

Note – if you are not sure, to add a comment, click '**where**' on the document you are making the comment about, click on the '**Review**' tab, then click on the '**New Comment**' option.

Developer's Pack National Occupational Standards

for

Associated Industrial Services (Construction) Water Jetting

Project 2018

VR84, VR85, VR86

Comment [GM1]: The new standard should not just apply to construction. Industrial Jetting/ factories/ Offshore etc

The title of this word document is Industrial

Comment [AF2]: Is title still appropriate?

Development Legend

Initial proposals - **Red**

1st Meeting – **Green 18-10-18**

2nd Meeting – **Blue**

3rd Meeting – **Red underlined**

4th Meeting – **Green underlined**

5th Meeting – **Blue underlined**

Suggestions from other occupational representatives in red italics

July 2018



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List of the suite of NOS within Associated Industrial Services

AOR = Accessing Operations and Rigging

CCEO = Construction and Civil Engineering Services

PFP = Passive Fire Protection

WO = Wood Occupations

VR84 v2	Set up and prepare Prepare and demobilise water jetting equipment
VR85 v2	Remove materials/deposits by water jetting
VR86 v2	Cut and break materials by water jetting
VR152 v2	Clean façade surfaces
VR153 v2	Restore façade surfaces
VR250	Erect and dismantle access/working platforms AOR
VR350 v3	Install dry cladding
VR351 v3	Apply intumescent coatings
VR352 v3	Install fire resisting ductwork systems
VR353 v3	Install fire stopping
VR354 v3	Install cavity barriers
VR355 v3	Erect fire resisting walls and linings PFP review July 2017
VR356 v3	Erect fire resisting ceiling systems PFP review July 2017
VR357 v3	Apply non-reactive spray coatings PFP review July 2017
VR358 v3	Install fire resisting timber door-sets
VR360 v4	Install, maintain and remove work area protection and safety equipment CCEO
VR541 v1	Assess area for repair and resurfacing
VR542 v1	Prepare area for repair and resurfacing
VR543 v1	Repair and resurface damaged area
VR619 v2	Install protective components AIS – CRO reviewed August 2017
VR641	Conform to general workplace health, safety and welfare WO
VR642	Conform to productive work practices WO
VR643	Move, handle or store resources WO

Comment [AF3]: Group considered title change appropriate as elements of the NOS referred to 'close down' as well

Comment [AF4]: These are the standards being reviewed

Comment [AF5]: Group considered changing this title to 'cut and demolish by water jetting' but decided against change.

COSVR84

~~Set up and prepare~~ Prepare and demobilise water jetting equipment

Overview

This standard is about setting up, preparing and demobilising water jetting equipment, selecting, preparing and using materials, components, tools and associated equipment, interpreting information, adopting safe, healthy and environmentally responsible work practices, ~~selecting, preparing and using materials, components, tools and associated equipment, preparing water jetting equipment for operation~~

This standard is for people working in the occupational area of Water Jetting and can be used by operatives, supervisors and managers???

Nb: All proposed 'generic template' changes from existing NOS highlighted in red. Some of these are related to the look/style of the NOS, as above; most are changes that most construction occupations have felt are appropriate to knowledge, understanding and skills. They may or may not be applicable to a particular NOS. Where I believe you may have a choice to make, I have made a 'comment', otherwise, I would anticipate that you would probably want to accept the proposed change.

Much of this standard will appear to be the same or similar to other standards, but it should be considered in the context of the particular standard. The core standards, covering construction generally, used to derive the core units of the VQ (NVQ/SVQ) relate to:

VR641 – Conform to general workplace health, safety and welfare

VR642 – Conform to productive practices

VR643 – Move, handle or store resources

Knowledge, understanding and skills specific to the standard I have highlighted in orange. You will need to consider in particular whether being able to meet the standard (in addition to the more general aspects) would currently demonstrates an effective worker, ie does it remain 'fit for purpose'. OR has the occupation changed, so that the standard needs changing?

