QUALIFICATION HANDBOOK

SVQ in Construction Plant or Machinery Maintenance at SCQF Level 5

Qualification reference number: **GN60 45**

Contents Page

Appendices

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1. Introduction

1.1 This qualification has been developed to seek to ensure that those that carry out plant and machinery maintenance in a construction setting meet minimum requirements of technical competence and health and safety.

1.2 These requirements have been specified in the National Occupational Standards (NOS) developed by the Sector Skills Council (SSC) Construction Skills in liaison with employers and industry/ sector representatives. This qualification is based upon those NOS and incorporates the Qualification Structure approved by SQA Accreditation.

1.3 Successful completion of this qualification will allow candidates to show they have sufficient knowledge, understanding and skills to demonstrate competence in relation to maintaining construction plant and machinery

1.4 This Handbook provides the information required to assist approved centres in delivering the qualification and preparing candidates for assessment. This includes some template forms that may be used / adapted by centres. Note that you are able to create your own, or use existing forms for this purpose. Alternatively, QFI makes its E-Portfolio system available to its approved centres.

This document should be read in conjunction with QFI's policies and the Centre Handbook.

2. Qualification objective(s)

2.1 The qualification is suitable for apprentices / those already in employment that wish to develop their knowledge and skills for plant or machinery maintenance in the construction sector.

2.2 In order to do this, the qualification covers technical and health and safety standards, and supports roles relating to plant or machinery maintenance.

3. Progression

3.1 This qualification is primarily designed to allow candidates to progress to employment in roles relating to plant or machinery maintenance in the construction sector. These roles may be in addition to other construction related roles. Successful completion of this qualification may therefore lead to additional employment opportunities relating to plant and machinery maintenance or supervision of such activities

3.2 Candidates achieving this qualification may also wish to progress to higher level qualifications those aimed at supervisory/ management roles e.g.

- SVQ in Plant or Machinery Maintenance (Construction) at SCQF Level 6

- Level 4 NVQ Diploma in Construction Site Supervision (Construction)
- Level 4 NVQ in Construction Site Management

3.3 Candidates may also choose to undertake qualifications in more generic subjects such as a health and safety in the workplace, e.g.

- Award in Health and Safety in a Construction Environment at SCQF level 4

4. Entry requirements

4.1 Candidates must be at least 18 years of age to be able to undertake this qualification.

4.2 Those that will be driving construction vehicles as part of their chosen pathway/ additional units must hold a full driving licence.

4.3 There are no other specific entry requirements, though the National Careers Service does recommend physical fitness.

4.4 Candidates taking this qualification must be made fully aware of what this entails. Centres must be satisfied that candidates have the experience and skills and will have sufficient assessment opportunities within their job role to provide evidence of competence for this qualification. Where this may not be the immediate case, candidates should check with their employer whether they are able to go out with departmental or immediate job role boundaries to gain the necessary assessment opportunities.

4.5 A sample induction checklist is included at Appendix 1.

5. Qualification structure

5.1 The structure for this qualification is set by the Sector Skills Council Construction Skills and approved by SQA Accreditation.

5.2 To achieve this qualification candidates must achieve:

- 9 mandatory units
- 2 optional units

Mandatory Units

All candidates must complete the following units:

SSC code	Title of mandatory unit (must complete all nine units)	SCQF level	SCQF credits
COSVR641v2	Conform to general workplace health, safety and welfare	6	12
COSVR642v1	Conform to productive work practices	5	5
COSVR643v1	Move, handle or store resources	5	5

COSVR659v2	Operate plant or machinery for non-operational activities	5	10
COSVR660v2	Service plant or machinery	5	14
COSVR661v2	Remove and replace plant or machinery components to restore operational use	5	35
COSVR662v2	Dismantle and assemble plant or machinery components to replace worn, damaged or faulty parts	5	35
COSVR663v2	Inspect plant or machinery for operational serviceability	5	26
COSVR664v2	Diagnose faults in plant or machinery systems or components	6	24

Optional Units

All candidates must complete two of the following units:

SSC code	Title of optional unit (must complete two units)	SCQF level	SCQF credits
COSVR665v2	Install, repair or modify construction resources by heating, welding, brazing, soldering and thermal cutting	5	30
COSVR666v2	Produce one-off components to restore or maintain the operational functions of plant or machinery	5	19
COSVR667v1	Install plant or machinery for operational activities	6	36
COSVR668v3	Carry out specific tests on plant or machinery to determine operational serviceability	6	24
COSVR669v2	Configure plant or machinery for specific operational activities	5	21
COSVR672v2	Hand over plant or machinery to the control of others	6	19

All units are included in Appendix 2 of to this document.

6. Assessment

6.1 Roles and responsibilities

There are a number of people involved in the assessment process and the role of each needs to be clearly understood by each.

- Candidates – must familiarise themselves with the content of the units that they are taking and how these are to be assessed. They should co-operate with the assessment process, looking for opportunities to evidence the elements and gathering evidence where this arises. Candidates must take on board feedback from their assessor and work with their assessor to develop realistic plans for assessment. An Assessment Plan and Review template is included at Appendix 3.

- Assessors - must familiarise themselves with the content of the units that they are assessing and how these are to be assessed. They must assist candidates in identifying assessment opportunities, gathering, and presenting evidence. Assessors must assess all elements and record these assessments. Templates for recording elements, and for unit achievement, are at Appendix 4. Assessors must feedback and work with candidates to identify any gaps and develop realistic plans for assessment. They must also work with the Internal Verifier and External Verifier to ensure a common standard of assessment.

- Internal Verifiers – sometimes known as Internal Quality Assurers (IQAs), their role is to ensure that the assessment process is appropriate, consistent, fair and transparent; that assessors receive on-going support and that they are assessing to a common standard; and that awards are valid, reliable and consistent. IVs must develop a strategy that includes standardisation activities such as reviewing samples of evidence from each assessor, and countersigning the decisions of unqualified assessors.

- External Verifiers - sometimes known as External Quality Assurers (EQAs), are appointed by QFI and are independent of the centre. Their role is to check that internal processes are in place to ensure robust, consistent assessment. This includes sampling assessment evidence.

6.2 SCQF level 5 descriptors

The following are descriptions of what a candidate should be able to do or demonstrate at SCQF level 5. These are for guidance only – it is not expected that every point will be covered.

Knowledge and understanding

Demonstrate and/or work with: Basic knowledge. A range of simple facts, ideas and theories in, about, and associated with, a subject/discipline/sector. Knowledge and understanding of basic processes, materials and terminology.

Applied knowledge, skills and understanding

Relate knowledge and ideas to personal and/or practical contexts. Use a range of skills associated with the subject/discipline/sector to complete some routine and non-routine tasks. Plan and organise both familiar and unfamiliar tasks. Select appropriate tools and materials and use them safely and effectively. Adjust tools where necessary following safe practices.

Generic cognitive skills

Use a process to deal with a problem, situation or issue that is straightforward. Operate in a familiar context, but where there is a need to take account of or use additional information of different kinds, some of which will be theoretical or hypothetical.

Communication, ICT and numeracy skills

Use a range of routine skills, for example: Produce and respond to detailed written and oral communication in familiar contexts. Use standard ICT applications to process, obtain and combine information. Use a range of numerical and graphical data in routine contexts that may have some non-routine elements.

Autonomy, accountability and working with others

Work alone or with others on tasks with minimum directive supervision. Agree goals and responsibilities for self and/or work team. Take lead responsibility for some tasks. Show an awareness of own and/or others' roles, responsibilities and requirements in carrying out work and contribute to the evaluation and improvement of practices and processes.

6.3 The assessment process

Assessment for this qualification, and for individual units that comprise the qualification, must take place in accordance with '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

This document translates the requirements of the assessment strategy and gives guidance to ensure that centres meet these.

Centres delivering the qualification must ensure that assessors and Internal Verifiers are aware of the assessment strategy and how to access this. External Verifiers may check this requirement during monitoring visits to centres.

Assessment involves the following key stages: planning; producing evidence; assessing evidence; recording. Each of these is considered in more detail below.

6.3.1. Planning

The assessor must create an Assessment Plan with each candidate that he/ she will be assessing. The Assessment Plan will need to be reviewed as the candidate progresses through the units. A template for assessment planning and review is at Appendix 3 of this document.

A wide range of assessment methods exist that can be used to assess knowledge and skills. Methods of assessment that are commonly used for assessing competence based qualifications such as N/SVQs include the following:

- Product evidence – this relates to the outcome of the candidate's work, and the actual product that is generated as a result of their work.
- Direct observation – where an assessor (or credible witness) will directly observe the candidate undertaking certain tasks/ creating products that occur as part of their role. Observations must be referenced to the elements covered
- Question/ answer – these will often supplement the methods above, for example the assessor may ask the candidate a number of questions whilst they are undertaking a task. Questioning is a useful way to establish knowledge and to generate evidence of this
- Witness testimony – credible witnesses may be identified who can for example testify that the candidate can successfully undertake certain tasks

- Personal statement – declaration made by the candidate that should be referenced to elements

Centres should ensure that their Assessors use the methods above to assess candidates for this qualification.

Template assessment documents including an Assessor Report can be found at Appendix 3.

6.3.2 Producing evidence

The methods of assessment must generate evidence to demonstrate the candidates' competence. Evidence produced in the workplace is central to Construction Skills Consolidated Assessment Strategy. Workplace evidence is vital to ensuring that the candidate is competent to industry standards and a suitable way of recording this must be used.

The following indicates the type of evidence generated by the methods on the section above:

- Product evidence –Photographic or video evidence is often used to record this, or it may also be recorded via the method below. Labelled photographs and/or videos that clearly show the candidate are sources of evidence for this purpose.
- Direct observation –observations must be recorded via an Assessor or other report (e.g. witness statement)
- Question/ answer –both the questions and the candidate's responses to these must be recorded either in writing or via some audio or visual device (e.g. part of a video recording).
- Witness testimony – this may be written, audio or visual recordings
- Personal statement – the declaration made by the candidate must be recorded

All of the above must be referenced to the evidence that they cover. Templates that may be used for recording evidence are at Appendix 3.

Feedback should be given to the candidate on an on-going basis and where there are any gaps or shortfalls in evidence then these should be incorporated into the Assessment Plan.

Assessment must meet the requirements of the performance criteria, knowledge and understanding documented for each unit of assessment. Methods of assessment must ensure coverage of all elements, scope and range, and generate sufficient evidence to demonstrate competence. A holistic approach towards the collection of evidence is encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence.

Direct evidence produced through normal performance in the workplace is the primary source for meeting these requirements. This includes naturally occurring evidence, direct observation of activities and witness testimony as relevant, all of which must be recorded. Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:

- questioning the candidate
- recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- performance evidence/ completed work

All of which must be recorded and made available for verification purposes.
Workplace evidence of skills cannot be simulated for this qualification.

6.3.3 Assessing evidence

Evidence must be assessed against the units/ elements to establish whether the candidate is competent with regards to their performance and knowledge. In order to achieve the qualification candidates must achieve a 'pass'. The evidence must show that the candidate consistently (i.e. on more than one occasion) meets all of the elements across the scope/range of each unit.

If there is insufficient evidence to make this judgement, then plans must be made as to how the candidate can produce further evidence in order to demonstrate competence.

