aspects of the track and its associated infrastructure. It could include the maintenance requirements for plain line, switches, drains and vegetation. The types of maintenance activities involved will follow set procedures and must take account of track access limitations. The activities include, as appropriate: • tightening bolts, nuts and screws to specific requirements • filling and replenishing lubricators • cleaning out ditches, drains and catch pits • fixing, fitting or refitting pads, insulators, rail fastenings, fishplates and bolts • applying lubricants – point oiling/fishplate greasing • cutting back/clearing vegetation • removing and disposing of waste

2 – Undertake routine manual maintenance of the Permanent Way	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA). **Assessment criterion 2.5** the methods, techniques and procedures include as appropriate: • method statements • hot weather restriction • extreme weather plans • track work instructions • task risk control sheets.

3 – Carry out corrective manual adjustments to Permanent Way assets	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The type of asset or component to be worked on will be that associated with plain line switches and crossings involving a single stage process. The type and complexity of adjustments to be made, including as appropriate: • rail adjustment and regulation • adjustment switch setting • sleeper spacing and squaring • ballast re-profiling and boxing-in • operational support for stressing rails • operational support for straightening of rail ends • operational support for point testing • conductor rail (pots, anchors). When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

4 – Reinstate the work site after Permanent Way engineering activities	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

5 – Contribute to the security of the work environment in the rail industry	
Assessment guidance specified by a sector or regulatory body (if appropriate)	None

6 – Carry out routine inspection of the Permanent Way infrastructure	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

7 – Assist in preparing resources for Permanent Way assets and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

8 – Undertake replacement of Permanent Way assets and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The type of asset to be worked on will be either plain line or switches and crossings equipment and associated fastenings. The type of components to be replaced in respect of either plain line or switches and crossings, including as appropriate: • ballast (wet beds) • rails • sleeper/bearers • drains • fastenings • insulations • chairs and base plates • fish-plated joints • welded joints (preparatory work) • lubricators. The assembly methods and techniques to be used will either be manual and mechanical methods and may include the use of small plant and equipment. The complexity of the assembly operations will be influenced by: • track configuration • using variable/diverse sources of information • track stability • environmental procedures.

8 – Undertake replacement of Permanent Way assets and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

9 – Restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner will be expected to work to within their organisation's approved procedures and specifications and will be responsible for the quality of their work within the limits of their responsibility. The type of asset to be repaired will be on plain line. The learner will be able to deal with basic manual track repairs as defined by the organisations standards and procedures. The complexity of repairs to be carried out will be influenced by geometrical tolerances and clearances. This will involve measuring using tapes and gauges. The repairs may include, as appropriate: • manual lifting and packing • restoring gauge • restoring alignment • fitting packings. The quality standards and accuracy to be achieved will be as approved by the learners organisation and the manufacturer and must include restoring components to within operational tolerances.

9 – Restore track geometry faults to operational condition by the manual repair of Permanent Way assets and components	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

10 – Prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner will be required to carry out equipment safety and preparation checks which will be concerned with establishing: • certification/calibration validity • wear and defects • suitability for task • environmental acceptability • quarantine requirements • fuel and lubricant levels • defect reporting. The equipment may be manual, mechanical, hydraulic or electrical. The types of equipment to be prepared may include, as appropriate: • small powered plant (eg rail cutting, drilling and adjusting devices) • hand-held permanent way tools • measuring equipment (gauges) • application devices (eg brushes, sprays) • lifting tackle • rail tensioning equipment • temporary lighting • rail mounted plant (eg rail grinder, trolley, iron man). For the assessment of 2.3 the equipment includes as appropriate: • hand tools • small plant • measuring equipment • application devices • lifting tackle.

10 – Prepare small plant, measuring equipment and tools for Permanent Way renewal or maintenance	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

11 – Deal with incidents and contingencies within the railway environment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The types of contingencies will be those affecting: • safety of the line • safety of life • safety of the environment. The actions to be taken will follow approved procedures, including as appropriate, those for: • broken rails • track distortion • bridge strikes • obstructions • security alert • fencing defects • unstable embankments/cuttings • trespass • contacting of emergency services • implementing flood procedures • oil spillage • fire • leaf-fall procedures • fumes • adverse weather arrangements (heat duties, manual de-icing) • implement speed restrictions.

11 – Deal with incidents and contingencies within the railway environment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

12 – Lift and move Permanent Way materials, components and equipment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The moving methods and techniques to be used are manual or mechanical with the aid of lifting devices and considerations must be given to the nature of the load and its final destination. In order to lift, move and handle loads and equipment the learner must understand the level and extent of their authority and responsibility. The type of moving, lifting and handling equipment to be used must be appropriate for the load to be moved. The type and characteristics of the load to be moved are those associated with loads of an unwieldy nature, with an uneven weight distribution, and of irregular shape. Some will be robust and some will be fragile, including as appropriate: • rails • switches and crossings • bearers • sleepers • ballast • associated fastenings. The final location of the load will be in the approved safe location. This location must ensure that there is little or no chance of damage to the load and that the load does not cause a hazard to people and train/vehicle movements.