COSVR84

~~Set-up and p~~Prepare and demobilise water jetting equipment

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 ~~current~~ legislation ~~special legal status documents~~, and official guidance ~~and organisational procedures to 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 ~~request resources to sustain equipment operations to complete the programme 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 ~~carry out pre-use preparation inspections on equipment in accordance with given procedures~~
- P6 complete the work within the allocated time, in accordance with the programme of work ~~start-up and operate equipment in accordance with safe working practices to achieve the work outcome~~

Comment [GM6]: Blue WJA Code of Practise (for the use of high pressure and ultra-high pressure water jetting equipment)

AF Blue WJA CoP – would be classed as ‘official guidance’. Don not specify specific legislation, regulations or CoP as these can change – which would require change to NOS

Comment [GM7]: This is not correct. A gant chart is drawn up by a person not understanding the task in hand. A time frame is given . water jetting may be happening at the same time as other trades are on site and there are delays

AF this is high level performance criteria, ‘programme of work’ could be communicated, understood through several means, one being a ‘gant chart’. It might be verbal. Detail if required later.

THIS PAGE (WITHIN NOS COSVR84) WILL ALSO EVENTUALLY APPEAR WITHIN THE ACTUAL NOS OF COSVR85 AND COSVR86. AS THIS IS EXACTLY THE SAME IN EACH OF THESE NOS, I HAVE SHOWN IT ONLY ONCE. WHEN REVIEWING, IT SHOULD BE CONSIDERED FOR VR85 AND VR86.

COSVR84

~~Set-up and prepare and demobilise water jetting equipment~~

Knowledge and understanding

Performance Criteria 1

Interpretation of information

You need to know and understand:

- ~~K1 the operating information and legislation appropriate to the equipment~~
- K2 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K3 the types of **information**, their source and how they are interpreted
- K4 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

Comment [AF8]: K1 to K20 are performance criteria that the operative or worker should know and understand

Performance Criteria 2

Safe work practices

You need to know and understand:

- 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 and when personal protective equipment (PPE) should be used~~
why, when and how **health and safety control equipment** should be used
- ~~K11 how to comply with environmentally responsible work practices to meet current legislation and official guidance~~

Comment [GM9]: What relevance does this have to water jetting ?

Comment [AF10]: You may feel that a knowledge and understanding of this is relevant to the standard, in which case it should be included

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COSVR84

~~Set up and prepare~~ Prepare and demobilise water jetting equipment

Performance Criteria 3

Selection of resources

You need to know and understand:

- K12 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K13 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K14 the organisational procedures ~~for requisitioning consumables and other~~ to **select resources**, why they have been developed and how they are used
- K15 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

Performance Criteria 4

Minimise the risk of damage

You need to know and understand:

- K16 how to **protect work** from damage and the purpose of protection
- K17 why **disposal of waste** should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

You need to know and understand:

- K18 how **methods of work**, to meet the specification, are carried out and **problems** reported ~~the methods of work for pre-use checks needed before operating the equipment~~
- K19 how **maintenance** of tools and equipment is carried out

Performance Criteria 6

Allocated time

You need to know and understand:

- K20 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be **kept**

Comment [GM11]: How the maintenance of Pumps, hoses and tools are carried out

What daily inspections are required, and how to record these inspections

AF – this is a little more detail on K&U re P5 and would include 'pumps and hoses'

Comment [GM12]: Correct – but refer to page 2 p6 comment.

THIS PAGE (WITHIN NOS COSVR84) WILL ALSO EVENTUALLY APPEAR WITHIN THE ACTUAL NOS OF COSVR85 AND COSVR86. AS THIS IS EXACTLY THE SAME IN EACH OF THESE NOS, I HAVE SHOWN IT ONLY ONCE. WHEN REVIEWING, IT SHOULD BE CONSIDERED FOR VR85 AND VR86.

COSVR84

Set-up and prepare and demobilise water jetting equipment

Additional Information

Scope/range related to performance criteria

Performance Criteria 1

1 interpretation of drawings, specifications, schedules, method statements, current legislation, Codes of Practice, operating instructions, 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?? of the following

- 2.1 methods of work
- 2.2 safe use of personal protective equipment (PPE) safe use of health and safety control equipment
- 2.3 Installing and maintaining safety measures for the working area
- 2.4 safe use of access equipment???
- 2.5 safe use, storage security and handling of materials, tools and equipment
- 2.6 specific risks to health???