Assessors must check that the evidence produced is sufficient in volume, relevant and current. They must also be confident that the evidence has been generated by the candidate. Assessors and candidates normally sign documentation to declare that the evidence produced is that of the candidate and no other.

6.3.4 Recording evidence

Evidence (or reference to where certain evidence is located) is normally kept in a portfolio. This may be paper-based or electronic. All evidence contained within the portfolio must be clearly referenced to the units and elements. Candidates' progress can therefore be tracked. Note that certain pieces of evidence can be recorded across more than a single element. Tracking is important to show where this is that case.

It is helpful to give each piece of evidence a number so that this can be mapped across elements. See the template forms at Appendix 4. Assessment decisions made against the evidence must also be recorded so that an IV or an EV can see these. All evidence must be kept for internal and external verification.

7. Assessors

7.1 The occupational competence of assessors is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

7.2 The roles and responsibilities of assessors is outlined in the section above.
Assessors must competent to perform their role and either hold the qualifications needed to carry out assessment – or achieve within 18 months of commencing their role:

- D32 or D33
- A1

- Level 3 Award in Assessing Competence in the Work Environment
- Level 3 Award in Assessing Vocationally Related Achievement
- Level 3 Certificate in Assessing Vocational Achievement
- an appropriate Assessor qualification as identified by SQA Accreditation

Assessors must also:

- have a sound, in-depth knowledge of, and uphold the integrity of, the relevant NOS and Assessment Strategy to enable them to carry out assessment to the standards specified
- have the occupational expertise (craft/ trade specific) before commencing their role so they have up to date experience, knowledge and understanding of the particular aspects of work they are assessing
- only assess in their acknowledged area of occupational competence
- maintain the currency of this for the duration of their role
- know QFI's requirements for recording assessment decisions and maintaining assessment records

7.3 Holders of A1 and D32/33 must assess to the current National Occupational Standards (NOS) for Learning and Development.

7.4 Assessors must be registered with QFI. The Centre Handbook provides details.

7.5 The assessment decisions of unqualified assessors must be countersigned by the IV.

8. Internal verification

8.1 Centres' internal assessment processes and practices must be effective and support the integrity and consistency of the qualification. This is achieved through the internal quality assurance that is undertaken by the approved centre, and the external quality assurance that is undertaken by QFI. Centres must operate explicit, written internal quality assurance procedures to ensure:

- the accuracy and consistency of assessment decisions between assessors operating at the centre
- that assessors are consistent in their interpretation and application of the qualifications or unit(s) learning outcomes

8.2 Centres must appoint IVs who will be responsible for:

- regular sampling evidence of assessment decisions made by all assessors across all aspects of assessment for the qualification. Sampling must include direct observation of assessment practice
- maintaining up-to-date records of IV and sampling activity (what was evidence was sampled or assessors / IV observed where there is more than one) and ensuring that these are available for external quality assurance
- establishing procedures to ensure that all assessors interpret the learning outcomes in the same way
- monitoring and supporting the work of assessors
- facilitating appropriate staff development and training for assessors
- providing feedback to the EV on the effectiveness of assessment
- ensuring that any corrective action required by QFI is carried out within agreed timescales.

8.3 Centres must ensure that the decisions of unqualified IVs are checked, authenticated and countersigned by an IV who is appropriately qualified and occupationally expert. QFI will monitor a centre's compliance with these requirements through monitoring visits and certification claims.

8.4 The IV is also responsible and accountable for arranging the checking and countersigning process. IVs may verify only evidence that they did not assess themselves. Further guidance on internal quality assurance/verification is provided in the Centre Handbook. Appendix 5 of this document indicates suggested content for an IV strategy, and a template for sampling assessment evidence.

9. Internal verifiers

9.1 The occupational competence of IVs is defined in '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

9.2 The roles and responsibilities of IVs is outlined above. IVs must competent to perform their role and either hold the qualifications needed to carry out internal verification – or achieve within 18 months of commencing their role:

- D34
- V1
- Level 4 Award in the Internal Quality Assurance of the Assessment Process and Practice
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Process and Practice
- an appropriate Internal Verifier qualification as identified by SQA Accreditation

9.3 It is strongly recommended that IVs also hold assessor qualifications (see section above).

9.4 Holders of V1/D34 must quality assure to the current National Occupational Standards (NOS) for Learning and Development.

9.5 IVs must be registered with QFI. The Centre Handbook provides details

10. External verification

10.1 External verification of this qualification ensures that the requirements are met for the '*Construction Skills Consolidated Assessment Strategy for Construction and the Built Environment: Craft, Supervisory, Technical, Managerial and Professional National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs)'* (published December 2016, approved by ACG February 2017).

10.2 Centre visits will normally take place on an annual basis, though these could be more frequent if deemed necessary as a result of QFI's risk assessments. The Centre Handbook provides further details on external verification including to prepare for centre visits.

QFI's appointed External Verifiers meet the requirements of the assessment strategy.

11. Certification

11.1 Note that there is a lapsing period of two years for this qualification. This means that when the qualification expires, is withdrawn or replaced by a revised version, candidates registered have two years from the expiry date in which to complete the qualification. This will allow sufficient time for candidates to compete and allow for currency of evidence.

12. Equality and diversity

12.1 This qualification must be assessed in English.

12.2 Assessment must be inclusive and where appropriate reasonable adjustments made to ensure equality of access in line with QFI's Equality and Diversity Policy. Full details are included in the QFI Centre Handbook**.**

12.3 Special consideration is not normally given for competence based qualifications as it is necessary for candidates to demonstrate that they have the necessary skills and knowledge to achieve the qualification and operate safely in the workplace.

12.4 Equality data will be collected at the point of registration. This is for monitoring purposes only and will include age, gender, ethnicity, and disability.

13. Fees

13.1 The current fees for this qualification, and for individual units, are included in the QFI Fees and Invoicing document. This document also details what is/ is not included in fees.

13.2 Fees may be broken down to a reasonable level upon request to QFI.

APPENDIX 1 - CANDIDATE TEMPLATE DOCUMENTS

Sample Form
Induction checklist

This document indicates what may be covered as part of a candidate's induction. This list is not exhaustive.

	Tick
Qualification information: • Units • Structure • Summary of assessment • Awarding body	
Roles and responsibilities: • Candidate • Assessor • Internal Verifier • External Verifier	
Training and assessment process: • Planning • Collection of evidence (including methods) • Review of evidence • Feedback on evidence • Verification of evidence • Certification	
Policies: • Complaints • Appeals • Malpractice • Data protection • Health and safety • Equality (including reasonable adjustments/ additional support)	
Forms: • Enrolment • Other	
I confirmation that I have received this induction and the associated documents: Candidate name: …….. Candidate signature: ……..… Date: ……	

APPENDIX 2

UNITS

Mandatory units

COSVR641 **Conform to general workplace health, safety and welfare**
Overview This standard, in the context of your occupation and work environment, is about awareness of relevant current statutory requirements and official guidance; responsibilities, to self and others, relating to workplace health, safety and welfare; personal behaviour and security in the workplace
Performance criteria You must be able to: P1 comply with all workplace health, safety and welfare legislation requirements at all times P2 recognise hazards, associated with the workplace, that have not been previously controlled, and report them in accordance with organisational procedures P3 accept responsibility for, and comply with, organisational policies and procedures in order to contribute to health, safety and welfare P4 comply with and support all organisational security arrangements and approved procedures
Knowledge and understanding You need to know and understand: Performance Criteria 1 Workplace health, safety and welfare K1 what and why health, safety and welfare legislation is relevant to the occupational area K2 what health, safety and welfare legislation notices and warning signs are relevant to the occupational area and associated equipment K3 how to comply with control measures identified by risk assessments and safe systems of work K4 why, when and how health and safety control equipment should be used Performance Criteria 2 Recognition of hazards K5 the hazards associated with the work environment K6 how changing circumstances can create hazards K7 the method of reporting hazards in the workplace Performance Criteria 3 Organisational policies and procedures K8 what the organisational policies and procedures are for health, safety and welfare K9 how to take active responsibility for health, safety and welfare K10 how individual actions and behaviour may affect others K11 what the types of fire extinguishers are and how and when they are used Performance Criteria 4 Security arrangements K12 how security arrangements are implemented in the workplace
Additional information **Scope/ range related to performance criteria**

Performance Criteria 1

1 avoidance of risk by complying with given information relating to the following
- 1.1 induction
- 1.2 briefings
- 1.3 application of prior training (safe use of health and safety control equipment)

2 adherence to statutory requirements and/or safety notices and warning signs displayed in the workplace or on equipment

Performance Criteria 2

3 hazards created by changing circumstances in the workplace are reported

Performance Criteria 3

4 show personal behaviour which demonstrates active responsibility for general workplace health, safety and welfare

5 comply with organisational policies and procedures relating to the following
- 5.1 consideration of others
- 5.2 interpretation of given instructions to maintain safe systems of work
- 5.3 contributing to discussions (offer and provide feedback)
- 5.4 maintaining quality working practices
- 5.5 contributing to the maintenance of workplace welfare facilities
- 5.6 storage and use of equipment provided to keep people safe
- 5.7 disposal of waste and/or consumable items

Performance Criteria 4

6 comply with organisational procedures for maintaining the security of the workplace
- 6.1 during the working day
- 6.2 on completion of the day's work
- 6.3 from unauthorised personnel (other operatives and/or the general public)
- 6.4 from theft

Additional information

Scope/ range related to knowledge and understanding

Fire extinguishers

1 water, CO2, foam, powder, vaporising liquid and their uses

Hazards

2 associated with the occupational area
- 2.1 resources, workplace, environment, substances, asbestos, equipment, obstructions, storage, services and work activities
- 2.2 current common safety risks
- 2.3 current common health risks

Health and safety control equipment

3 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 3.1 collective protective measures
- 3.2 local exhaust ventilation (LEV)
- 3.3 personal protective equipment (PPE)
- 3.4 respiratory protective equipment (RPE)

Notices and warning signs

4 statutory requirements and/or official guidance for the occupation and the work area

Policies and procedures

5 in accordance with organisational requirements
- 5.1 dealing with accidents and emergencies associated with the type of work being undertaken and the work environment

5.2 methods of receiving or sourcing information
5.3 reporting
5.4 stopping work
5.5 evacuation
5.6 fire risks and safe exit procedures
5.7 consultation and feedback

Reporting

6 organisational recording procedures and statutory requirements

Responsibility

7 behaviour that affects health, safety and welfare
7.1 recognising when to stop work in the face of serious and imminent danger
7.2 contributing to discussions and providing feedback
7.3 reporting changed circumstances and incidents in the workplace
7.4 adhering to the environmental requirements of the workplace

Security

8 organisational procedures relating to the workplace, general public, site personnel and resources

