

# COSVR376 - SQA Unit Code H0X6 04

## Operate and control operations of road plant or machinery



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### Overview

This standard is about

- 1 interpreting information for operations of plant or machinery
- 2 adopting safe and healthy working practices
- 3 selecting and/or using materials and equipment and/or accessories for road plant machinery operations
- 4 preparing, operating, controlling and shutdown of plant or machinery operations as operator or as part of a team

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### 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 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

*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

*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 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 and when **personal protective equipment (PPE)** should be used

#### Performance Criteria 4

##### Request resources

*You need to know and understand:*

- K12 the organisational procedures for requisitioning consumables and other **resources**

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*You need to know and understand:*

### **Performance Criteria 5**

#### **Selection of resources**

- K13 the characteristics, quality, uses, limitations and defects associated with plant **resources** and how defects should be rectified
- K14 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K15 the organisational procedures to select **resources**, why they have been developed and how they are used
- K16 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

*You need to know and understand:*

### **Performance Criteria 6**

#### **Minimise the risk of damage**

- K17 how to **protect work** from damage and the purpose of protection
- K18 why **disposal of waste** should be carried out safely and how it is achieved

*You need to know and understand:*

### **Performance Criteria 7**

#### **Meet the contract specification**

- K19 how **methods of work**, to meet the specification, are carried out and **problems** reported
- K20 how **maintenance** of plant and/or machinery, tools and equipment is carried out

*You need to know and understand:*

### **Performance Criteria 8**

#### **Allocated time**

- K21 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

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### Additional Information

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#### Scope/range related to performance criteria

##### Performance Criteria 1

- 1 interpretation of drawings, specifications, schedules, method statements 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 operations and the work to be carried out

##### Performance Criteria 3

- 4 avoid hazards by following the given safety information, including the use of personal protective equipment (PPE) to carry out the activity in accordance with legislation, Approved Codes of Practice and/or organisational requirements
- 5 safe use and storage of plant or machinery, tools and equipment

##### Performance Criteria 4

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

##### Performance Criteria 5

- 7 selection of resources associated with own work related to the plant and machinery operations
  - 7.1 tools, ancillary equipment and/or accessories

##### Performance Criteria 6

- 8 protection of the work and its surrounding area from damage
- 9 minimise damage and maintain a clean work space
- 10 disposal of waste in accordance with legislation

### **Performance Criteria 7**

- 11 demonstration of work skills (as applicable) to check, set up, adjust, communicate, operate, control, secure, lay, strip, compact, mark, level and finish
- 12 use and maintain ancillary equipment and/or accessories
- 13 operate, control operations and shut down plant or machinery to given working instructions relating to one of the following areas:
  - 13.1 bituminous paving: as paver driver or any two of the following – screwman, roller driver, chipping machine driver, loader-compressor driver, sweeper driver/operator or for remedials driver/operator for one of the following – membrane installation, velocity patching
  - 13.2 concrete paving: as driver/operator of the concrete paver
  - 13.3 slurry/microsurfacing: as driver/operator of any one of the following – applicator, tanker, tipper grab, sweeper, roller
  - 13.4 surface dressing: as driver/operator of any one of the following – tanker, chipper, spray bar, tanker and chipper combined, roller, loading shovel, linked tipper, sweeper
  - 13.5 high friction surfacing: as driver/operator of any one of the following – tanker, spray bar, chipper, sweeper
  - 13.6 planing operations: as driver/operator of any one of the following – up to 500 mm without elevator; 500 mm –1 m with elevator; over 1 m with elevator
  - 13.7 road recycling: as driver/operator
  - 13.8 soil stabilisation: as driver/operator
  - 13.9 surface retexturing: as driver/operator for any one of the following – mechanical retexturing, flailing, high pressure jetting, grinding, sweeper
  - 13.10 pavement marking: as steersman/ operator for white liner vehicle

### **Performance Criteria 8**

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

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### Scope/range related to knowledge and understanding

#### **Communication**

- 1 discussion, sketches and briefings

#### **Disposal of waste**

- 2 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 method of work, risk/COSHH assessments, manufacturers' technical information, statutory regulations and official guidance

#### **Information**

- 4 drawings, specifications, schedules, method statements, manufacturers' information and regulations governing operations of plant or machinery

#### **Legislation and official guidance**

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

#### **Maintenance**

- 6 operative care of plant or machinery and ancillary equipment

#### **Methods of work**

- 7 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used, to
  - 7.1 identify with the work requirements and your occupational role
  - 7.2 identify with the type of plant or machinery to be used
  - 7.3 confirm the area of work, the operations, safety and security requirements
  - 7.4 prepare, set up and carry out checks for performance of the plant or machinery
  - 7.5 carry out and control operations according to your role and the required performance of plant or machinery
  - 7.6 stop, shut down operations and secure plant or machinery
  - 7.7 use equipment and/or accessories
- 8 team work and communication
- 9 needs of other occupations associated with the operations and control of the plant or machinery

#### **Personal protective equipment (PPE)**

- 10 occupational use, types, purpose of each type and work situations

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### **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 type and size of plant or machinery and the operations
  - 15.1 consumables, lubricants, fuels
  - 15.2 attachments
  - 15.3 paving materials (bituminous; concrete; aggregates, resins, membranes, calcined bauxite, catalyst, doping agents, fibres, pigment, resins, primers)
  - 15.4 recycling materials
  - 15.5 line marking materials
  - 15.6 equipment/accessories
- 16 methods of calculating weight, quantity, length and area associated with the method/procedure for operations and control of plant or machinery

### **Security procedures**

- 17 site, workplace, company and operative

### **Skills**

- 18 own occupation and occupations related to the work



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**Relevant occupations** Road Construction Operatives

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**Suite** Roadbuilding (Construction)

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**Key words** Bituminous paving; Concrete paving; Slurry; Microsurfacing; Surface dressing; High friction surfacing; Planing; Road recycling; Soil stabilisation; Surface retexturing; Pavement marking; Plant; Machinery; Jet patching; Spray bar; Mechanical retexturing; Flaling; High pressure jetting