12 – Lift and move Permanent Way materials, components and equipment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

12 – Lift and move Permanent Way materials, components and equipment	
Assessment guidance specified by a sector or regulatory body (if appropriate)	**Assessment criterion 2.2** The documentation includes as appropriate: • licence and/or permit • lifting plan. **Assessment criterion 2.5** The equipment includes as appropriate: • chains • straps • beams • sleeper lifting devices. **Assessment criterion 2.7** The assessments methods/techniques include as appropriate: • observational means • load assessment devices • weight charts • tolerance devices • gauging devices. **Assessment criterion 2.8** The methods include as appropriate: • visual inspection • clearances and tolerances • load bearing capacities • angle of repose.

13 – Monitor the performance and condition of Permanent Way assets	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The types of assets to be monitored may include as appropriate: • plain line (eg side-wear, corrosion) • switches and crossings • track substructure • off-track structures. The manual measuring methods may include the use of gauges and other relevant equipment for: • measurement • static and dynamic tests • friction monitoring. The monitoring conditions or operating environment may include as appropriate: • open to traffic • closed to traffic • restricted track access • day time • night time. When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations

13 – Monitor the performance and condition of Permanent Way assets	
	• Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

14 – Restore plain line track geometry to operational condition	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner must be able to mark out and carry out repairs on all types of track including those with steel, concrete and wood bearers. Dimensional clearances must be taken into account at all times. The nature of the repairs using manual equipment may include as appropriate: • top • alignment • cross level • track gauge. The type of assets to be repaired will be: • plain line. The quality standards and accuracy to be achieved will be approved by the learner's organisation and the manufacturer and must include restoring components to within operational tolerances. When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations

14 – Restore plain line track geometry to operational condition	
	• Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

15 – Restore rail switches and crossings to operational condition	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner must be able to mark out and carry out repairs on all types of track including those with steel, concrete and wood bearers. Dimensional clearances must be taken into account at all times. The nature of the repairs using manual equipment may include as appropriate: • top • alignment • cross level • track gauge. The type of assets to be repaired will be: • switches and crossings. The quality standards and accuracy to be achieved will be approved by the learner's organisation and the manufacturer and must include restoring components to within operational tolerances. When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations

15 – Restore rail switches and crossings to operational condition	
	• Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

16 – Prepare work site for Permanent Way engineering activities	
Assessment guidance specified by a sector or regulatory body (if appropriate)	When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA). **Assessment criterion 2.2** The methods and procedures include as appropriate: • your organisation's procedures • local policies and procedures • site security and safety • surface preparation • site access and egress • safety signs • water provision • power and lighting • toilets and hygiene facilities • storage areas

16 – Prepare work site for Permanent Way engineering activities	
	• accommodation • identification and protection arrangements for all services including those that are buried • notifying neighbouring residents and businesses.

17 – Implement and monitor safe working systems for Permanent Way activities as a Protection Master	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The learner is protecting other people from the effects of the engineering work and from the movement of rail vehicles. The type and complexity of the environment will be that associated with being on or about the permanent way and must take account of, as appropriate: • lines open/closed to operational traffic • maintenance or renewals activities • requirements for depots, sidings, and the mainline including bi-directional operations • day/night working • noise • weather. The learner will know and understand the level and extent of their responsibility, including both their own safety and that of work colleagues. Where necessary, authorisation must be obtained before work is carried out and the learner will be expected to work within their organisation's procedures and specifications When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations

17 – Implement and monitor safe working systems for Permanent Way activities as a Protection Master	
	• Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

18 – Ensure that the rail track is fit for operational purposes following engineering activity	
Assessment guidance specified by a sector or regulatory body (if appropriate)	The scale of the work could range from minor maintenance to major renewal/repair activities. This may include as appropriate: • raising/removing speed restrictions • temporary and permanent situations • major geometrical repair • removal of environmental hazards • maintenance works or inspections • track infrastructure • emergency inspections. When assessing the unit the following points should be covered as appropriate: **Assessment criterion 2.1** • The organisation's safety management system • Relevant sections of the Health and Safety at Work Act • Control of Substances Hazardous to Health (COSHH) • Track access restrictions • Track work instructions • Extreme weather plans • Track work instructions • Task risk control sheets • Task risk control sheets • Current rule book • Regulations for working under Overhead Line Equipment (OHLE) and in vicinity of Direct Current (DC) lines • Manual handling regulations • Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) • Safety sign regulations • Personal Protective Equipment (PPE) • Health and Safety at Work Act (HASWA).

18 – Ensure that the rail track is fit for operational purposes following engineering activity	
	Assessment criterion 2.3 The situations include as appropriate: • raising/removing speed restrictions • temporary and permanent situations • major geometrical repair • the removal of environmental hazards.

Annexe E: Additional requirement for qualifications that use the term 'NVQ' in a QCF qualification title

For information, please go to www.ofqual.gov.uk to access the document *'Operating rules for using the term 'NVQ' in a QCF qualification title'*.

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