Developed by: ConstructionSkills Version number:2
Date approved: April 2014, Indicative review date: April 2019
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: VR641
Relevant occupations: Construction and Building Trades nec
Suite: Wood Occupations (Construction); Accessing Operations and Rigging (Construction); Associated Industrial Services Occupations (Construction); Building Maintenance Multi trade Repair and Refurbishment Operations; Carving Occupations (Construction); Chimney Engineering (Construction); Cladding Occupations (Construction); Construction Operations and Civil Engineering Services; Construction Diving Operations; Construction Plant or Machinery Maintenance (Construction); Controlling Lifting Operations (Construction); Decorative Finishing and Industrial Painting Occupations (Construction); Demolition; Erection of Precast Concrete (Construction); Fitted Interiors (Construction); Floorcovering Occupations (Construction); Formwork (Construction); Heritage Skills (Construction); Innovative/Modern Methods of Construction; Insulation and Building Treatments (Construction); Interior Systems (Construction); Mastic Asphalting (Construction); Piling Operations (Construction); Plant Installations (Construction); Plant Operations (Construction); Plastering (Construction); Post Tensioning Operations (Construction), Refractory Installations (Construction); Removal of Hazardous and Non-hazardous Waste (Construction); Roofing Occupations (Construction); Site Logistics (Construction); Specialist Concrete Occupations (Construction); Specialist Installation Occupations (Construction); Steelfixing (Construction); Stonemasonry (Construction); Sub-structure Work Occupations (Construction); Super-structure Work Occupations (Construction); Temporary Traffic Management (Construction); Thermal Insulation (Construction); Trowel Occupations (Construction); Tunnelling Operations (Construction); Wall and Floor Tiling (Construction); Waterproof Membrane Roofing systems (Construction); Wood Machining (Construction/Sawmilling Extrusion/Furniture); Wood Preserving – Industrial Pre-treatment (Construction)
Key words: Hazards; Safety; Welfare; Regulations; Security; Signs; Control Equipment; PPE; RPE; LEV; Legislation; Risk assessment

COSVR642

Conform to productive work practices

Overview

This standard, in the context of your occupation and work environment, is about
1 productive communication with line management, colleagues and customers

2 interpreting information
3 planning and carrying out productive work practices
4 working with others or as an individual

Performance criteria
You must be able to:

P1 communicate with others
P2 follow organisational procedures to plan the sequence of work in order to conform to productive work practices and maintain records
P3 maintain good work relationships

Knowledge and understanding
You need to know and understand:

Performance Criteria 1
Communicate with others
K1 how to use methods of communication with other workplace personnel and customers
K2 how to communicate to ensure work is productive
Performance Criteria 2
Follow procedures
K3 how organisational procedures are applied to plan and carry out productive work
K4 how to maintain documentation in accordance with organisational procedures
K5 how to contribute to zero/low carbon outcomes in the built environment
Performance Criteria 3
Work relationships
K6 how to maintain good work relationships
K7 how to apply the principles of equality and diversity

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 communicate with line management, colleagues or customers to ensure work is carried out productively
2 respect the needs of others when communicating
Performance Criteria 2
3 interpret procedures and use resources to plan the sequence of work, so that it is completed productively
4 complete documentation as required by the organisation
Performance Criteria 3
5 work productively with line management, colleagues, customers or other people
6 apply the principles of equality and diversity

Additional information
Scope/ range related to knowledge and understanding
Communication
1 listening, written, oral visual and electronic
Documentation
2 job cards, worksheets, material/resources lists and time sheets
Procedures
3 use of resources for own and other's work requirements
4 allocation of appropriate work to employees

5 organisation of work sequence
6 reduction of carbon emissions
Relationships
7 individuals, workplace groups (customer and operative, operative and line management, own occupation and allied occupations)
8 show consideration for the needs of individuals by applying the principles of equality and diversity

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Date approved: Feb 2011, Indicative review date: Feb 2016
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: VR642
Relevant occupations: Construction and Building Trades nec
Suite: Wood Occupations (Construction); Accessing Operations and Rigging (Construction); Applied Waterproof Membranes (Construction); Associated Industrial Services Occupations (Construction); Building Maintenance Multi trade Repair and Refurbishment Operations; Chimney Engineering (Construction); Cladding Occupations (Construction); Construction Diving Operations (Construction); Construction Operations and Civil Engineering Services (Construction); Decorative Finishing and Industrial Painting Occupations (Construction); Demolition; Erection of Precast Concrete (Construction); Fitted Interiors (Construction); Floorcovering Occupations (Construction); Formwork (Construction); Innovative/Modern Methods of Construction; Insulation and Building Treatments (Construction); Interior Systems (Construction); Mastic Asphalting (Construction); Piling Operations (Construction); Plant Operations (Construction); Plastering (Construction); Post Tensioning Operations (Construction); Refractory Installations (Construction); Removal of Hazardous and Non-hazardous Waste (Construction); Roofing Occupations (Construction); Site Logistics (Construction); Specialist Concrete Occupations (Construction); Specialist Installation Occupations (Construction); Steelfixing (Construction); Stonemasonry (Construction); Sub-structure Work Occupations ; Super-structure Work Occupations (Construction); Temporary Traffic Management (Construction); Thermal Insulation (Construction); Trowel Occupations (Construction); Tunnelling Operations (Construction); Wall and Floor Tiling (Construction); Wood Machining (Construction/Sawmilling Extrusion/Furniture); Wood Preserving – Industrial Pre-treatment (Construction); Fencing; Treework
Key words: Communication; Colleagues; Customer; Procedures; Records; Relationships; Zero/low carbons

COSVR643

Move, handle or store resources

Overview

This standard, in the context of your occupation and work environment, is about
1 interpreting information
2 adopting safe and healthy working practices
3 selecting aids or equipment to move, handle or store occupational resources
4 moving, handling and storing occupational resources to maintain useful condition

Performance criteria

You must be able to:
P1 comply with the given information to move, handle or store resources
P2 comply with the given relevant legislation and official guidance to move, handle or store occupational resources and maintain safe work practices
P3 select the required quantity and quality of resources for the method of moving, handling or storing occupational resources
P4 prevent damage to the occupational resources and surrounding environment
P5 comply with the given occupational resource information to carry out the work efficiently to the required guidance

P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding
You need to know and understand:

Performance Criteria 1
Interpretation of information
K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed
K4 how to obtain information to use and store lifting aids and equipment
Performance Criteria 2
Safe work practices
K5 the level of understanding operatives must have of information for relevant current legislation and official guidance and how it is applied
K6 the types of fire extinguishers and how and when they are used
K7 how emergencies should be responded to and who should respond
K8 the organisational security procedures for tools, equipment and personal belongings
K9 what the accident reporting procedures are and who is responsible for making the report
K10 why, when and how health and safety control equipment should be used
Performance Criteria 3
Selection of resources
K11 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K12 how the resources should be handled and how any problems associated with the resources are reported
K13 the organisational procedures to select resources, why they have been developed and how they are used
K14 the hazards associated with the resources and methods of work and how they are overcome
Performance Criteria 4
Prevent damage
K15 how to protect work from damage and the purpose of protection
K16 why disposal of waste should be carried out safely and how it is achieved
Performance Criteria 5
Comply with occupational resource information
K17 how methods of work, to meet the specification, are carried out and problems reported
Performance Criteria 6
Allocated time
K18 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 interpret given information to move, handle or store occupational resources, and use and store lifting aids and equipment
Performance Criteria 2
2 avoidance of risk by complying with the given information relating to at least two of the following
2.1 methods of work
2.2 safe use of health and safety control equipment

2.3 safe use of lifting aids
2.4 protection of the environment

Performance Criteria 3

3 selection of resources associated with moving, handling or storing
3.1 lifting and handling aids
3.2 container(s)
3.3 fixing, holding and securing systems

Performance Criteria 4

4 protect the occupational resources and their surrounding area from damage
5 dispose of waste and packaging in accordance with legislation
6 maintain a clean work space

Performance Criteria 5

7 work skills to move, position, store, secure and/or use lifting aids and kinetic lifting techniques
8 move, handle or store occupational resources to meet product information and organisational requirements relating to at least three of the following
8.1 sheet material
8.2 loose material
8.3 bagged or wrapped material
8.4 fragile material
8.5 tools and equipment
8.6 components
8.7 liquids

Performance Criteria 6

9 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or customer

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with:
2.1 fires, spillages, injuries etc
2.2 emergencies relating to occupational activities
Fire extinguishers
3 water, CO2, foam, powder and their uses

Hazards

4 those identified by method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
5.1 collective protective measures
5.2 personal protective equipment (PPE)
5.3 respiratory protective equipment (RPE)
5.4 local exhaust ventilation (LEV)

Information

6 technical, product and regulatory: oral, written, graphical presentation

Legislation and official guidance

7 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, in confined spaces, below ground level, at height, with tools and equipment, with materials and substances, with movements/storage of materials and by manual handling and mechanical lifting

Methods of work

8 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used for moving, handling and storing occupational resources

9 needs of other occupations associated with the resources

Problems

10 those arising from information, resources and methods of work

10.1 own authority to rectify

10.2 organisational reporting procedures

Programme

11 types of progress charts, timetables and estimated times

12 organisational procedures for reporting circumstances which will affect the work programme

Protect work

13 against damage from general workplace activities, other occupations and adverse weather conditions

Resources

14 types, quantity, quality, sizes and sustainability of standard and/or specialist:

14.1 occupational resources

14.2 lifting and handling aids

14.3 containers

14.4 fixing, holding and securing systems

Security procedures

15 site, workplace, company and operative

Developed by: ConstructionSkills Version number: 1
Date approved: February 2011, Indicative review date: February 2016
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: VR643
Relevant occupations: Construction and Building Trades nec
Suite: Wood Occupations (Construction); Accessing Operations and Rigging (Construction); Applied Waterproof Membranes (Construction); Associated Industrial Services Occupations (Construction); Building Maintenance Multi-trade Repair and Refurbishment Operations; Chimney Engineering (Construction); Cladding Occupations (Construction); Construction Operations and Civil Engineering Services; Construction Diving Operations (Construction); Controlling Lifting Operations (Construction); Decorative Finishing and Industrial Painting Occupations (Construction); Demolition; Erection of Precast Concrete (Construction); Fitted Interiors (Construction); Floorcovering Occupations (Construction); Formwork (Construction); Innovative/Modern Methods of Construction; Insulation and Building Treatments (Construction); Interior Systems (Construction); Mastic Asphalting (Construction); Piling Operations (Construction); Plant Installations (Construction); Plant Operations (Construction); Plastering (Construction); Post Tensioning Operations (Construction); Refractory Installations (Construction); Removal of Hazardous and Non-hazardous Waste (Construction); Roofing Occupations (Construction); Site Logistics (Construction); Specialist Concrete Occupations (Construction); Specialist Installation Occupations (Construction); Steelfixing (Construction); Stonemasonry (Construction); Sub-structure Work Occupations (Construction); Super-structure Work Occupations (Construction); Thermal Insulation (Construction); Trowel Occupations (Construction); Tunnelling Operations (Construction); Wall and Floor Tiling (Construction); Wood Machining (Construction/Sawmilling Extrusion/Furniture); Wood Preserving – Industrial Pre-treatment (Construction)
Key words: Storage; Handling; Kinetic lifting, Lifting aids

COSVR659

Operate plant or machinery for non-operational activities

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 operating plant or machinery for non-operational activities such as inspection, repair, maintenance, testing or travel

Performance criteria

You must be able to:

