

# EUSNCO305

## Locate and avoid supply apparatus and sub-structures



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### Overview

This unit is designed for the candidate to demonstrate competence in monitoring and locating and avoiding supply apparatus and sub-structures by using appropriate search and detection methods, keeping updated records, identifying and avoiding risks of damage to services and danger to personnel, and following safe work practices. Supply apparatus in the context of this unit relates to supply apparatus for utilities and other agencies.

This unit will apply to Network Construction Operations at Level 3 and is intended for Construction Supervisors.

There are two elements in this unit:

1. Identify, mark and confirm location of supply apparatus and sub-structures
2. Maintain the safety and integrity of supply apparatus and sub-structures

This unit does not provide the full requirements of the New Roads and Streetworks Act units

# EUSNCO305

## Locate and avoid supply apparatus and sub-structures

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### Performance criteria

*You must be able to:*

#### **Identify, mark and confirm location of supply apparatus and sub-structures**

- P1 the extent of the work site is identified from the work instructions and plans
- P2 position and type of supply apparatus and sub-structures are accurately identified from records, surface evidence and search techniques, and marked on the work site in accordance with work instructions and relevant approved procedures and practices
- P3 risks of damage to supply apparatus and sub-structures are identified and clearly marked in accordance with relevant approved procedures and practices
- P4 positions and types of supply apparatus and sub-structures are recorded in accordance with approved procedures and practices
- P5 deviations in the position of equipment and identification of other structures are reported in accordance with approved procedures and practices
- P6 details of position and type of supply apparatus and sub-structures are communicated to individuals and organisations in accordance with approved procedures and practices
- P7 problems and conditions outside the responsibility of the job holder are referred to an authorised person
- P8 work is carried out to approved procedures and practices
- P9 all work activities are managed, supervised and coordinated in multiple situations with the responsibility for several jobs and/or locations concurrently, dealing with a number of individuals and organisations

*You must be able to:*

#### **Maintain the safety and integrity of supply apparatus and sub-structures**

- P10 the position and condition of supply apparatus and sub-structures within the work site are maintained in accordance with their specification and relevant approved procedures and practices
- P11 working practices within the work site avoid damage to supply apparatus and sub-structures, any damage is identified and reported promptly to the authorised person
- P12 exposed supply apparatus and sub-structures are supported correctly, safely and securely, relevant to their specification and in accordance with approved procedures and practices
- P13 appropriate precautions are taken to protect individuals and organisations and equipment from the consequent effects of damage to supply apparatus and sub-structures in accordance with approved procedures and practices
- P14 damage to supply apparatus and sub-structures are reported promptly to

## EUSNCO305

### Locate and avoid supply apparatus and sub-structures

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- the appropriate authority and the area made safe, in accordance with approved procedures and practices
- P15 problems and conditions outside the responsibility of the job holder are referred to individuals and organisations
- P16 work is carried out to approved procedures and practices
- P17 all work activities are managed, supervised and coordinated in multiple situations with the responsibility for several jobs and/or locations concurrently, dealing with a number of individuals and organisations

### Knowledge and understanding

*You need to know and understand:*

#### **Identify, mark and confirm location of supply apparatus and sub-structures**

- K1 typical locations and depths of the usual range of underground supply apparatus and sub-structures
- K2 methods of marking underground supply apparatus e.g. identification tape
- K3 the type of hazard associated with different supplies and actions to take in the case of damage
- K4 the persons/organisations to be notified in the case of damage to supply apparatus or sub-structures
- K5 methods of marking out for excavation work to ensure the accurate location of the required excavation
- K6 the outcomes of incorrect marking out of the excavations, including costs, loss of time, and material wastage
- K7 the importance of protecting supply apparatus exposed during excavation work
- K8 methods of providing appropriate temporary and permanent support for supply apparatus exposed during site excavations
- K9 the main sources of legislation relating to highways operations in the proximity of other supply apparatus
- K10 methods of visually locating and identifying underground supply apparatus and sub-structures, including markers, signs and features, and the use of existing records
- K11 principles of operation and method of use of electronic detection equipment
- K12 how to interpret the results of electronic detection equipment readings
- K13 the possible effects of external influences on electronic detection equipment readings
- K14 the situations in which it would be appropriate to use trial holes to locate underground supplies and sub-structures
- K15 regulations governing the location of supply apparatus where this exposes other services
- K16 main industry procedures and practices for confirming the location and marking of supply apparatus and sub-structures, including environmental, organisational, regulatory, emergency, operational, health, safety and environment compliance, relevant company field procedures and risk assessments within the remit of the candidate's responsibility
- K17 roles and responsibilities of the various organisations and cross sectors involved in the work activity
- K18 how to liaise effectively with the various organisations and cross sectors