3 safe use of fire extinguishers, as appropriate to the fire ???

Performance Criteria 3

- 4 selection request of resources associated with own work
 - 4.1 materials, components and fixings ??? , tools and equipment
 - 4.2 tools and equipment ???

Performance Criteria 4

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

Comment [AF13]: PC1 to PC6 are what the operative or worker should be able to do

Comment [GM14]: A water jetter needs to interpret and understand verbal instruction , what he or she has to do / achieve , and not necessary have the skills to understand drawings

Comment [GM15]: Safe use of ppe has been red lined here.

Operatives must understand and strictly adhere to the Blue Code of Practise and what it says in there about the use of PPE when water jetting.

AF PPE is H&S control equipment, but widens this to include 'collective protective measures'

Comment [AF16]: This appear in COSVR 85/86, would seem appropriate adding here also.

Comment [AF17]: Group felt that this is varied and not all would need to do – eg a platform, some would have training on this, but not all – but should know about

Comment [GM18]: Water jetting operatives need to maintain annual Occupational Health Surveillance.

AF specific risks when setting up and preparing water jetting equipment – so high water pressure – could this apply for this 'function'?

Comment [AF19]: You may feel that it is not a 'skill' that operatives or workers need to demonstrate or perform in order to be considered competent, that they just need to know and understand about their use. As fire training can be quite costly, many businesses will have nominated employees with these skills, rather than all. As with the other proposals, you can accept or reject this proposal.

Group felt that this should be removed, not all would need these skills and difficult to evidence anyway.

Comment [GM20]: Completely no relevance to water jetting

Comment [AF21]: Group considered that materials, tools and equipment covered all aspects of resources

Comment [GM22]: Operatives should be able to demonstrate a general understanding of waste disposal , again this is not a water jettors speciality

AF Not a speciality – but is it something that the operative should also put into practice?

Set-up and prepare and demobilise water jetting equipment

Performance Criteria 5

- 8 demonstration of work skills to fit, position, secure, connect and adjust
- 9 use and maintain hand tools, portable power tools and associated ancillary equipment
- 10 carry out pre-start checks and prepare water jetting equipment to given working instructions relating to
 - 10.1 siting of equipment
 - 10.2 connecting hoses and lances/guns, and safety equipment
 - 10.3 power supply
 - 10.4 water supply
- 11 demonstration of work skills to start, stop, and control and dismantle
- 12 operate and monitor water jetting equipment to given working instructions, relating to
 - 12.1 tests runs
 - 12.2 close down
 - 12.3 clean down
- 13 return equipment to a safe operational condition on completion of work
dismantle and decontaminate equipment and make working area safe

Performance Criteria 6

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

Comment [AF23]: PC5 highlights the main occupational skills, what you must be able to do, directly related to cleaning setting up and preparing water jetting equipment

Comment [AF24]: Group considered 'associated' not needed, but ancillary highlighted other 'non-associated' equipment that might be used

Comment [GM25]: And whip checks AF is this a pre-start check?

Group considered that a whip check was a check made re hoses, lances/guns. By adding 'and safety equipment' covers a multitude of 'pre start checks and preparation' including whip checks

Comment [AF26]: Chronologically more appropriate, and group considered making safe working area important

Comment [GM27]: This is a difficult one , a man may be able to remove 1m3 of concrete when standing on open ground with no restrictions.

It would be then wrong for a person drawing up a programme of works and expect a jetter to work in a confined space and be able to achieve the same outputs

AF – would this be covered by combination of PC1 interpretation of information, PC2 safe methods of work/avoidance of risk and K&U 12 Problems....?

~~Set up and prepare~~ Prepare and demobilise water jetting equipment

Scope/range related to knowledge and understanding

Disposal of waste

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

Comment [AF28]: Scope/range 1-19 details further knowledge and understanding. This item, no1 relates back to K17 and ability/skill PC4 (7)

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

Comment [AF29]: This would relate to K6, so if you want a knowledge and understanding of 'the types of fire extinguishers and how and when they are used' then this should also be included

Hazards

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

Comment [AF30]: Group consider as K&U include

Comment [GM31]: Remove

Health and safety control equipment

- 5 identified by the principles of ~~protection~~ prevention 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)

Comment [AF32]: This would relate to K10 – all applicable?