P1 interpret the given operating information relating to the use of plant or machinery and confirm its relevance
P2 organise with others the sequence in which the work is to be carried out
P3 comply with the relevant, current legislation, special legal status documents, official guidance and organisational procedures to maintain safe and healthy work practices
P4 request resources to sustain plant or machinery operations to complete the programme of work
P5 select plant or machinery resources for the methods of work and operations to be carried out
P6 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P7 comply with the given contract information to carry out the work efficiently to the required specification
P8 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Organise with others

K4 communication of ideas between team members
K5 organisation of resources in conjunction with the progress of work
K6 the skills required to carry out the work

Performance Criteria 3

Safe work practices

K7 the level of understanding operatives must have of information for relevant, current legislation, Approved Codes of Practice and official guidance and how it is applied
K8 how emergencies should be responded to and who should respond
K9 the organisational security procedures for plant and/or machinery, tools, equipment and personal belongings
K10 what the accident reporting procedures are and who is responsible for making the report
K11 why, when and how health and safety control equipment should be used

Performance Criteria 4

Request resources

K12 the organisational procedures for requisitioning consumables and other resources

Performance Criteria 5

Selection of resources

K1 the characteristics, quality, uses, sustainability, limitations and defects associated with plant resources and how defects should be rectified

K2 how the resources should be used and how any problems associated with the resources are reported

K3 the organisational procedures to select resources, why they have been developed and how they are used

K4 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 6

Minimise the risk of damage

K5 how to protect work from damage and the purpose of protection

K6 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 7

Meet the contract specification

K7 how methods of work, to meet the specification, are carried out and problems reported

K8 how maintenance of plant and/or machinery, tools and equipment is carried out

Performance Criteria 8

Allocated time

K9 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, user manuals and manufacturers' information related to the plant or machinery operation and the activity to be completed

Performance Criteria 2

2 organisation of own work

3 communication with team members and other associated occupations about the plant or machinery operation and the work to be carried out

Performance Criteria 3

4 avoidance of risk by complying with the given safety information relating to at least four of the following:

- 4.1 methods of work
- 4.2 safe use of health and safety control equipment
- 4.3 safe use and storage of plant, machinery and tools
- 4.4 safe use of access equipment
- 4.5 specific risks to health

Performance Criteria 4

5 follow organisational procedures for the requisition of consumables, materials and other resources

Performance Criteria 5

6 selection of resources associated with own work

- 6.1 tools and ancillary equipment and/or accessories
- 6.2 consumables

Performance Criteria 6

7 protection of the work and its surrounding area from damage

8 minimise damage and maintain a clean work space

9 disposal of waste in accordance with current legislation

Performance Criteria 7

10 demonstration of work skills to prepare, setup, configure, start, manoeuvre, run, support, park, stop and secure
11 use and maintain hand tools, ancillary equipment and/or accessories
12 prepare, configure and operate plant or machinery for non-operational activities, (e.g. inspection, repair, maintenance, testing or travel), to given working instructions for at least two of the following:
- 12.1 hand-operated power tools
- 12.2 static machinery
- 12.3 pedestrian controlled equipment
- 12.4 tracked plant
- 12.5 wheeled plant
- 12.6 rollers

13 shut down and secure plant or machinery
14 record and report findings

Performance Criteria 8

15 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Communication

1 discussions, sketches and briefings
Disposal of waste
2 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

3 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 3.1 fires, spillages, injuries
- 3.2 emergencies relating to occupational activities

Hazards

4 those identified by method of work, risk/COSHH assessments, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 5.1 collective protective measures
- 5.2 personal protective equipment (PPE)
- 5.3 respiratory protective equipment (RPE)
- 5.4 local exhaust ventilation (LEV)

Information

6 drawings, specifications, schedules, method statements, risk assessments, user manuals, manufacturers' information and current regulations governing the operation of plant and machinery

Legislation, Approved Codes of Practice and official guidance

7 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

8 operative care of plant and machinery, hand tools, ancillary equipment and/or accessories
Methods of work

9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 9.1 identify capabilities, characteristic and limitations of plant and machinery (ride on and remote control) including hand-operated power tools, static machinery, pedestrian controlled equipment, wheeled plant and tracked plant, rollers
- 9.2 consider the area available for the movements required (height restrictions, obstructions, overhead / underground obstructions, services, ventilation and point loading)
- 9.3 complete pre-use, pre-start and pre-movement checks
- 9.4 prepare the plant and machine for operation
- 9.5 manoeuvre and position plant and machine
- 9.6 manoeuvre plant and machinery on slopes and inclines, uneven terrain, rough terrain, un-compacted ground, areas with restricted clearances, in inclement and extreme weather and areas where there is other vehicle and pedestrian traffic
- 9.7 operate plant and machinery within operational limitations
- 9.8 support plant and machinery for the activity (inspection, repair, maintenance, testing or travel)
- 9.9 follow signals and instructions
- 9.10 shut down, park and secure plant and machine
- 9.11 immobilise plant and machinery
- 9.12 prepare plant and machinery for transportation
- 9.13 report findings and defects
- 9.14 use hand tools, ancillary equipment and accessories
- 9.15 work at height
- 9.16 use access equipment
- 9.17 complete and maintain records

10 team work and communication

11 needs of other occupations associated with operating plant and machinery for non-operational activities

Problems

12 those arising from information, resources and methods of work
- 12.1 own authority to rectify
- 12.2 organisational reporting procedures

Programme

13 types of progress charts, timetables and estimated times

14 organisational procedures for reporting circumstances which will affect the work programme

Protect work

15 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
- 16.1 consumables
- 16.2 hand tools, ancillary equipment and/or accessories

17 methods of calculating weight, bearing pressure, quantity, length and area associated with the method/procedure to operate plant and machinery for non-operational activities

Security procedures

18 site, workplace, company and operative

Skills

19 own occupation and occupations related to the work

Developed by: ConstructionSkills Version number:2
Date approved: December 2012, Indicative review date: December 2017
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: COSPM04
Relevant occupations: Mobile Machine Drivers and Operatives; Plant and Machine Operatives
Suite: Construction Plant or Machinery Maintenance; Plant Operations
Key words: Plant; Machinery; Hand operated power tools; Static machinery; Pedestrian controlled equipment; Wheeled plant; Tracked plant; Rollers; Non-operational activities; Maintenance

COSVR660

Service plant or machinery

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 servicing plant or machinery

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:
Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3
Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4
Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5
Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out

Performance Criteria 6
Allocated time

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, procedures, method statements, risk assessments and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least five of the following
  2.1 methods of work
  2.2 safe use of health and safety control equipment
  2.3 safe use of access equipment
  2.4 safe use, storage and handling of materials
  2.5 safe use and storage of tools and equipment
  2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
  3.1 materials, components and fixings
  3.2 tools and equipment
  3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to replenish, replace, lubricate, unfasten, align, assemble, position, fix, fasten, and secure
8 use and maintain hand tools, portable power tools and ancillary equipment
9 service plant or machinery to given working instructions for at least five of the following
  9.1 replenish or replace fluids, fuels, lubricants, coolants
  9.2 replace service items (filters, drive belts, brake components, bulbs, fuses, gaskets, seals)
  9.3 lubricate parts, components, linkages, cables

9.4 flush through cooling, lubrication and fluid systems
9.5 clean parts and components
9.6 secure fastenings, nuts, bolts etc
10 complete functional, operational and safety checks
11 report findings
12 complete and maintain records

Performance Criteria 6

13 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, procedures, method statements, risk assessments, manufacturers' information and current regulations associated with servicing plant and machinery

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 refer to workshop manuals, parts manuals, guides and technical service bulletins, electronic data and cross reference information
- 8.2 apply routine and non-routine maintenance service methods and procedures required by the manufacturer and owner
- 8.3 identify requirements of periodic, scheduled and event based servicing methods
- 8.4 replace service items (filters, drive belts, brake components, bulbs, fuses, gaskets, seals)
- 8.5 lubricate parts, components, linkages, cables
- 8.6 flush through cooling, lubrication and fluid systems

8.7 clean parts and components
8.8 secure fastenings, nuts, bolts etc
8.9 work on high temperature and high pressure components and systems
8.10 check for defects by sight, touch, smell and sound
8.11 complete functional, operational and safety checks
8.12 report findings
8.13 use hand tools, portable power tools and equipment
8.14 work at height
8.15 use access equipment
8.16 complete and maintain records

9 team work and communication

10 needs of other occupations associated with servicing plant and machinery

Problems

11 Those arising from information, resources and methods of work
11.1 own authority to rectify
11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1 consumables
15.2 fluids, fuels, lubricants, and coolants
15.3 service items: filters, drive belts, brake components, bulbs, fuses, gaskets and seals
15.4 fastenings, nuts and bolts, pins and clips
15.5 hand tools, portable powered tools and equipment

16 methods of calculating quantity, volume, length, area and wastage associated with the method/procedure to service plant and machinery

Security procedures

17 site, workplace, company and operative

Developed by: ConstructionSkills Version number:2
Date approved: December 2012, Indicative review date: December 2017
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: COSPM05
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance; Live Events
Key words: Plant; Machinery; Service; Replenish; Lubricants; Filters; Drive belts; Brake components; Bulbs; Fuses; Gaskets; Seals; Maintenance; Live Events, Exhibitions;

COSVR661
Remove and replace plant or machinery components to restore operational use

Overview

This standard is about:

1 interpreting information

2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 removing and replacing fitted components of plant or machinery to restore operational use

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out
Performance Criteria 2
2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of tools and equipment
- 2.6 specific risks to health

Performance Criteria 3
3 selection of resources associated with own work
- 3.1 materials, components, fixings and fittings
- 3.2 tools and equipment
- 3.3 consumables

Performance Criteria 4
4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation
Performance Criteria 5
7 demonstration of work skills to mark, support, unfasten, release, clean, lubricate, protect, align, adjust, fit, fix, secure, fasten and solder
8 use and maintain hand tools, specialist tools, portable power tools and ancillary equipment
9 remove and replace at least seven of the following plant or machinery components to restore operational use to given working instructions
- 9.1 housing
- 9.2 transmission
- 9.3 steering
- 9.4 track or running gear
- 9.5 hydraulics
- 9.6 pump
- 9.7 brakes
- 9.8 electrics
- 9.9 electronics
- 9.10 ancillaries (blade, wear pads, boom, cab)

10 complete functional, operational and safety checks
11 complete and maintain records
Performance Criteria 6
12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information
Scope/ range related to knowledge and understanding
Disposal of waste
1 environmental responsibilities, organisational procedures, manufacturers’

information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with

2.1 fires, spillages, injuries

2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment

4.1 collective protective measures

4.2 personal protective equipment (PPE)

4.3 respiratory protective equipment (RPE)

4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with plant and machinery maintenance

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools, specialist tools, and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:

8.1 prepare and isolate plant and machine and notify others

8.2 identify components and tag or label

8.3 mark components prior to removal, punch, paint, chalk, scribe, label, and tape to assist replacement

8.4 release residual energy, electric, pressure (sprung, hydraulic, pneumatic) and fluid (fuels, coolants and lubricants)

8.5 support components

8.6 protect components, threads, keyways, seals, faces, wires, links and connections

8.7 remove and replace the following components: housing, transmission, steering, track or running gear, hydraulics, pump, brakes, electrics, electronics, ancillaries (blade, wear pads, boom, cab)

8.8 position, align and connect components with push and press fit, soldering, locking pins, threaded devices, clips and specialist retaining devices

