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## Overview

This Standard is about using leakage detection techniques to identify the location of water loss on the distribution network. Leakage detection techniques can include, but are not restricted to, acoustic, flow and pressure, step testing and visual. It includes selecting suitable single or combinations of leakage detection methods, setting up and configuring leakage detection equipment and using the results to identify leakage location. You will need to be able to prioritise the urgency of leakage situations, record information and make sure the relevant people, including customers, are provided with updates. Health, safety and hygiene procedures should be followed at all times.

This Standard is for anyone who uses appropriate leakage detection techniques to identify the location of water loss on the distribution network.

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## Performance criteria

### *You must be able to:*

1. obtain and analyse current information from existing records and data
2. select leakage detection methods that are appropriate for the condition and type of distribution infrastructure and its current characteristics
3. select methods and techniques that comply with health, safety and environmental considerations whilst minimising effects on water supply, water quality and customers
4. specify, and sequence, the extent and combination of leakage detection methods and techniques which will produce the most effective leakage detection activity
5. use information from reliable sources to determine equipment and resource requirements, availability and cost effectiveness
6. establish contingency plans in line with organisational procedures for situations where potential problems might occur
7. confirm notification procedures are put in place in accordance with organisational requirements
8. make sure those affected by testing are informed of the time and duration of tests and their effect on water supply before they start
9. check equipment for leak detection is in working order and safe to use
10. use relevant equipment for final pinpointing before marking up leak position
11. connect, set up and configure equipment in line with manufacturers' instructions
12. use results to identify and verify accurate location of leakage
13. dismantle, clean and return equipment to storage in accordance with organisational requirements
14. mark the position of leakage in accordance with organisational requirements
15. record and report the position of leakage, including any local environmental or traffic conditions, in accordance with organisational requirements
16. determine and advise on urgency and acceptable timescales for dealing with identified water loss in compliance with quantity, rate of water loss and organisational service standards
17. determine the options for disruption to supply and potential extent of disruption that is necessary to deal with identified water loss

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situations

18. report relevant details to appropriate people about detection methods and the need for any further investigation
19. follow safe working and hygiene processes in accordance with approved procedures and practices

## Knowledge and understanding

*You need to know and understand:*

1. regulations, company procedures and processes relating to health, safety, environment and emergencies
2. leakage detection methods and techniques, their limitations and capabilities for different types of pipe in linear and non-linear configurations
3. how leakage detection methods can be sequenced and combined
4. how to determine the suitability of leakage detection methods for different circumstances
5. the benefits of using noise suppression and when it is appropriate
6. the purpose of using a velocity check in the event of material variations
7. the relevance of condition and type of distribution infrastructure to leakage detection methods and techniques
8. how to access and interpret existing records and data relating to network infrastructure and assets, customers, effect on water quality, environmental details relating to traffic & noise levels, trends from historic data
9. how to analyse trend information to determine potential impact of leakage detection techniques
10. how to assess information about customers, traffic, resources and the environment
11. how to determine the urgency of a water loss situation and who to advise
12. how to determine supply disruption details
13. how to determine equipment and resource requirements, availability and cost effectiveness
14. how to determine potential effects on water supply, water quality and customers
15. how to set up and calibrate equipment including that for final pinpointing of leaks
16. the implications of pipework configuration on test results
17. relevant health, safety and environmental regulations
18. organisational record keeping requirements with relation to leakage detection
19. organisational service standards for leakage activities
20. who to inform about problems and organisational procedures for doing so

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21. how to Identify those who may be affected by testing activities
  22. organisational notification procedures
  23. organisational contact policies for those affected by testing activities

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<b>Developed by</b>	Energy & Utility Skills
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<b>Version Number</b>	2
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<b>Date Approved</b>	December 2018
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<b>Validity</b>	Current
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<b>Status</b>	Original
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<b>Originating Organisation</b>	Energy & Utility Skills
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<b>Original URN</b>	EUSLDC4
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<b>Relevant Occupations</b>	Engineering; Water Network Technician; Water Leakage Detection Technician
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<b>Suite</b>	Leakage Detection and Control
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<b>Keywords</b>	leakage detection, water loss, detection techniques
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