Information

- 6 drawings, specifications, current legislation, schedules, method statements, risk assessments, Codes of Practice, manufacturers' information and operating instructions; and official guidance and current regulations governing buildings associated with???

Comment [AF33]: Group considered this not relevant – all before covers information

Legislation 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 and storage of materials by manual handling and mechanical lifting???

Comment [AF34]:current regulations governing buildings OR current regulations associated with this standard, 'Set up and prepare water jetting equipment'

Maintenance

- 8 operative care of hand tools, portable power tools and ancillary equipment ???

Set-up and prepare and demobilise water jetting equipment

Methods of work

- 9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method and area of work and materials used to
 - 9.1 carry out pre-checks, set up and shut down equipment
 - 9.2 operate equipment
 - 9.3 monitor and assess performance of pump unit, lances, guns, hoses and control valves
 - 9.4 dismantle equipment
 - 9.5 provide information for Building Information Modelling (BIM)
 - 9.6 recognise and determine when specialist skills and knowledge are required and report accordingly ???
 - 9.7 determine specific requirements for structures of special interest, traditional build (pre 1919) and historical significance ???
 - 9.8 identify and follow the installation quality requirements ???
 - 9.9 work with, around and in close proximity to plant and machinery ???
 - 9.10 direct and guide the operations and movement of plant and machinery ???
 - 9.11 use hand tools, portable power tools and ancillary equipment ???
 - 9.12 work at height ???
 - 9.13 use access equipment ???
- 10 team work and communication
- 11 needs of other occupations associated with water jetting operations

Personal protective equipment (PPE)

9 occupational use, types, purpose of each type and work situations

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

Comment [AF35]: This highlights in more detail what should specifically be known and understood and be able apply when assessing 'set up and prepare water jetting equipment'

Comment [GM36]: This is beyond most water jetting operatives – this may be levelled at a supervisor but not an operative

Comment [AF37]: Group considered include

Comment [AF38]: This is increasingly a requirement on construction sites, so if this might be a requirement on some of your sites, then it should be included. It's really just ensuring operatives are aware of BIM and that they may need to provide information in required format to their supervisor or client

Comment [AF39]: Could there be situations where the operative needs to seek further guidance or that there is something beyond their ability? Then they should understand situations when this might occur, when to seek this support and who from.

Comment [AF40]: Group considered leave in

Comment [AF41]: Group considered 'not an installation'

Comment [AF42]: Mobile elevating platforms? Would the operative worker do this, or would a sub-contractor be used to do this? Group agreed include

Comment [GM43]: Understand the reaction forces generated by water jetting equipment and the effect it will have on the use of access equipment – should never jet from ladders – refer to the wja blue code

Comment [GM44]: This has been lined out , replace this

AF it has been replaced in K&U 5.2 above 'Health and Safety Control Equipment

~~Set up and prepare~~ Prepare and demobilise water jetting equipment

Resources

- 16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist
 - 16.1 water, abrasives, chemicals
 - 16.2 fuel, lubricants, coolants
 - 16.3 pump units, hoses, lances, guns, nozzles, control valves, ~~and ancillary items~~ and safety equipment
 - ~~16.4 fittings and fixings??~~
 - 16.5 hand tools, portable power tools, automated or semi-automated systems and associated ancillary equipment ??
- 17 confirm resources and materials conform with the specification???
- 18 methods of calculating quantity, length, area, pressure drop, back pressure, reaction force, and wastage of materials associated with the method/procedure to prepare and demobilise water jetting equipment????

Security procedures

19 site, workplace, company, operative and vehicles???

Comment [AF45]: This relates back to PC3. Specifically, to assessing 'set up and prepare water jetting equipment'. What resources would/would not be needed? Are there calculations to make, I presume so?

Comment [GM46]: I don't think a water jetting operative needs to be able to do this task
AF - no calculations?