8.9 apply torque loadings

8.10 assess the operational integrity of replaced components

8.11 use hand tools, portable power tools, specialist tools and equipment

8.12 work at height

8.13 use access equipment

8.14 complete and maintain records

9 team work and communication

10 needs of other occupations associated with plant and machinery maintenance

Problems

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

15.1 fixings and fittings

15.2 consumables

15.3 hand tools, portable powered tools, specialist tools and equipment

16 methods of calculating quantity, length, area and wastage associated with the method/procedure to remove and replace plant and machinery components

Security procedures

17 site, workplace, company and operative

Developed by: ConstructionSkills Version number:2
Date approved: December 2012, Indicative review date: December 2017
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: COSPM06
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance
Key words: Plant; Machinery; Components; Housings; Transmission; Steering; Track and running gear; Hydraulics; Pumps; Brakes; Electrics; Electronics; Maintenance

COSVR662
Dismantle and assemble plant or machinery components to replace worn, damaged or faulty parts

Overview

This standard is about

1 interpreting information

2 adopting safe and healthy working practices

3 selecting materials, components, consumables and equipment

4 dismantling and assembling plant or machinery components to replace worn, damaged or faulty parts

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance

P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices

P3 select the required quantity and quality of resources for the methods of work

P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area

P5 comply with the given contract information to carry out the work efficiently to the required specification

P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1
Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2
Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3
Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4
Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5
Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out

Performance Criteria 6
Allocated time

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least five of the following
  2.1 methods of work
  2.2 safe use of health and safety control equipment
  2.3 safe use of access equipment
  2.4 safe use, storage and handling of materials
  2.5 safe use and storage of tools and equipment

2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
- 3.1 materials, components and fixings
- 3.2 tools and equipment
- 3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to measure, mark, support, unfasten, release, clean, lubricate, protect, align, adjust, fit, fix, secure, fasten and solder

8 use and maintain hand tools, specialist tools, portable power tools and ancillary equipment

9 dismantle and assemble plant or machinery components and sub assemblies to replace worn, damaged or faulty parts, to given working instructions, for at least four of the following:
- 9.1 power unit
- 9.2 transmission
- 9.3 steering
- 9.4 hydraulics
- 9.5 pump
- 9.6 brakes
- 9.7 electrics
- 9.8 electronics
- 9.9 ancillaries (blade, boom, cab, drives)

10 complete functional, operational and safety checks

11 complete and maintain records

Performance Criteria 6

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)

4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with the dismantling and assembly of plant and machinery components

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:

- 8.1 prepare and isolate plant and machine and notify others
- 8.2 identify components and tag or label
- 8.3 release residual energy, electric, pressure (sprung, hydraulic, pneumatic) and fluid (fuels, coolants and lubricants)
- 8.4 mark component parts prior to dismantling, punch, paint, chalk, scribe, label, and tape to assist assembly
- 8.5 measure and inspect component parts and sub-assemblies for serviceability
- 8.6 support components and sub-assemblies
- 8.7 protect components and sub-assemblies, threads, keyways, seals, faces, wires, links and connections
- 8.8 dismantle and assemble the following components: power unit, transmission, steering, hydraulics, pump, brakes, electrics, electronics, ancillaries (blade, boom, cab, drives)
- 8.9 replace worn, damaged or faulty parts
- 8.10 position, align and connect component parts and sub-assemblies with push and press fit, soldering, locking pins, threaded devices, clips and specialist retaining devices
- 8.11 apply torque loadings
- 8.12 assess the operational integrity of repaired component and sub assembly
- 8.13 use hand tools, portable power tools, specialist tools and equipment
- 8.14 work at height
- 8.15 use access equipment
- 8.16 complete and maintain records

9 team work and communication

10 needs of other occupations associated with dismantling and assembling plant and machinery components

Problems

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

- 15.1 fixtures and fittings
- 15.2 consumables
- 15.3 hand tools, portable powered tools, specialist tools and equipment

16 methods of calculating quantity, length, area and wastage associated with the method/procedure to dismantle and assemble plant and machinery components

Security procedures

17 site, workplace, company and operative

Developed by: ConstructionSkills Version number:2
Date approved: December 2012, Indicative review date: December 2017
Validity: Current, Status: Original
Originating organisation: ConstructionSkills, Original URN: COSPM07
Relevant occupations: Construction and Building Trade
Suite: Construction Plant or Machinery Maintenance
Key words: Plant components, Machinery components; Dismantling; Assembling; Power unit; Transmission; Steering; Hydraulics; Pumps; Brakes; Electrics; Electronics; Maintenance

COSVR663

Inspect plant or machinery for operational serviceability

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 inspecting plant or machinery for operational serviceability

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings

K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least five of the following
2.1 methods of work
2.2 safe use of health and safety control equipment
2.3 safe use of access equipment
2.4 safe use, storage and handling of materials
2.5 safe use and storage of tools and equipment
2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
3.1 materials, components and fixings
3.2 tools and equipment
3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to inspect, check, record, report
8 use and maintain hand tools, specialist tools, portable power tools and ancillary equipment
9 complete the following inspections to given working instructions
9.1 routine checks, daily, weekly

9.2 periodic e.g. monthly, annual, number, hours run
9.3 pre-use, delivery
9.4 post-use, return, off hire
10 record and report results and findings

Performance Criteria 6

11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with the inspection, examination and test of plant and machinery

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools, specialist tools, portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 identify inspection criteria
- 8.2 conduct inspections, daily/weekly, periodic (monthly, annual, number and hours run), pre-use and post-use and returned items
- 8.3 identify the difference between test, inspection and thorough examination
- 8.4 check the calibration of inspection tools and equipment
- 8.5 use specialist inspection equipment and test and diagnostic aids
- 8.6 identify deterioration, damage, excess wear and leaks

8.7 identify non-critical defects
8.8 identify critical defects
8.9 classify the serviceability of plant and machinery
8.10 consider plant and machinery life expectancy
8.11 report findings
8.12 use hand tools, portable power tools, specialist tools and equipment
8.13 work at height
8.14 use access equipment
8.15 complete and maintain records

9 team work and communication

10 needs of other occupations associated with the inspection of plant and machinery

Problems

11 those arising from information, resources and methods of work
11.1 own authority to rectify
11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1 consumables
15.2 inspection equipment
15.3 fixings
15.4 hand tools, portable powered tools, specialist tools and equipment

16 methods of calculating quantity, length, area and wastage associated with the method/procedure to inspect plant and machinery for operational serviceability

Security procedures

17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2
Date approved: August 2014 Indicative review date: August 2019
Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM09
Relevant occupations: Plant Maintenance, Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance; Plant Installations
Key words: Plant inspection; Machinery inspection; Routine; Periodic; Pre-use; Post-use; Maintenance; Serviceability

COSVR664
Diagnose faults in plant or machinery systems or components

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 diagnosing faults in plant or machinery systems or components

Performance criteria
You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding
You need to know and understand:

Performance Criteria 1
Interpretation of information
K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed
Performance Criteria 2
Safe work practices
K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used
Performance Criteria 3
Selection of resources
K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome
Performance Criteria 4
Minimise the risk of damage
K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved
Performance Criteria 5
Meet the contract specification
K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out
Performance Criteria 6
Allocated time
K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical services bulletins, parts manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of tools and equipment
- 2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
- 3.1 materials, components and fixings
- 3.2 tools and equipment
- 3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to select, investigate, interrogate, observe, listen, smell, feel, apply, identify, collect, analyse, interpret, diagnose, report

8 use and maintain hand tools, portable power tools, specialist diagnostic and testing tools and ancillary equipment

9 identify and diagnose functional and operational faults in plant or machinery, systems or components to given working instructions for at least four of the following
- 9.1 power unit
- 9.2 transmission
- 9.3 steering
- 9.4 hydraulics
- 9.5 pump
- 9.6 brakes
- 9.7 pneumatics
- 9.8 electrics
- 9.9 electronics
- 9.10 operating ancillaries or attachments

10 complete functional, operational and safety checks

11 complete and maintain records

Performance Criteria 6

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with diagnosing faults in plant or machinery systems or components

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools, and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 collect and collate information from operators and users on symptoms and problems
- 8.2 consider information from existing records
- 8.3 analyse information to define the diagnosis start point
- 8.4 investigate and establish the most likely causes of the faults
- 8.5 observe the operational functions of plant and machinery components and systems
- 8.6 interpret sounds and smells
- 8.7 collect and analyse data from diagnostic aids; multi-meters, pressure and flow gauges, computers, test lamps, portable appliance testing equipment and other specialist tools and equipment
- 8.8 identify faults and determine the cause
- 8.9 determine and suggest repair requirements for faults in power units, transmissions, steering, hydraulic systems, pumps, brakes, pneumatic systems, electrical systems, electronic components and operating ancillaries and attachments
- 8.10 categorise faults by type (continual, intermittent or breakdown)
- 8.11 apply situational awareness to select routine and non-routine fault diagnosis procedures
- 8.12 determine the implications of faults for other work and the operational safety of the plant or machinery
- 8.13 report, mark, tag and place notices on plant and machinery systems and components deemed hazardous
- 8.14 use hand tools, specialist diagnostic and testing tools, portable power tools and equipment
- 8.15 work at height

8.16use access equipment
8.17complete and maintain records
9 team work and communication
10 needs of other occupations associated with the diagnosis of faults in plant and machinery systems and components

Problems
11 those arising from information, resources and methods of work
11.1own authority to rectify
11.2organisational reporting procedures
Programme
12 types of progress charts, timetables and estimated times
13 organisational procedures for reporting circumstances which will affect the work programme
Protect work
14 protect work against damage from general workplace activities, other occupations and adverse weather conditions
Resources
15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1hand tools, portable powered tools, specialist diagnostic and testing tools and ancillary equipment
16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to diagnose faults in plant and machinery systems and components
Security procedures
17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2
Date approved: December 2012 Indicative review date: December 2017
Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM10
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance ; Plant Installations
Key words: Plant; Machinery; Systems; Components; Diagnose; Faults; Functional; Operational; Maintenance

Optional units

COSVR665
Install, repair or modify construction resources by heating, welding, brazing, soldering and thermal cutting

Overview
This standard is about
1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, equipment and consumables
4 installing, repairing or modifying construction resources by heating, welding, brazing, soldering and thermal cutting

Performance criteria
You must be able to:
P1 interpret the given information relating to the work and resources to confirm its relevance

P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 the types of fire extinguishers and how and when they are used
K6 how emergencies should be responded to and who should respond
K7 the organisational security procedures for tools, equipment and personal belongings
K8 what the accident reporting procedures are and who is responsible for making the report
K9 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K11 how the resources should be used and how any problems associated with the resources are reported
K12 the organisational procedures to select resources, why they have been developed and how they are used
K13 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K14 how to protect work from damage and the purpose of protection
K15 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K16 how methods of work, to meet the specification, are carried out and problems reported
K17 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K18 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1. interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2

2. avoidance of risk by complying with the given information relating to at least five of the following
   - 2.1 methods of work
   - 2.2 safe use of health and safety control equipment
   - 2.3 safe use of access equipment
   - 2.4 safe use, storage and handling of materials
   - 2.5 safe use and storage of tools and equipment
   - 2.6 specific risks to health
   - 2.7 safe use, movement and storage of gases

