

Overview

This standard is about establishing and maintaining working practices and procedures across a specified range of building services engineering sector installation and/or maintenance activities that give consideration to health and safety, the natural environment and the working environment. This would include identifying hazards and risks, applying appropriate procedures and working practices to protect yourself and others.

This work may be carried out in the context of plumbing, electrotechnical, refrigeration and air conditioning, heating and ventilation, or consumer electrical and electronic products.

The person carrying out this work must possess the skills and knowledge to be able to use building services engineering sector equipment, components, materials and substances effectively, efficiently, in accordance with the specification giving consideration to the natural environment and the working environment in terms of waste materials and if appropriate water usage.

Performance criteria

To carry out this work in accordance with the current versions of *the appropriate industry standards and regulations, the specification, working practices, the working environment and the natural environment*

- You must be able to:**
- P1 identify the *appropriate industry standards and regulations*
 - P2 apply relevant **organisational procedures**
 - P3 identify **hazards and risks**
 - P4 complete documentation in accordance with the requirements of the **organisational procedures**
 - P5 review the **organisational procedures** to ensure that they will not cause potential **hazards and risks**
 - P6 implement **organisational procedures**, suppliers' and manufacturers' instructions appropriate to the safe use, maintenance, handling, transport and storage of:
 - P6.1 tools, plant and *access equipment*
 - P6.2 equipment and components
 - P6.3 materials and substances
 - P7 report to the **relevant people** in accordance with **organisational procedures**:
 - P7.1 potential **hazards and risks**
 - P7.2 potentially harmful materials and substances
 - P8 ensure that the conduct of people when undertaking the installation and/or maintenance activity does not cause potential **hazards and risks**
 - P9 comply with **organisational procedures** in the event of:
 - P9.1 injuries to self and/or others
 - P9.2 **emergencies**
 - P9.3 evacuation procedures
 - P10 implement **organisational procedures** for the safe transport and/or disposal of waste material, substances and liquids in accordance with suppliers' and manufacturers' instructions

Knowledge and understanding

To carry out this work in accordance with the current versions of *the appropriate industry standards and regulations, the specification, working practices, the working environment and the natural environment*

You need to know and understand:	K1	<i>appropriate industry standards and regulations</i>
	K2	your responsibilities in accordance with organisational procedures
	K3	the application, advantages and limitations of different <i>working practices</i>
	K4	how to recognise materials and substances that can potentially be harmful
	K5	the documentation associated with the organisational procedures' requirements
	K6	the organisational procedures for dealing with the presence of harmful materials and substances
	K7	where and how to locate relevant health and safety information needed to complete the installation and/or maintenance activity in accordance with organisational procedures
	K8	what constitutes a hazard or risk
	K9	the methods for handling of hazardous materials and substances in accordance with organisational procedures
	K10	the organisational procedures , suppliers' and manufacturers' instructions for safe use, maintenance, handling, transport and storage of: K10.1 tools, plant and <i>access equipment</i> K10.2 equipment and components K10.3 materials and substances
	K11	the warning signs for hazardous materials and substances
	K12	the methods for the safe transport and/or disposal of waste material, substances and liquids in accordance with: K12.1 organisational procedures K12.2 suppliers' and manufacturers' instructions
	K13	the organisational procedures relevant to reporting issues relating to: K13.1 health and safety K13.2 harmful substances and material K13.3 emergencies on site

Additional information

Scope related to performance criteria

The contexts and circumstances below identify where and when the NOS could apply.

1 Working environments (internal and/or external)

- 1.1 commercial
- 1.2 industrial
- 1.3 domestic
- 1.4 agricultural
- 1.5 horticultural
- 1.6 leisure and entertainment
- 1.7 residential medical and care facilities
- 1.8 public highways and parks
- 1.9 public services establishments
- 1.10 pre 1919 traditional/historic buildings

2 Emergencies

- 2.1 fire
- 2.2 flood
- 2.3 explosion
- 2.4 toxic atmosphere
- 2.5 electric shock
- 2.6 injury to person(s)

3 Organisation procedures

- 3.1 information management
- 3.2 method statement
- 3.3 project management
- 3.4 risk assessment
- 3.5 risk management
- 3.6 implementing and monitoring health and safety requirements and issues
- 3.7 implementing and monitoring issues relating to the *natural environment*
- 3.8 customer services
- 3.9 accident reporting
- 3.10 emergencies

3.11 communication with relevant people

4 Relevant people

4.1 *customers/clients*

4.2 client representatives

4.3 supervisors

4.4 site/contract manager

4.5 other contractors/trades

4.6 members of the public

4.7 work colleagues

5 Site

5.1 new build construction – building or structure

5.2 existing building or structure

Range related to performance criteria

The contexts and circumstances below identify where and when the NOS must apply

1 Potential hazards and risks

1.1 disposal of substances and materials

1.2 installation and/or maintenance methods and techniques

1.3 lifting and handling (manual and mechanically assisted)

1.4 presence of vehicle thoroughfares

1.5 storage of liquids, substances and materials

1.6 use of appliances, tools and equipment

1.7 use of *access equipment*

1.8 use of *personal protective equipment (PPE)*

1.9 working in a potentially hazardous atmosphere (e.g. presence of asbestos, dust, fumes or vapour)

1.9 working at height

1.10 working in confined spaces

Scope related to knowledge and understanding

The contexts and circumstances below identify where and when the NOS could apply

1 Working environments (internal and/or external)

- 1.1 commercial
- 1.2 industrial
- 1.3 domestic
- 1.4 agricultural
- 1.5 horticultural
- 1.6 leisure and entertainment
- 1.7 residential medical and care facilities
- 1.8 public highways and parks
- 1.9 public services establishments
- 1.10 pre 1919 traditional/historic buildings