Comment [AF47]: If operatives could also be responsible for a vehicle, this is normally also included

COSVR84

~~Set up and prepare~~ Prepare and demobilise water jetting equipment

Developed by	ConstructionSkills
Version number	2 3
Date approved	???
Indicative review date	???
Validity	Current
Status	Original
Originating organisation	ConstructionSkills
Original URN	VR84
Relevant occupations	Industrial Cleaning Process Occupations ?? is this correct? or is another SOC code more relevant?
Suite	Associated Industrial Services (Construction)
Key words	Hoses; Lances; Pump-unit; Control-valves, High pressure, Water jetting, Hydro-demolition

This page is at the end of each standard – I will complete this

COSVR85 Remove materials/deposits by water jetting



Overview

This standard is about removing materials and/or deposits by water jetting, selecting, preparing and using materials, components, tools and associated equipment, interpreting information, adopting safe, healthy and environmentally responsible work practices, ~~selecting, preparing and using materials, components, tools and associated equipment, preparing and carrying out water jetting to remove surface material and/or deposits~~

This standard is for people working in the occupational area of Associated Industrial Services and can be used by operatives, supervisors and managers
~~???~~

Please review in the same way as standard COSVR84. You are now considering whether the elements of the standard are currently applicable to 'Remove materials/deposits by water jetting'. The comments I have made in COSVR84 may well be applicable for this unit. Bear in mind that pages 2, 3 and 4 in COSVR84 have not been repeated here.

The occupationally specific sections are again highlighted in orange.

COSVR85

Remove materials/deposits by water jetting

Additional Information

Scope/range related to performance criteria

Performance Criteria 1

- 1 interpretation of ~~drawings~~, specifications, ~~schedules~~, method statements, risk assessments, ~~current~~ legislation, Codes of Practice, operating instructions and manufacturers' information related to the work to be carried out???

Comment [GM48]: Refer to comment above

Performance Criteria 2

- 2 avoidance of risk by complying with the given information relating to ~~at least??~~ of the following
 - 2.1 methods of work
 - 2.2 ~~safe use of personal protective equipment (PPE) and safety control equipment~~
 - 2.3 installing and maintaining safety measures for the working area
 - 2.4 ~~safe use of access equipment ???~~
 - 2.5 safe use, storage ~~and handling of materials~~, tools and equipment
 - 2.6 ~~specific risks to health???~~

~~3 safe use of fire extinguishers, as appropriate to the fire???~~

Performance Criteria 3

- 4 selection of resources associated with own work
 - 4.1 materials, ~~and substances~~, ~~components and fixings???~~
 - 4.2 ~~hand tools and equipment???~~
 - 4.3 water jetting plant, ~~tools~~ and ~~associated ancillary~~ equipment

Comment [AF49]: Have left this in as in original NOS.

Comment [AF50]: Have added tools in here and changed associated to ancillary as requested in COSVR84 where associated used

Performance Criteria 4

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

Performance Criteria 5

- 8 demonstration of work skills to jet, direct, check, monitor and evaluate
- 9 use and maintain hand tools, ~~portable power tools~~, water jetting pumps and ~~associated ancillary~~ equipment??
- 10 operate water jetting equipment to remove material and/or deposits to given working instructions from one of the following
 - 10.1 drains and sewers (~~brick, clay, concrete, plastic, metal, pitch fibre~~)
 - 10.2 tubes and pipes (~~ferrous and non-ferrous materials~~)
 - 10.3 surface ~~preparation and cleaning and preparation of brick, concrete masonry, rock, stone, ferrous and non-ferrous metals~~

Comment [GM51]: As covered in the WJA – RED- code of practise

Comment [AF52]: Types not required as skills all the same, though there is a difference in knowledge, eg pressure might differ. Ditto 10.2, and 10.3

COSVR85

Remove materials/deposits by water jetting

Performance Criteria 6

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

COSVR85

Remove materials/deposits by water jetting

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, methods of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

- 5 identified by the principles of ~~protection~~ prevention 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, legislation, Codes of Practice, manufacturers' information, operating instructions, and official guidance ~~and current regulations governing buildings associated with ????~~

Legislation 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 and storage of materials by manual handling and mechanical lifting ???