# EUSNCO305

## Locate and avoid supply apparatus and sub-structures

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- involved in the work activity
- K19 main responsibilities of the employer and employee under the Health and Safety at Work Act
- K20 legislation governing work in excavations
- K21 safe procedures for handling the range of location equipment
- K22 safe procedures for handling hazardous materials
- K23 accident recording and reporting procedures

*You need to know and understand:*

- Maintain the safety and integrity of supply apparatus and sub-structures**
- K24 for each of the supply apparatus to be located, the key physical properties of the supply pipeline or component – size (diameter), colour, material and its resistance to impact from excavation activities, methods of identification of supply apparatus for utilities and other agencies and sub-structures
- K25 the physical properties of the medium being carried by the supply-ignition characteristics, density relative to air, electrocution etc.
- K26 the risks associated with maintaining the safety and integrity of supply apparatus and sub-structures
- K27 for each of the supplies within the range the possible effects of damage to the supply apparatus and sub-structures
- K28 that the implications of damage to the supply apparatus could include personal danger to the health or life of the operatives, or to others on site
- K29 that the implications of damage to the supply apparatus could include damage to the environment
- K30 that the implications of damage to the supply apparatus could include additional job costs in repair and delay to job progress
- K31 how regulations identified in the street works act apply to the job in hand
- K32 the importance of providing adequate support for supply apparatus and sub-structures
- K33 the possible outcomes of leaving exposed supply apparatus and sub-structures unsupported, including supplies for utilities and other agencies
- K34 methods of adequately supporting exposed supply apparatus and sub-structures
- K35 main requirements of legislation relating to the precautions to be observed during supply location works, including statutory and regulatory provisions
- K36 main industry procedures and practices for maintaining the integrity of supply apparatus and sub-structures including environmental, organisational, regulatory, emergency, operational, health, safety and environment compliance, relevant company field procedures and risk assessments within the remit of the candidate's responsibility
- K37 roles and responsibilities of the various organisations and cross sectors involved in the work activity
- K38 how to liaise effectively with the various organisations and cross sectors involved in the work activity

## EUSNCO305

### Locate and avoid supply apparatus and sub-structures

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- K39 site management structures for highways operations
- K40 the importance of referring to appropriate persons, problems that are outside the area of the candidate's responsibility
- K41 procedures for reporting and recording job progress, problems, deviations to work programmes
- K42 main responsibilities of the employer and employee under the Health and Safety at Work Act
- K43 legislation governing work in excavations
- K44 safe procedures for handling the range of equipment used in maintaining the integrity of supply apparatus and sub-structures
- K45 safe procedures for handling hazardous materials
- K46 accident recording and reporting procedures
- K47 the range and use of personal protective equipment

### Additional Information

#### Scope/range related to performance criteria

#### Identify, mark and confirm location of supply apparatus and sub-structures

1. supply apparatus and sub-structures: this will include the supply apparatus for utilities and other agencies, above ground services, built structures, the natural environment (e.g. foundations, tree roots, natural watercourses)
2. search techniques: electronic location equipment, trial holes, visual, use of drawings
3. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments
4. multiple situations: more than one team, more than one operation
5. individuals and organisations: Customers, contractors, network operatives, colleagues, statutory bodies

#### Maintain the safety and integrity of supply apparatus and sub-structures

6. supply apparatus and sub-structures: this will include the supply apparatus for utilities and other agencies, above ground services, built structures, the natural environment (e.g. foundations, tree roots, natural watercourses)
7. approved procedures and practices: Health, Safety and Environmental related to the individual and others, organisational, regulatory, statutory, emergency, operational, contingency plans, relevant company policies, relevant client policies (internal or external) approved materials and equipment and procedures, and risk assessments
8. multiple situations: more than one team, more than one operation
9. individuals and organisations: Customers, contractors, network operatives, colleagues, statutory bodies

# EUSNCO305

## Locate and avoid supply apparatus and sub-structures

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