

EUSLDC7 SQA Unit Code - (HE0D 04)

Carry out step-testing operations in order to localise the area of potential leakage



Overview

This unit is designed to carry out step-tests by isolating and re-commissioning pipework on the water distribution network. You will prepare the site and equipment for step-testing activities, isolate the appropriate section of the distribution network, carry out the step-testing activities, and deal with any problems which arise, and then re-commission the network when all work is fully completed.

All work will be done with strict adherence to hygiene procedures

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Performance criteria

You must be able to:

Prepare the site for step-testing activities

- P1 obtain step-testing plans and determine an appropriate sequence of activities and the equipment required
- P2 determine the boundary, circulatory and step valves on network plans which will be utilised for step-testing activities
- P3 confirm the network fittings are leak free and in working order, are in the correct location and are accessible prior to step-testing activities
- P4 where problems have been identified with network fittings, confirm these have been rectified as required prior to step-testing
- P5 set up the equipment required to ensure the specified tests provide optimum results, according to the area to be tested and its characteristics
- P6 establish contingency plans for situations where potential problems might occur during step-testing.
- P7 confirm notification procedures are put in place in accordance with organisational requirements
- P8 record preparation activities in accordance with organisational requirements
- P9 follow safe working and hygiene processes in accordance with approved procedures and practices

You must be able to:

Isolate a section of the distribution network

- P10 determine the section of the distribution network which needs to be isolated, in accordance with work requirements
- P11 confirm that customers who will be affected are informed, and that service levels will be maintained, in accordance with organisational requirements
- P12 compare the network fittings on the ground with those on network plans which will be involved in the isolation activity and report any differences you find
- P13 confirm that there are no obvious sources of potential contamination on the network fittings within the isolated section
- P14 access and operate the relevant network fittings in the required sequence
- P15 inform those who need to know that the section of the network has been isolated as required
- P16 record details of the isolation activity in line with requirements and inform those who need to know that the section has been isolated
- P17 follow safe working and hygiene processes in accordance with approved

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procedures and practices

You must be able to:

Carry out step-testing activities

- P18 make sure those affected by testing have been informed of the time and duration of tests and their effect on water supply
- P19 set-up monitoring equipment according to test requirements
- P20 carry out the series of valve operations in the sequence and time periods specified in the step-testing plan
- P21 make an accurate record of the times of valve operations and their duration
- P22 use step-testing equipment correctly and safely according to the manufacturer's specification
- P23 return supply systems to identified operating condition
- P24 take appropriate action to resolve potential problems which occur during and immediately after step-testing
- P25 determine and confirm that test information is valid and sufficient for completion of the test
- P26 use test data to eliminate areas not requiring further investigation and highlight the discrete areas and specific details of potential leakage
- P27 record step-testing details, data received and test analysis according to organisational requirements
- P28 carry out step-testing activities according to water quality and hygiene procedures, health and safety and organisational requirements

You must be able to:

Re-commission a section of the distribution network

- P29 check and confirm the section of the network is ready for re-commissioning, in accordance with work requirements
- P30 identify the network fittings to be used for re-commissioning
- P31 carry out the hygiene procedures which need to be undertaken prior to re-commissioning
- P32 access and correctly operate the relevant network fittings in the required sequence
- P33 carry out flushing operations and discharge water in accordance with organisational procedures
- P34 confirm that mains water sampling is carried out, in accordance with organisational procedures
- P35 record re-commissioning details in line with requirements and provide the time of re-commissioning to those who need to know
- P36 follow safe working and hygiene processes in accordance with approved procedures and practices

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Knowledge and understanding

You need to know and understand:

Prepare the site for step-testing activities

- K1 how to read step-testing and network plans
- K2 how to carry out step-tests and the implications of the New Road and Street Works Act on testing activities
- K3 how to identify those who may be affected by step-testing
- K4 how network fittings work and organisational procedures for rectifying problems with them
- K5 how to set-up the equipment
- K6 the potential problems which may occur and how to deal with them
- K7 organisational notification procedures
- K8 recording procedures
- K9 safety and hygiene processes and related regulatory and statutory requirements

You need to know and understand:

Isolate a section of the distribution network

- K10 how to read network plans
- K11 the effect that isolating a section of the network may have on the wider distribution system, the immediate zone, water quality and customers
- K12 organisational requirements for informing customers
- K13 potential sources of contamination of network fittings
- K14 how to operate network fittings and the importance of doing it in the required sequence
- K15 how to check that isolation has been successful, the importance of doing this, and who to inform that it had been completed
- K16 recording requirements
- K17 safety and hygiene processes and related regulatory statutory requirements

You need to know and understand:

Carry out step-testing activities

- K18 organisational contact policies for those affected by testing activities
- K19 how to set up monitoring equipment
- K20 how to carry-out step-tests
- K21 the implications which valve operations can have on the network
- K22 correct and safe use of step-testing equipment
- K23 how to return supply systems to identified operating conditions, and what

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- operating conditions are covered
- K24 typical and unusual problems which may occur during step-testing and the action to take
- K25 how to decide when the test is complete
- K26 recording requirements
- K27 safety and hygiene processes and related regulatory and statutory requirements

You need to know and understand:

Re-commission a section of the distribution network

- K28 work requirements for re-commissioning a section of the network
- K29 how to read network plans
- K30 when and how to carry out hygiene procedures
- K31 how to operate network fittings and the importance of doing it in the required sequence
- K32 flushing procedures
- K33 water disposal procedures and the potential damage which can be caused by incorrect disposal
- K34 the need for sampling
- K35 recording requirements and who needs to be informed about re-commissioning
- K36 safety and hygiene processes and related regulatory and statutory requirements

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Additional Information

Glossary

Action

Rectification of problems within responsibility, reporting of problems outside responsibility

Approved procedures and practices

Regulatory, Health, Safety and Environment, relevant company procedures, emergency

Details

Date of isolation, time of isolation

Equipment

Meters, pressure gauges, data-loggers

Network fittings

Isolation valves, air valves, hydrants

Potential problems

Customers, health and safety situations, accuracy of network plans, highway requirements, valve location, access and operation, implications for water quality, emergency situations, deviations in levels of service

Valves:

Boundary, step, circulatory

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