Maintenance

- 8 operative care of hand tools, water jetting plant, portable power tools and ~~associated~~ ancillary equipment ???

COSVR85

Remove materials/deposits by water jetting

Methods of work

- 9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method and area of work and materials used to
 - 9.1 prepare and use jetting equipment to clean and remove surface deposits/materials from: clean drains, and sewers, tubes and pipes (brick, clay, concrete, plastic, pitch fibre, ferrous and non-ferrous metals) concrete, masonry, stone, rock, ferrous and non-ferrous metals
 - 9.2 prepare and use jetting equipment to remove surface deposits/materials from: concrete, masonry, stone, rock, ferrous and non-ferrous metals
 - 9.3 monitor and evaluate changes in surfaces and structures
 - 9.4 secure temporary protection
 - 9.5 monitor plant and equipment for performance requirements
 - 9.6 provide information for Building Information Modelling (BIM)
 - 9.7 recognise and determine when specialist skills and knowledge are required and report accordingly ???
 - 9.8 determine specific requirements for structures of special interest, traditional build (pre 1919) and historical significance ???
 - 9.9 identify and follow the installation quality requirements???
 - 9.10 work with, around and in close proximity to plant and machinery???
 - 9.11 direct and guide the operations and movement of plant and machinery???
 - 9.12 use hand tools, static plant, portable power tools and associated ancillary equipment???
 - 9.13 work at height???
 - 9.14 use access equipment???
- 10 team work and communication
- 11 needs of other occupations associated with water jetting operations

Comment [AF53]: Group decided to split 'tubes, pipes, sewers' etc from surfaces

~~Personal protective equipment (PPE)~~

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

Problems

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

Programme

COSVR85

Remove materials/deposits by water jetting

- 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 water supply, fuel supply, power supply, chemicals, abrasives, lubricants, coolants, protective materials and equipment
 - 16.2 barriers, guards, pump units, hose assemblies, guns, lances, control valves, nozzles and safety equipment
 - ~~16.3 fittings and fixings??~~
 - 16.4 hand tools, portable power tools, automated or semi-automated systems and ancillary equipment???
- 17 confirm resources and materials conform with the specification???
- 18 methods of calculating quantity, length, area, pressure drop, back pressure, reaction force, and wastage of materials associated with the method and procedure to remove materials/deposits by water jetting???

Security procedures

- 19 site, workplace, company, operative and vehicles???

COSVR86

Cut and break materials by water jetting



Overview

This standard is about cutting and breaking materials by water jetting, selecting, preparing and using materials, components, tools and associated equipment, interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting, preparing and using materials, components, tools and associated equipment, preparing and carrying out water jetting to cut and break materials

This standard is for people working in the occupational area of Associated Industrial Services and can be used by operatives, supervisors and managers

Please review in the same way as standard COSVR84. You are now considering whether the elements of the standard are currently applicable to 'Cut and break materials by water jetting'. The comments I have made in COSVR84 may well be applicable for this unit. Bear in mind that pages 2, 3 and 4 in COSVR84 have not been repeated here.

The occupationally specific sections are again highlighted in orange.

Comment [GM54]: The Cutting and Breaking Module – set by the WJA , is now replaced with a HD Module , Hydro Demolition

AF - should title change?

Group decided after some discussion, no

COSVR86

Cut and break materials by water jetting



Additional Information

Scope/range related to performance criteria

Performance Criteria 1

- 1 interpretation of **drawings, specifications, schedules**, method statements, risk assessments, **current** legislation, Codes of Practice, operating instructions and manufacturers' information related to the work to be carried out~~???~~

Performance Criteria 2

- 2 avoidance of risk by ~~following~~ **complying with** the given information relating to ~~at least??~~ of the following
 - 2.1 methods of work
 - 2.2 ~~safe use of personal protective equipment (PPE)~~ **health and safety control equipment**
 - 2.3 ~~installing and maintaining safety measures for the working area~~
 - ~~2.4 safe use of access equipment ?????~~
 - 2.5 safe use, storage **and handling of materials**, tools and **associated** equipment
 - 2.6 ~~specific risks to health~~ **???**~~3 safe use of fire extinguishers, as appropriate to the fire ???~~