Performance Criteria 3

3. selection of resources associated with own work
   - 3.1 materials, components and fixings
   - 3.2 tools and equipment
   - 3.3 consumables

Performance Criteria 4

4. protection of the work and its surrounding area from damage
5. minimise damage and maintain a clean work space
6. disposal of waste in accordance with current legislation

Performance Criteria 5

7. demonstration of work skills to measure, mark out, fit, heat, prepare, position, secure, join, cut and finish
8. use and maintain hand tools, portable power tools, welding, heating and cutting equipment and ancillaries
9. heat components to given working instructions to achieve at least two of the following:
   - 9.1 free components (thermal shock)
   - 9.2 heat treat
   - 9.3 reduce or remove corrosion
   - 9.4 adjust (localised/spot)
   - 9.5 expansion and contraction fit
10. join ferrous and non-ferrous metals to given working instructions using at least two of the following welding techniques:
    - 10.1 oxygen and fuel gas
    - 10.2 manual metal arc
    - 10.3 metal inert gas shielded or metal active gas shielded
    - 10.4 tungsten inert gas shielded
11. join metals to given working instructions by brazing using oxygen and fuel gas
12. join metals by soldering to given working instructions using at least one of the following techniques:
    - 12.1 oxygen and fuel gas
    - 12.2 iron and flux
    - 12.3 electrical soldering iron
13. create at least two of the following joints in metals:
    - 13.1 butt
    - 13.2 lap
    - 13.3 fillet
    - 13.4 corner
14. carry out joint work to given working instructions in at least two of the following positions:
    - 14.1 flat
    - 14.2 vertical / horizontal
    - 14.3 vertical
    - 14.4 overhead
15. cut materials by thermal cutting using at least one of the following:

15.1 oxygen fuel gas arc
15.2 plasma arc

Performance Criteria 6

16. completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Fire extinguishers

3 water, CO2, foam, powder and their uses

Hazards

4 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 5.1 collective protective measures
- 5.2 personal protective equipment (PPE)
- 5.3 respiratory protective equipment (RPE)
- 5.4 local exhaust ventilation (LEV)

Information

6 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with heating, welding, brazing, soldering and thermal cutting

Legislation and official guidance

7 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

8 operative care of hand tools, portable power tools, heating, welding and thermal cutting equipment and ancillary equipment

Methods of work

9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 9.1 assess requirements for the repair or maintenance of metal by joining, heating and cutting
- 9.2 validate appropriate ways in which the work should be carried out
- 9.3 maintain the principles of minimum intervention and reversible alterations
- 9.4 protect surrounding components
- 9.5 identify metal properties
- 9.6 relate equilibrium diagrams to metal types/properties
- 9.7 purge and vent tanks and containers (gas free certification)

9.8 work with hot materials and components
9.9 identify the advantages and disadvantages of welding processes; oxygen and fuel gas, manual metal arc, metal inert gas or metal active gas and tungsten inert gas shielded
9.10 apply principles and methods of preparing, joining, cutting and heating ferrous and non-ferrous metals (type of joint, material thickness, gaps, measuring, cleaning, position, tacks, pre-treatment, parameters, nozzle, voltage, amperes, wire speed, flow rates, restarts, post-treatment)
9.11 join metals by welding, soldering and brazing
9.12 recognise joint types (butt, lap, fillet, corner)
9.13 inspect joints by non-destructive testing (visual, x-ray and dye penetrates, ultraviolet and ultrasonic) and destructive testing (bend test, tensile, nick break and weld etch)
9.14 finish and dress joints
9.15 cut materials using thermal cutting methods, oxygen fuel gas, plasma arc
9.16 recognise the effects of applying heat to metal (distortion, heat affected zone)
9.17 use and store fuel gases
9.18 recognise and determine when specialist skills and knowledge are required and report accordingly
9.19 use hand tools, portable power tools and equipment
9.20 work at height
9.21 use access equipment

10 team work and communication

11 needs of other occupations associated with heating, welding, brazing, soldering and thermal cutting

Problems

12 those arising from information, resources and methods of work
12.1 own authority to rectify
12.2 organisational reporting procedures

Programme

13 types of progress charts, timetables and estimated times

14 organisational procedures for reporting circumstances which will affect the work programme

Protect work

15 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
16.1 jigs and fixings
16.2 consumables, gases, welding rods/wires
16.3 solders and fluxes
16.4 hand tools, portable powered tools, heating, welding and cutting equipment

17 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to heat, weld, braze, solder and thermal cut construction resources

Security procedures

18 site, workplace, company and operative

Developed by: ConstructionSkills Version: 2
Date approved: December 2012 Indicative review date: December 2017
Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM11
Relevant occupations: Plant Maintenance, Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance (Construction)
Key words: Plant; Machinery; Soldering; Welding; Heating; Thermal cutting; Brazing; Construction resources

COSVR666

Produce one-off components to restore or maintain the operational functions of plant or machinery

Overview

This standard is about:

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, fixings and equipment
4 producing one-off components to restore or maintain the operational functions of plant or machinery

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5
Meet the contract specification
K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out
Performance Criteria 6
Allocated time
K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, parts manuals and manufacturers' information related to the work to be carried out
Performance Criteria 2
2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of tools and equipment
- 2.6 specific risks to health

Performance Criteria 3
3 selection of resources associated with own work
- 3.1 materials, components, fixings and fittings
- 3.2 tools and equipment
- 3.3 consumables

Performance Criteria 4
4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation
Performance Criteria 5
7 demonstration of work skills to measure, mark out, disassemble, cut, drill, file, shape, join, assemble, fit, fix and secure
8 use and maintain hand tools, portable power tools, power tools and ancillary equipment
- 8.1 produce at least two one-off components by modification and/or replacement to given working instructions (e.g. for emergency or temporary repair (safety or operational), to counter operational time delays, when manufacturers component(s) are unavailable or obsolete, when it is cost effective or specialist tools)

9 complete functional, operational and safety checks
10 complete and maintain records
Performance Criteria 6
11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information
Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, parts manuals, manufacturers' information and current regulations governing and associated with plant and machinery maintenance

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 assess requirements for repair or maintenance
- 8.2 validate appropriate ways in which the work should be carried out
- 8.3 maintain the principles of minimum intervention and reversible alteration
- 8.4 determine the durability of the one off component, temporary or permanent
- 8.5 transfer dimensions and measurements (hole location and spacing)
- 8.6 produce templates
- 8.7 work from patterns, representative work pieces and components
- 8.8 produce one-off components for emergency and temporary repair (safety and operational), to counter operational time delays, when it is cost effective and to make specialist tools
- 8.9 apply manufacturers' criteria for the production of specialist tools
- 8.10 determine the characteristics of materials and differing mating surfaces (cast iron, steel, alloy, plastic)
- 8.11 select and modify existing components by shaping, cutting, drilling, filing, threading (internal and external), fabrication, welding and machining
- 8.12 select methods of securing one off components, bolts, screws, clamps, rivets, joints (thermal and adhesive) and specialist retaining devices (circlips, cotter pins, woodruff keys)
- 8.13 recover and store reusable materials and components
- 8.14 use hand tools, portable power tools, power tools and equipment
- 8.15 work at height
- 8.16 use access equipment
- 8.17 complete and maintain records

9 team work and communication
10 needs of other occupations associated with the production of one-off components to restore and maintain the operational functions of plant and machinery

Problems

11 those arising from information, resources and methods of work
11.1 own authority to rectify
11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times
13 organisational procedures for reporting circumstances which will affect the work programme
Protect work
14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1 plant and machinery components
15.2 fixings and fittings
15.3 consumables
15.4 hand tools, portable power tools, powered tools and equipment
16 methods of calculating quantity, length, area, volume and wastage associated with the method/procedure to produce one-off components to restore or maintain the operational function of plant and machinery

Security procedures

17 site, workplace, company and operative

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Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM12
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance
Key words: Plant; Machinery; Components; Produce one-off components; Operational functions; Maintenance

COSVR667

Install plant or machinery for operational activities

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 installing plant or machinery for operational activities

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area

P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding
You need to know and understand:

Performance Criteria 1
Interpretation of information
K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed
Performance Criteria 2
Safe work practices
K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used
Performance Criteria 3
Selection of resources
K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome
Performance Criteria 4
Minimise the risk of damage
K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved
Performance Criteria 5
Meet the contract specification
K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out
Performance Criteria 6
Allocated time
K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 interpretation of drawings, specifications, schedules, method statements, risk assessments, installation manuals and manufacturers' information related to the work to be carried out
Performance Criteria 2
2 avoidance of risk by complying with the given information relating to at least five of the following
  2.1 methods of work
  2.2 safe use of health and safety control equipment

2.3 safe use of access equipment
2.4 safe use, storage and handling of materials
2.5 safe use and storage of tools and equipment
2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
3.1 materials, components and fixings
3.2 tools and equipment
3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to measure, mark, align, lay, level, plumb, adjust, fit, connect, fix, fasten and secure
8 use and maintain hand tools, portable power tools, measuring instruments and ancillary equipment
9 install plant or machinery to given working instructions for at least one of the following
9.1 crane (mobile or ringer)
9.2 tower crane
9.3 hoist (passenger, goods or building maintenance units)
9.4 rig (demolition, piling or drilling)
9.5 excavation or vacuum plant or machinery
9.6 batching, mixing or blending plant
9.7 crushing or screening plant
9.8 power generation equipment
9.9 pump
9.10 climate management machinery
9.11 concrete placing boom
10 complete functional, operational and safety checks
11 complete and maintain records

Performance Criteria 6

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
2.1 fires, spillages, injuries
2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, installation manuals, manufacturers' information and current regulations associated with the installation of plant and machinery

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools, measuring instruments and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 install plant and machinery; mobile and ringer cranes, tower cranes, passenger and goods hoists, piling and drilling rigs, excavation plant or machinery, batching plants, crushing and screening plants, power generation equipment, pumps, climate management machines
- 8.2 assess suitability of conditions for installation requirements (site layout, location, availability of space, levels, prevailing weather conditions)
- 8.3 operate and control lifting equipment and lifting aids
- 8.4 confirm the integrity of lifting accessories
- 8.5 consider the resources required for the installation of plant and machinery
- 8.6 confirm parts, components, attachments, accessories are available to complete the installation
- 8.7 secure plant and machinery parts and components for movement and lifting into position
- 8.8 align, attach and secure plant and machinery parts and components (tied in, pinned, clamped, bolted and screwed)
- 8.9 fixing plant or machinery to load bearing structures
- 8.10 install and test anchors and ties
- 8.11 route, lay, connect and secure cables, pipes and hoses
- 8.12 connect power supplies
- 8.13 make adjustments to ensure optimum operational function
- 8.14 liaise with client, customer or their representatives
- 8.15 deal with damages and defects that can occur during installation, misaligned components, cracked casings and housings, leaks, scoring and marking of parts and components and breakages
- 8.16 confirm installation functionality meets quality expectations
- 8.17 complete functional operational and safety checks
- 8.18 use hand tools, portable power tools and equipment
- 8.19 work at height
- 8.20 use access equipment

8.21 complete and maintain records
9 team work and communication
10 needs of other occupations associated with the installation of plant or machinery

