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**Overview**

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components and equipment for plant or machinery operations, setting up, operating and shutting down plant or machinery for carrying out excavation work

This standard is for people working independently to operate plant or machinery to excavate ground and loose materials and can be used by operatives, supervisors and managers

**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

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**Knowledge and understanding**

**Performance Criteria 1**

**Interpretation of information**

You need to know and understand:

- 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**

You need to know and understand:

- 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**

You need to know and understand:

- 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
- K12 how to comply with environmentally responsible work practices to meet the requirements of current **legislation and official guidance**

**Performance Criteria 4**

**Request resources**

You need to know and understand:

K13 the organisational procedures for requisitioning consumables and other **resources**

**Performance Criteria 5**

**Selection of resources**

You need to know and understand:

K14 the characteristics, quality, uses, sustainability, limitations and defects associated with plant **resources** and how defects should be rectified

K15 how the **resources** should be used and how any **problems** associated with the **resources** are reported

K16 the organisational procedures to select **resources**, why they have been developed and how they are used

K17 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

**Performance Criteria 6**

**Minimise the risk of damage**

You need to know and understand:

K18 how to **protect work** from damage and the purpose of protection

K19 why **disposal of waste** should be carried out safely and how it is achieved

**Performance Criteria 7**

**Meet the contract specification**

You need to know and understand:

K20 how **methods of work**, to meet the specification, are carried out and **problems** reported

K21 how **maintenance** of plant and/or machinery, tools and equipment is carried out

**Performance Criteria 8**

**Allocated time**

You need to know and understand:

K22 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, risk assessments and manufacturers' information related to the plant or machinery operations and the work to be carried out

**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 or machinery
  - 4.4 safe use and storage of tools and 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 attachments, tools and ancillary equipment

**Performance Criteria 6**

- 7 protection of the work and its surrounding area from damage
- 8 prevent 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 check, adjust, communicate, operate, manoeuvre, position, excavate, measure and remove
- 11 use and maintain hand tools, ancillary equipment and/or accessories
- 12 operate plant or machinery to excavate ground and loose materials to given working instructions relating to one of the following categories
  - 12.1 excavators
  - 12.2 trenchers
  - 12.3 dozers
  - 12.4 loading shovels
- 13 shut down and secure plant or machinery

**Performance Criteria 8**

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

**Scope/range related to knowledge and understanding**

**Communication**

- 1 discussions, sketches, electronic data 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 local exhaust ventilation (LEV)
  - 5.3 personal protective equipment (PPE)
  - 5.4 respiratory protective equipment (RPE)

**Information**

- 6 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and current regulations governing the operation of plant and machinery for excavation work

**Legislation, Approved Codes of Practice and official guidance**

- 7 this relates to the operative's responsibilities regarding potential accidents, health hazards and the environment 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 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 the characteristics of the plant and machinery used for excavating operations
  - 9.2 carry out function checks for excavation work
  - 9.3 identify the area to be excavated
  - 9.4 carry out pre-operational checks for obstructions, stability, safety and security of the work and surrounding area
  - 9.5 identify geological, environmental and material changes and report
  - 9.6 check to avoid damage to structures and utilities service apparatus
  - 9.7 recognise and determine when specific skills and knowledge are required and report accordingly
  - 9.8 excavate accurately to line and level
  - 9.9 use equipment to gauge and measure
  - 9.10 travel on public highways
  - 9.11 excavate materials safely and securely
  - 9.12 shut down and secure plant and machinery
  - 9.13 use hand tools, ancillary equipment and accessories
- 10 team work and communication
- 11 needs of other occupations associated with operating plant and machinery to excavate ground and loose materials

**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 specialist

16.1 consumables, lubricants, fuels

16.2 attachments and excavation aids

16.3 hand tools, ancillary equipment and accessories

17 Identify weight, quantity, length and area associated with the method/procedure to operate plant and machinery to excavate ground and loose materials

**Security procedures**

18 site, workplace, company and operative

**Skills**

19 own occupation and occupations related to the work

## COSVR389 – SQA Unit Code HN4R 04

### Operate plant or machinery to excavate

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**Developed by** ConstructionSkills

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**Version number** 2

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**Originating organisation** ConstructionSkills

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**Relevant occupations** Mobile Machine Drivers and Operatives

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**Suite** Plant Operations (Construction); Piling Operations (Construction); Sub-structure Work Occupations (Construction); Fencing

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