Performance Criteria 3

- 4 selection of resources associated with own work
 - 4.1 materials, ~~and substances, components and fixings~~ **???**
 - ~~4.2 tools and equipment~~
 - 4.3 water jetting plant, **tools** and ~~associated~~ **ancillary** equipment

Performance Criteria 4

- 5 protection of the work and its surrounding area from damage
- 6 ~~minimise damage and~~ maintain a **clean clear and tidy** work space
- 7 disposal of waste in accordance with current legislation



Performance Criteria 5

- 8 demonstration of work skills to cut, break, monitor and evaluate
- 9 use and maintain hand tools, water jetting pumps, portable power tools and associated ancillary equipment ?
- 10 operate water jetting equipment to cut and break materials to given working instructions for at least four of using the following methods:
 - 10.1 brick water
 - 10.2 ceramics water with abrasives
 - 10.3 clay
 - 10.4 concrete
 - 10.5 ferrous and non-ferrous metals
 - 10.6 plastics
 - 10.7 rock
 - 10.8 stone

Performance Criteria 6

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

Comment [GM55]: Why 4 – what does this mean - water jetting alone will not cut and break all of these items .

Water Jetting with grit will cut and break all of these listed

AF – would this be classified as ‘abrasives’ listed in resources when setting up and in K&U Resources later on? This is the skills to use the water jetting equipment. Are the skills required for each material different? Does ‘4 from’ ensure that the operative would need to use the different skills involved in using grit for at least one?

Comment [AF56]: Group considered that ‘water’ and ‘water with abrasives’ are the two ‘methods that differ. The material being jetted is to a degree irrelevant

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Cut and break materials by water jetting



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, methods of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

- 5 identified by the principles of prevention 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, current legislation, Codes of Practice, operating instructions and manufacturers' information, and official guidance and current regulations governing buildings ??? / associated with ????

Legislation 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 and storage of materials by manual handling and mechanical lifting ???

Maintenance

- 8 operative care of hand tools, water jetting pumps, portable power tools and ancillary? associated 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 prepare, cut and/or break ferrous and non-ferrous metals, masonry, brick, concrete, natural stone, rock, coal, clay, ceramics; and plastics by water jetting
 - 9.2 monitor and evaluate changes in surfaces and structures
 - 9.3 secure temporary protection
 - 9.4 monitor plant and equipment for performance requirements
 - 9.5 provide information for Building Information Modelling (BIM)
 - 9.6 recognise and determine when specialist skills and knowledge are required and report accordingly ???
 - 9.7 determine specific requirements for structures of special interest, traditional build (pre 1919) and historical significance ???
 - 9.8 identify and follow the installation quality requirements???
 - 9.9 work with, around and in close proximity to plant and machinery???
 - 9.10 direct and guide the operations and movement of plant and machinery???
 - 9.11 use hand tools, pumps, portable power tools, automated or semi-automated systems and associated ancillary equipment ???
 - 9.12 work at height ?????
 - 9.13 use access equipment ?????
- 10 team work and communication
- 11 needs of other occupations associated with water jetting operations

Personal protective equipment (PPE)

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

Problems

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

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Cut and break materials by water jetting



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
 - 19.1 water supply, fuel supply, power supply, chemicals, abrasives, lubricants, coolants, protective materials and equipment
 - 16.1 barriers, guards, pump units, hose assemblies, guns, lances, control valves, nozzles and safety equipment
 - ~~16.2 fittings and fixings ??~~
 - 16.3 hand tools, portable power tools, automated or semi-automated systems and associated ancillary equipment ??
- 17 confirm resources and materials conform with the specification???
- 18 methods of calculating quantity, length, area, pressure drop, back pressure, reaction force and wastage of materials associated with the method/procedure to cut and break materials by water jetting

Security procedures

- 19 site, workplace, company, operative and vehicles???

Comment [AF57]: Nb: Applies to resources in VR84 and VR85