Problems
11 those arising from information, resources and methods of work
11.1 own authority to rectify
11.2 organisational reporting procedures

Programme
12 types of progress charts, timetables and estimated times
13 organisational procedures for reporting circumstances which will affect the work programme

Protect work
14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources
15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1 lifting accessories
15.2 fastening, ties, anchors and fixings
15.3 consumables
15.4 measuring and levelling equipment
15.5 hand tools, portable powered tools and equipment
16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to install plant and machinery for operational activities

Security procedures
site, workplace, company and operative

Developed by: ConstructionSkills Version: 2
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Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM14
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance; Plant Installation
Key words: Plant; Machinery; Install; Tied in; Pinned; Clamped; Bolted; Screwed; Maintenance

COSVR668
Carry out specific tests on plant or machinery to determine operational serviceability

Overview
This standard is about:
1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 carrying out specific tests on plant or machinery to determine operational serviceability

Performance criteria
You must be able to:
P1 interpret the given information relating to the work and resources to confirm its relevance

P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding
You need to know and understand:

Performance Criteria 1
Interpretation of information
K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2
Safe work practices
K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3
Selection of resources
K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4
Minimise the risk of damage
K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5
Meet the contract specification
K15 how methods of work, to meet the specification, are carried out and problems reported
K16 how maintenance of tools and equipment is carried out

Performance Criteria 6
Allocated time
K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information
Scope/ range related to performance criteria

Performance Criteria 1
1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2
2 avoidance of risk by complying with the given information relating to at least five of the following
- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of, tools and equipment
- 2.6 specific risks to health

Performance Criteria 3
3 selection of resources associated with own work
- 3.1 materials, components and fixings / fittings
- 3.2 tools and equipment
- 3.3 consumables

Performance Criteria 4
4 protection of the work and its surrounding area from damage
5 minimise damage and maintain a clean work space
6 disposal of waste in accordance with current legislation

Performance Criteria 5
7 demonstration of work skills to measure, test and compare
8 use and maintain hand tools, portable power tools, specialist test equipment and ancillary equipment
9 complete specific tests to given working instructions on at least four of the following
- 9.1 electric systems
- 9.2 cooling systems
- 9.3 lubrication systems
- 9.4 emission control
- 9.5 hydraulic systems
- 9.6 hydrostatic drive
- 9.7 transmission systems
- 9.8 pneumatic systems
- 9.9 braking systems
- 9.10 vibration management
- 9.11 steering/suspension systems
- 9.12 generator output control
- 9.13 electronic management
- 9.14 powered access equipment
- 9.15 material handling equipment
- 9.16 water pumps
- 9.17 craneage
- 9.18 lifting equipment

9.19 load testing (cranes, hoists, MEWPs, MHE)

10 complete tests to given working instructions for the following
- 10.1 statutory requirement
- 10.2 compliance with policy and procedures
- 10.3 operational efficiency (speeds, flow rates, consumption, emissions, outputs)
- 10.4 complete functional, operational and safety checks

11 complete and maintain records

Performance Criteria 6

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with the specific testing of plant or machinery

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools, specialist test equipment and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 isolate plant, machinery and components
- 8.2 confirm calibration of test equipment

8.3 test electric systems, cooling systems, lubrication systems, hydraulic systems, hydrostatic drive, transmission systems, pneumatic systems, braking systems, vibration management, steering/suspension systems, generator output control, electronic management, powered access equipment, material handling equipment, water pumps, craneage, lifting equipment and load testing (cranes, hoists, MEWPs MHE)

8.4 conduct tests for statutory requirements, compliance with policy and procedures and operational efficiency (speeds, flow rates, consumption, emissions, output)

8.5 collect measurements, readings, input and output data, working cycle times and tolerances

8.6 identify and assess the relevance of inconsistent data

8.7 make allowances for situation, environment, atmospheric conditions

8.8 operate pressure gauge, flow gauge, multi-meter, portable appliance testing equipment, computer aided diagnostic software, test lamp, compression measurement equipment and timing devices

8.9 analyse information collected; make comparisons with other plant and machinery, consider previous knowledge, apply sensory abilities (visual, audible, touch and smell) consult manufacturers' information and results of other tests

8.10 compare and confirm test outcome with given specifications

8.11 report findings

8.12 use hand tools, portable power tools and equipment

8.13 work at height

8.14 use access equipment

8.15 complete and maintain records

9 team work and communication

10 needs of other occupations associated with conducting specific tests on plant and machinery to determine operational serviceability

Problems

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:

15.1 consumables

15.2 fixings and fittings

15.3 hand tools, portable power tools, specialist test equipment and ancillary equipment

16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to conduct specific tests on plant or machinery to determine operational serviceability

Security procedures

17 site, workplace, company and operative

Developed by: ConstructionSkills Version: 3
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Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM15
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance (Construction)
Key words: Plant; Machinery; Tests; Statutory requirement; Compliance; Operational efficiency; Functional; Specific

COSVR669
Configure plant or machinery for specific operational activities

Overview

This standard is about:

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 configuring plant or machinery relevant to the operational activity being undertaken

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1
Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2
Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report

K8 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified

K10 how the resources should be used and how any problems associated with the resources are reported

K11 the organisational procedures to select resources, why they have been developed and how they are used

K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection

K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported

K16 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K17 what the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least four of the following

2.1 methods of work

2.2 safe use of health and safety control equipment

2.3 safe use of access equipment

2.4 safe use and storage of materials, tools and equipment

2.5 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work

3.1 materials, components and fixings

3.2 tools and equipment

3.3 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to measure, mark, align, fit, adjust, fix, fasten and secure

8 use and maintain hand tools, portable power tools and ancillary equipment

9 configure plant or machinery for specific operational activities to given working instructions with at least two of the following

9.1 attachments

9.2 ancillaries

9.3 fire prevention (spark arrestors)
9.4 structural support (anchors and ties)
9.5 safety (restricted movement, passage or access, warning alarms, notices, lights or governors)
9.6 contaminant reduction (noise, gases, fluids)
9.7 carriage of ancillaries or additional equipment
9.8 rail and trackside
9.9 cutting equipment (blade or teeth angles and aspects)
9.10 additions (publicity boards, notices, lights)
9.11 machine control (laser measurement or guidance, global positioning system)
9.12 productivity measurement (weigh load sensors, compaction sensors)
10 complete functional, operational and safety checks
11 complete and maintain records

Performance Criteria 6

12 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
2.1 fires, spillages, injuries
2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance
Health and safety control equipment
4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
4.1 collective protective measures
4.2 personal protective equipment (PPE)
4.3 respiratory protective equipment (RPE)
4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, workshop manuals, technical service bulletins, parts manuals, manufacturers' information and current regulations associated with the configuration of plant and machinery
Legislation and official guidance
6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:

8.1 assess requirements for configuration
8.2 validate appropriate ways in which the work should be carried out
8.3 configure plant or machinery with the following; attachments, ancillaries, fire prevention (spark arrestors), structural support (anchors and ties), safety (restricted movement, passage or access, warning alarms, notices, lights or governors), contaminant reduction (noise, gases, fluids), carriage of ancillaries or additional equipment, rail and trackside work, cutting equipment (blade or teeth angles, coatings, dressings and aspects), additions (publicity boards, notices, lights), machine control (laser measurement and guidance, global positioning system), productivity measurement (weigh load sensors, compaction sensors)
8.4 ensure the required parameters are achieved for the specific operational activity
8.5 liaise with operators, customers, clients and their representatives
8.6 use hand tools, portable power tools and ancillary equipment
8.7 work at height
8.8 use access equipment
8.9 complete and maintain records

9 team work and communication

10 needs of other occupations associated with the configuration of plant or machinery for specific operational activities

Problems

11 those arising from information, resources and methods of work
11.1 own authority to rectify
11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist:
15.1 consumables
15.2 fixings and fittings
15.3 hand tools, portable powered tools and ancillary equipment

16 methods of calculating quantity, length, volume, area and wastage associated with the method/procedure to configure plant or machinery for specific operational activities

Security procedures

17 site, workplace, company and operative

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Date approved: December 2012 Indicative review date: December 2017
Validity: Current Status: Original
Originating organisation: ConstructionSkills Original URN: COSPM16
Relevant occupations: Construction and Building Trades
Suite: Construction Plant or Machinery Maintenance; Plant Installations
Key words: Plant; Machinery; Configure; Specific operational activities; Maintenance

COSVR672

Hand over plant or machinery to the control of others

Overview

This standard is about

1 interpreting information
2 adopting safe and healthy working practices
3 selecting materials, components, consumables and equipment
4 explaining and demonstrating the use of plant or machinery when handing over control to others

Performance criteria

You must be able to:

P1 interpret the given information relating to the work and resources to confirm its relevance
P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
P3 select the required quantity and quality of resources for the methods of work
P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
P5 comply with the given contract information to carry out the work efficiently to the required specification
P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

K1 the organisational procedures developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented
K2 the types of information, their source and how they are interpreted
K3 the organisational procedures to solve problems with the information and why it is important they are followed

Performance Criteria 2

Safe work practices

K4 the level of understanding operatives must have of information for relevant, current legislation and official guidance and how it is applied
K5 how emergencies should be responded to and who should respond
K6 the organisational security procedures for tools, equipment and personal belongings
K7 what the accident reporting procedures are and who is responsible for making the report
K8 why, when and how health and safety control equipment should be used

Performance Criteria 3

Selection of resources

K9 the characteristics, quality, uses, sustainability, limitations and defects associated with the resources and how defects should be rectified
K10 how the resources should be used and how any problems associated with the resources are reported
K11 the organisational procedures to select resources, why they have been developed and how they are used
K12 the hazards associated with the resources and methods of work and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K13 how to protect work from damage and the purpose of protection
K14 why disposal of waste should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K15 how methods of work, to meet the specification, are carried out and problems reported

K16 how maintenance of tools and equipment is carried out

Performance Criteria 6

Allocated time

K17 What the programme is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Additional information

Scope/ range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, risk assessments and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least five of the following:
- 2.1 methods of work
- 2.2 safe use of health and safety control equipment
- 2.3 safe use of access equipment
- 2.4 safe use, storage and handling of materials
- 2.5 safe use and storage of tools and equipment
- 2.6 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work
- 3.1 tools and equipment
- 3.2 consumables

Performance Criteria 4

4 protection of the work and its surrounding area from damage

5 minimise damage and maintain a clean work space

6 disposal of waste in accordance with current legislation

Performance Criteria 5

7 demonstration of work skills to liaise, explain, present, demonstrate, instruct, confirm, communicate and assess

8 use and maintain hand tools, portable power tools and ancillary equipment

9 explain and demonstrate the operation of plant or machinery to given working instructions in order to hand over control to others

10 complete and maintain records

Performance Criteria 6

11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Additional information

Scope/ range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
- 2.1 fires, spillages, injuries
- 2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
- 4.1 collective protective measures
- 4.2 personal protective equipment (PPE)
- 4.3 respiratory protective equipment (RPE)
- 4.4 local exhaust ventilation (LEV)

