

Water Networks Technician

Unit WNTC04 Location and Avoidance of Underground Apparatus

This training specification has been developed from the water process technician standard. The specification details the **minimum** training specification, as agreed by industry employers, to deliver the skills and knowledge required to carry out the location and avoidance of underground apparatus in a work area.

The specification details the critical requirement of the activity to carry out the work outlined and does not preclude employers from adding to the skills and knowledge detailed by the specification in their own training programmes.

All work must be carried out to approved procedures and practices and in accordance with statutory health, safety and environmental requirements.

What does this specification look like?

Water networks technicians need to be able to:

- LAU1 Being able to confidently use utility plans and electronic locating equipment to locate underground services in accordance with company procedures
- LAU2 Demonstrating a safety conscious approach to the control of hazards associated with the activity whilst working and communicating effectively with third parties and other team members to achieve tasks

What do I need to take this module?

Candidates to be **assessed** as competent in this area should have successfully completed the modules shown below or have evidence demonstrating an equivalent level of competence.

1. SHEA Water or equivalent

Performance Criteria

To achieve this unit, you will need to be able to:

General Requirements

- P1. Identify the work area to be accessed using company documentation, systems and work instructions
- P2. Select, inspect and wear required PPE in line with company procedures
- P3. Carry out a site specific risk assessment of the work area, identifying the hazards and implementing the control measures required
- P4. Maintain accurate and up to date records
- P5. Report information and data to the designated person

Task Specific - Location and Avoidance of Underground Apparatus

- P6. Inspect and prepare tools and equipment for the location activity
- P7. Check the electronic locating equipment in accordance with company and manufacturer's instructions
- P8. Use work instructions, utility plans and line search documents to determine the extent of the work site area where utilities are to be located
- P9. Carry out a visual inspection of the work area surface to identify evidence of any services in accordance with work instructions and or company procedures
- P10. Use electronic locating equipment in **ALL** of the following modes to locate utilities:
 - a) Power
 - b) Radio
 - c) Signal Generator (in direct connection, induction and nulling out modes)
- P11. Mark and record the position of services and sub-structures on the work site in accordance with company procedures
- P12. Communicate details of the position and type of services and sub-structures to personnel in accordance with company procedures
- P13. Report deviations in the position of equipment and identification of other structures in accordance with company procedures e.g. street furniture
- P14. Store tools and equipment safely and securely and leave the work area work in a safe condition in accordance with company procedures

Knowledge and Understanding

To achieve this unit, you will need to know and understand:

General Requirements

- K1. The principles of Health, Safety and Environmental legislation in relation to working with water
- K2. The organisation's safety rules, policies and procedures relating to working with water
- K3. The hazards associated with working on the clean water network and the correct way to respond to them
- K4. How to select, inspect and use PPE when working with water
- K5. How to carry out a site specific risk assessment and identify workplace hazards
- K6. How to respond in the event of an emergency situation in the workplace environment
- K7. How to leave the work area in a safe and secure condition
- K8. The company recording and reporting process

Task Specific - Location and Avoidance of Underground Apparatus

- K1. The health and safety legislation, guidelines and company policy and procedures relating to underground services
- K2. The hazards associated with working on or near underground services including:
 - a) Gas
 - b) Electric
 - c) Fibre optic
 - d) Oil / petroleum
 - e) Wastewater
- K3. The dangers of electricity and how an electric shock can be received including direct contact, induced voltage, arcing
- K4. How to interpret utility drawings and line search documents to identify underground utilities and apparatus
- K5. Methods of visually locating and identifying underground services including: markers, signs and features, use of existing records e.g.
 - a) Gas
 - b) Electric
 - c) Fibre optic
 - d) Oil / petroleum
 - e) Wastewater
- K6. The typical locations and depths of underground utilities
- K7. Methods of accurately marking out services and excavations
- K8. The potential outcomes of incorrect marking out of services and excavations including injury, costs, loss of time, and material wastage

- K9. How to use electronic locating equipment in power and radio modes and using the signal generator in direct connection, induction and nulling out modes
- K10. How to interpret the results obtained by the use of electronic locating equipment
- K11. The possible effects of external influences on electronic locating equipment readings and reduce the effects e.g. metal fencing, reinforced concrete
- K12. The procedures for reporting and recording work problems and deviations to work programmes
- K13. How to report matters outside of the role responsibility to the designated persons using approved procedures e.g. line search, high pressure pipelines, general archaeology, ecology etc.

How will it be assessed?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Assessment types:

1. External assessment – an external accrediting body will assess against a national minimum standard
2. Internal assessment process – a company led on-going assessment against requirements
3. End-point assessment – see assessment plan for further details here (will be Energy & Utility Skills defined)

What type of evidence will be expected?

To achieve this unit, you will need to be able to provide evidence of the performance criteria and the knowledge and understanding requirements listed above.

Evidence types:

1. On-going local assessments
 - a) Assessment plan, review, feedback, standard assessment sheets
2. Knowledge based learning
 - a) Classroom, exams, assignments, Q&A sessions, e-learning modules
3. Evidence portfolios
 - a) Learning logs, photos, observation sheets

Assessment types and process