2 Emergencies

- 2.1 fire
- 2.2 flood
- 2.3 explosion
- 2.4 toxic atmosphere
- 2.5 electric shock
- 2.6 injury to person(s)

3 Organisation procedures

- 3.1 information management
- 3.2 method statement
- 3.3 project management
- 3.4 risk assessment
- 3.5 risk management
- 3.6 implementing and monitoring health and safety requirements and issues
- 3.7 implementing and monitoring issues relating to the *natural environment*
- 3.8 customer services
- 3.9 accident reporting
- 3.10 emergencies

3.11 communication with relevant people

4 Relevant people

4.1 *customers/clients*

4.2 client representatives

4.3 supervisors

4.4 site/contract manager

4.5 other contractors/trades

4.6 members of the public

4.7 work colleagues

5 Site

5.1 new build construction – building or structure

5.2 existing building or structure

Range related to knowledge and understanding

The contexts and circumstances below identify where and when the NOS must apply

1 Potential hazards and risks

1.1 disposal of substances and materials

1.2 installation and/or maintenance methods and techniques

1.3 lifting and handling (manual and mechanically assisted)

1.4 presence of vehicle thoroughfares

1.5 storage of liquids, substances and materials

1.6 use of appliances, tools and equipment

1.7 use of *access equipment*

1.8 use of *personal protective equipment (PPE)*

1.9 working in a potentially hazardous atmosphere (e.g. presence of asbestos, dust, fumes or vapour)

1.9 working at height

1.10 working in confined spaces

Glossary**Appropriate industry standards and regulations for:**

- electricity at work
- the quality of buildings and building work in England, Northern Ireland, Scotland and Wales,
- requirements for electrical Installations
- electricity safety, quality and continuity
- working at heights
- managing health and safety at work
- workplace health and safety and welfare
- personal protection at work
- provision and use of work equipment
- manual handling operations
- construction design and management
- controlling noise at work
- controlling asbestos in the work place
- controlling substances hazardous to health
- recycling and disposal of waste electrical and electronic equipment
- microgeneration

Specification

A verbal and/or documented instruction that is an explicit set of requirements for installing, maintaining and/or servicing identified systems, equipment or products, to be satisfied by materials, components, design, processes, procedures, data management and/or service(s).

Clients and customers

- purchaser of installation and/or maintenance services
- other trades and services at the work site
- colleagues within the same organisation
- architect
- contract manager
- main/sub-contractor
- consultant

- local authority representatives
- work colleagues

Natural environment

The climate, weather and natural resources that effect and are affected by human life and economic activity

Working practices

Methods, techniques and procedures that are adopted for carrying out specific tasks that ensures workers' exposure to hazardous situations is controlled in a safe manner when:

- working with equipment, tools and plant
- working with materials and substances (hazardous and non-hazardous)
- manual handling lifting
- using lifting equipment
- using personal protective equipment (PPE)

A **public services establishment** can be a:

- hospital/medical centre
- school/college/university
- museum/library
- prison
- military base
- car park
- church or other place of worship

Access equipment

- scaffold
- ladders
- steps
- staging
- trestles
- mobile elevated work platform (MEWP)

Personal protective equipment (PPE)

- safety helmets/hats
- hairnets
- gloves
- safety steel toe capped boots/shoes
- safety spectacles/goggles
- face shields/visors
- ear plugs/muffs
- conventional or disposable overalls, boiler suits, aprons, chemical suits
- respiratory protective equipment (RPE)
- high visibility clothing

External Links

Links correct at time of NOS approval:

- Health & Safety Executive Documents <http://www.hse.gov.uk/pubns>
- The quality of buildings and building work in England
<https://www.gov.uk/government/policies/providing-effective-building-regulations-so-that-new-and-altered-buildings-are-safe-accessible-and-efficient>
- The quality of buildings and building work in Wales
<http://wales.gov.uk/topics/planning/buildingregs/?lang=en>
- The quality of buildings and building work in Northern Ireland
<http://www.dfpni.gov.uk/building-regulations>
- The quality of buildings and building work in Scotland
<http://www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards>
- British Standard 7671 – Requirements for Electrical Installations
<http://www.theiet.org/resources/wiring-regulations/>
- Carriage of dangerous goods authorisations
<https://www.gov.uk/government/publications/carriage-of-dangerous-goods-authorisations>
- The requirements and information on microgeneration
<https://www.gov.uk/government/publications/microgeneration-strategy>

Developed by	SummitSkills
Version number	1
Date approved	March 2014
Indicative review date	April 2018
Validity	Current
Status	Original draft
Originating organisation	SummitSkills
Original URN	EL1/2; M1/2
Relevant occupations	Highway Electrical Systems Installer; Installation Electrician; Maintenance Electrician; Air Conditioning Installation Engineer; Air Conditioning Service and Maintenance Engineer; Electrical Trades; Electrician; H&V Ductwork Erector; H&V Ductwork Installer; H&V Pipe Fitter/Welder; Heating and Ventilating Pipework Installation Operative; Heating and Ventilating Ductwork Installer; Heating and Ventilating Service and Maintenance Operative; Heating and Ventilating Welder; Highway Electrical Systems Commissioning Electrician; Highway Electrical Systems Service & Maintenance Electrician; Plumbers; Refrigeration Operative; Heating and Ventilation Service and Maintenance Engineer; Heating and Ventilation Industrial and Commercial Systems Engineer; Refrigeration Engineer
Suite	Air Conditioning; Consumer Electrical & Electronic Products; Electrotechnical; Heating & Ventilating; Plumbing & Domestic Heating; Refrigeration
Key words	Health and safety; working environment; natural environment; working practices; procedures; environmental; air conditioning; electrical; electronic; electrotechnical; heating; ventilation; plumbing; heating; refrigeration