Information

5 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations associated with the operation and use of plant and machinery
Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement/storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools and portable power tools and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to:
- 8.1 liaise with customers, hirers, colleagues and end users
- 8.2 clearly define the moment of transferred responsibility
- 8.3 assess and confirm the condition of plant and machinery
- 8.4 confirm the suitability of the handover environment
- 8.5 prepare plant or machinery for explanation and demonstration
- 8.6 instruct users and operators in the operation, safety and emergency requirements
- 8.7 demonstrate the operation of plant and machinery
- 8.8 explain statutory requirements, inspection, maintenance, report of thorough examination, tests and certification
- 8.9 present and explain documentation: safety literature, operating instructions and operator forms
- 8.10 complete and register the handover: forms, checklists, confirmation, acceptance and receipt forms
- 8.11 explain the availability of technical support, guidance, information, advice, breakdown, call out, guarantees, warranties and replacement
- 8.12 communicate in a way that maintains goodwill
- 8.13 use hand tools, portable power tools and equipment
- 8.14 work at height
- 8.15 use access equipment
- 8.16 complete and maintain records

9 team work and communication

10 needs of other occupations associated with the handover of plant and machinery to others

Problems

11 those arising from information, resources and methods of work
- 11.1 own authority to rectify
- 11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities, other occupations and adverse weather conditions **Resources** 15 materials and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist: 15.1 consumables 15.2 literature, forms and documents 15.3 hand tools, portable powered tools and equipment 16 methods of calculating quantity, length, area and wastage associated with the method/procedure to handover plant and machinery to others **Security procedures** 17 site, workplace, company and operative
Developed by: ConstructionSkills Version: 2 Date approved: December 2012 Indicative review date: December 2017 Validity: Current Status: Original Originating organisation: ConstructionSkills Original URN: COSPM23 Relevant occupations: Construction and Building Trades; Performing Arts Suite: Construction Plant or Machinery Maintenance; Live Events Management; Live Events; Plant Installations Key words: Plant; Machinery; Hand-over; Demonstrating; Maintenance; Control; Live Events, Exhibitions

APPENDIX 3 - ASSESSMENT TEMPLATE DOCUMENTS

3A: Sample Form
Assessment plan and review

Candidate name:	
Employer/location:	Date:
Qualification: Unit(s): Elements:	
Assessor:	
Period of Review: (should not normally exceed 12 weeks)	Proposed Date for next review:

Part 1 – **Activities / Tasks / Learning / Training** undertaken since last review:

Part 2a – '**<u>Progress to date'</u>** specifying units/elements/modules achieved to date (the progress recorded **must** tie in with the associated '**Summary of Achievement Record'**):

Part 2b – Identified **barriers** to progress (please detail here any issues relating to the programme delivery, which have impacted negatively on progress e.g. attendance times, learning difficulties, suitability of training/learning materials, physical barriers to participation, health issues, attitude etc):

*

Part 2c – Solutions proposed to address the above barriers:

Part 3 – Agreed '**assessment planning'** & action required for the next review (<u>proposed methods of evidence collection must be recorded & proposed assessment methods must be selected</u>):	Element:							
	Proposed Assessment Methods/Sources of Evidence:							
N.B. *Methods of evidence collection may include: either hard copy records or electronic records such as audio recordings, scanned documents, photographs etc.*	CrossRef	RPL	OBS	Questioning	PS	WR	D	WT

Key: Assessment Methods/Sources of Evidence

CrossRef = Cross Referencing **RPL**= Recognition of Prior Learning

OBS = Observation **PS** = Personal Statement

WR = Work Record **D** = Discussion

WT= Witness Testimony

Part 4 – Additional comments / issues (e.g. health & safety issues):
Part 5 – Candidate comments/feedback/evaluation:
Part 6 – Employer comments on progression and achievement noted in **Part 2a**:

Part 7 – Assessor Feedback/Assessment Judgements/Decisions/Outcome

Candidate Signature: ..... Date: .....
Assessor Signature: ..... Date: .....
Employer Signature (where present): ..... Date: .....
Employer Name and position: .....

3B: Sample Form
Assessor report

Qualification:	
Candidate:	
Assessor:	
Date:	
Unit/ element:	
Location/ circumstance:	
Details of observation/ question/ answers/ discussion	**Ref**
Details of observation/ question/ answers/ discussion	**Ref**

Details of observation/ question/ answers/ discussion	**Ref**
Assessors comments (state whether candidate is competent)	
Assessor signature	
Candidate signature	

3C: Sample Form
Witness testimony

Qualification: ……

Unit: ……

Element(s): ……

Candidate Name: ……

Witness Name: ……

Witness Contact Details: ……

……

Describe your construction and any assessment qualifications/ experience:

……

……

……

Describe your relationship with the candidate:

……

……

Date of evidence: ……

Testimony and comment on candidate's performance

……

……

……

……

……

……

……

Witness Signature & Date: ……

Candidate Signature & Date: ……

Assessor Signature & Date: ……

3D: Sample Form
Candidate personal statement

Qualification:		
Candidate name:		
Element(s)	**Date**	**Statement / evidence**

Candidate's signature:		
Assessor's signature: Date:		

APPENDIX 4 - ASSESSOR TEMPLATE DOCUMENTS

4A: Sample Form
Element achievement record

Candidate name:													
Qualification:													
Unit title: **Element(s):**													
Assessor:													
Evidence ref:	**Evidence description ***	**Location ****	**Performance criteria**					**Knowledge and understanding**					

***Key: Assessment Methods/Sources of Evidence**

CrossRef = Cross Referencing **RPL**= Recognition of Prior Learning **OBS**= Observation
Q&A= Questioning **PS**= Personal Statement **WR** = Work Record **D**= Discussion
WT= Witness Testimony

***Should refer to whether the evidence can be found in the portfolio ('PF') or elsewhere, if so state location of evidence*

4B: Sample Form
Unit progress record

Qualification:		
Unit title:		
I confirm that the candidate has been assessed as competent for this unit		
Assessor name	Assessor signature	Date
I confirm that I have been assessed as competent and that the evidence produced is from work that is all mine		

Candidate name	Candidate signature	Date
I confirm that I have internally verified this unit and confirm that the candidate is competent (this section must be completed where the assessor is unqualified)		
IV name	IV signature	Date

APPENDIX 5 - INTERNAL VERIFIER TEMPLATE DOCUMENTS

5A: Sample Internal Verification Strategy

This document indicates what may be covered as part of an internal verifier's strategy. An effective internal verification strategy ensures:

- A forum for discussion of borderline cases
- Assessor networking and sharing of good practice
- Valid, reliable and consistent training and/or assessment
- Recorded assessment decisions which are appropriate, consistent, fair, transparent and equitable
- Clarity for candidates about assessment requirements
- Effective preparation and presentation for external verification
- Reduction in level of direct external verification scrutiny

To underpin the IV/ verification process a plan of internal activity should be developed indicating

- what will happen
- when it will happen
- who will be involved

New instructors/assessors must:

a) be supplied with assessment and materials
b) clearly understand assessment requirements and procedures

All assessors must:

a) know the name of the person who will manage the IV process and the name of the IV
b) know how IV/ verification will happen, when it will happen and who will be involved
c) be informed about issues raised through previous internal and external quality assurance

On Course Monitoring

The IV should:

a) Sample assessments to ensure that:
   - feedback to candidates is clear and constructive
   - teaching and assessment activities are standard and appropriate
   - assessment decisions are fair and consistent
   - teaching and assessment records are clear
b) Undertake standardisation activities
c) Ensure candidates understand assessment requirements
d) Provide advice and support for Assessors and share good practice
e) Identify good assessment practice
f) Record internal verification activities and findings, list action points and report to instructors/assessors and the EV
g) Liaise with the EV as necessary

End of Course Checking

The IV should:

a) monitor progress against previous action points
b) ensure assessment records are complete and accurate
c) ensure evidence of achievement is appropriate and standardised
d) record internal verification activities and findings, list action points, and report these to assessors and the EV

Guidance on Sampling and Record Keeping

What do IVs/IVs sample and why?

IVs are responsible for monitoring the quality of assessment, hence the need for them to sample assessment practices and decisions. It is not usually possible or necessary to verify every aspect of assessment at each internal verification. A properly selected representative sample should identify any issues with assessment practices and decisions.

Selecting a sample

To select a representative sample, IVs must take account of factors which may impact on the quality of assessment. These factors are used to define a sampling strategy that determines the size of the sample and enables judgements to be made.

Key factors to consider are:

- Sites of delivery
- Number and experience of Assessors
- Number of courses/assessments
- Previous IV actions/recommendations
- Assessment methods
- Special arrangements
- EV recommendations
- Borderline cases
- Anything else that you think might impact on assessment decisions

The sample should include an element of random selection by the IV. It is not necessary to sample across every aspect of the programme at each event but the plan should seek to cover everything over a period of time, e.g. 3 years.

Which records should be kept?

Records of internal quality assurance/ verification must be kept and made available to the EV during monitoring visits. These should demonstrate that the internal verification procedures have been carried out. IVs should record two sets of information:

1. The sample taken by the IV
2. The comments and feedback to the Assessor following the sampling exercise, showing any recommendations or action required and how this was resolved.

There is a sample form shown below that you may use or adapt to suit your own requirement.

5B: Sample Form
Internal verification - sampling assessment decisions

Unit/qualification:

Location:
Assessor name:

Candidate Name	Sampling element[1]	Was the assessment method appropriate?	Is there sufficient evidence that outcomes have been met?	Is the evidence appropriate for the level?	Comments
Comments					

Signed: **(IV)** **Date:**

Signed: **(Assessor)** **Date:**

5C: Sample Form
Internal verification – observation of assessors

Internal Verifier's Name: ……

Assessor's Name: ……

[1] *Was this a learning outcome across candidates, or a whole unit or one method of assessment?*

Candidate's Name: ……

Qualification Title: ……

Unit Assessed: ……

Element Assessed: ……

Date of Observation: ……

Location of Assessment: ……

Prior to the assessment had the Assessor:	**Yes**	**No**	**Comments:**
Developed a written Assessment Plan for the candidate			
Checked that the facilities, resources and information required for the assessment were available and ready for use			
Briefed the candidate on how the assessment would take place and what would be assessed			
During the assessment did the Assessor:	**Yes**	**No**	**Comments:**
Conduct the assessment unobtrusively without interfering with the candidate's performance			

Encourage the candidate to satisfy the specified Assessment Criteria			
Ask questions clearly in an encouraging tone and manner without leading the candidate			
Ensure that sufficient questions were asked and that they were justifiable and relevant to the Unit assessed			

During the assessment did the Assessor (continued):	**Yes**	**No**	**Comments:**
Ensure that the atmosphere created during the assessment was pleasant and conducive			
Clarify and resolve any concerns that the candidate had during the assessment			
Clearly inform the candidate of the assessment decision i.e. 'achieved' or 'requires further practice'			
After the assessment did the Assessor:	**Yes**	**No**	**Comments:**
Provide feedback that was clear, constructive, met the candidate's needs and was appropriate to his/her level of confidence			
Encourage the candidate to comment on the assessment			

decision and how he/she was assessed			
Complete the Unit assessment documentation and ensure it was fully signed and dated			

Overall feedback to Assessor:

Assessor's comments on the IV's feedback:

Assessor's Signature: ……..……..……..……..……..

Date:……..……

Internal Verifier's Signature: ……..……..……..……..

Date:……..……