

EUSLDC4

Determine leakage detection methods and techniques in response to identified water loss



Overview

This unit is designed to demonstrate competence in deciding the leakage detection methods and techniques to be used where a water loss situation has been identified on the water distribution network. You will need to use information from existing records and data to help you decide whether acoustic, flow and pressure or visual leakage detection methods may need to be used, or a combination depending on the situation in question. You will also need to decide how urgent the leakage situation is, the condition of the distribution infrastructure and whether any major factors will influence the choice of detection methods.

You must evaluate the leakage detection methods which should provide the greatest chance of success; the equipment and resources which will be needed and their availability. You will also identify the effects of the detection methods you are considering on the water supply, water quality and customers and consider health, safety and environmental aspects. You must record the information about the detection methods used, and make sure the relevant people are provided with the information.

Hygiene procedures should be followed at all times.

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Performance criteria

You must be able to:

Establish the circumstances relating to the area of potential leakage

- P1 interpret information from existing records and data which will inform the choice of leakage detection methods and techniques
- P2 assess the quantity and rate of water loss to determine and advise on the urgency and acceptable timescales for dealing with the identified water loss
- P3 determine the necessity for disruption to supply and potential extent of disruption in order to deal with the identified water loss situation
- P4 establish the condition and type of the distribution infrastructure and its suitability for specific leakage detection activities
- P5 decide any major factors and their details which may impact on the choice of leakage detection methods and techniques
- P6 assess the suitability of leakage detection methods and techniques from an analysis of the distribution network and its current characteristics
- P7 use trend information details to determine the potential impact of the use of leakage detection methods and techniques

You must be able to:

Select appropriate leakage detection methods and techniques

- P8 evaluate the limitations and capabilities of suitable leakage detection methods and techniques according to the circumstances identified
- P9 determine those leakage detection methods and techniques (1) which will have the greatest chance of success according to the specified circumstances
- P10 specify, and sequence, the extent and combination of leakage detection methods and techniques which will produce the most effective leakage detection activity
- P11 determine the equipment and resource requirements for suitable methods and techniques
- P12 establish the availability of equipment and the cost effectiveness of its use
- P13 determine the potential effects on the water supply, water quality and customers of suitable methods and techniques
- P14 determine the health, safety and environmental implications of suitable methods and techniques
- P15 confirm the viability of your chosen methods and techniques with relevant personnel
- P16 record relevant information regarding selected leakage detection methods and techniques according to organisational requirements

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Knowledge and understanding

You need to know and understand:

Establish the circumstances relating to the area of potential leakage

- K1 how to access and use existing records and data
- K2 how to interpret data and information
- K3 Leakage detection methods and techniques and those used by the employing organisation
- K4 how to determine the urgency of an identified water loss situation and who to advise
- K5 how to determine supply disruption details
- K6 the relevance of condition and type of distribution infrastructure to leakage detection methods and techniques
- K7 what major factors you might need to consider which could impact on the choice of detection methods and techniques
- K8 how to determine the suitability of leakage detection methods and techniques
- K9 how to analyse trend information
- K10 organisational service standards for leakage activities

You need to know and understand:

Select appropriate leakage detection methods and techniques

- K11 how to evaluate the limitations and capabilities of suitable leakage detection methods and techniques according to the circumstances identified
- K12 how to determine those leakage detection methods and techniques which will have the greatest chance of success according to the specified circumstances
- K13 how to specify, and sequence, the extent and combination of leakage detection methods and techniques which will produce the most effective leakage detection activity
- K14 how to determine the equipment and resource requirements for suitable methods and techniques
- K15 how to establish the availability of equipment and the cost effectiveness of its use
- K16 how to determine the potential effects on the water supply, water quality and customers of suitable methods and techniques
- K17 how to determine the health, safety and environmental implications of suitable methods and techniques
- K18 how to confirm the viability of your chosen methods and techniques with relevant personnel
- K19 how to record relevant information regarding selected leakage detection methods and techniques according to organisational requirements

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Additional Information

Glossary

Existing records and data relating to

The network infrastructure and assets, customers, effect on water quality, environmental details relating to traffic & noise levels, trends from historic data

Leakage detection methods and techniques

Acoustic methods, visual methods, flow and pressure methods

Major factors related to

Customers, traffic, resources

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