Level 5 Certificate in Management of Water Networks

Qualification Specification

Contents

Introduction

The **Level 5 Certificate in Management of Water Networks** is aimed at candidates working in a water network management role in the water industry.

The Regulated Qualifications Framework (RQF) is the single framework for regulated qualifications, the regulatory body for this qualification is the Office of Qualifications and Examinations Regulation (Ofqual). This qualification is accredited onto the RQF.

Qualification Profile

Qualification title	**ProQual Level 5 Certificate in Management of Water Networks**
Ofqual qualification number	603/3731/X
Level	Level 5
Total qualification time	240 hours
Credits	24 credits
Guided learning hours	240
Assessment	Pass or fail Assessed and verified by centre staff External quality assurance by ProQual verifiers
Qualification start date	29/10/2018
Qualification end date	31/7/2026

Entry Requirements

There are no formal entry requirements for this qualification. Centres should carry out an **initial assessment** of candidate skills and knowledge to identify any gaps and help plan the assessment.

Qualification Structure

To achieve the qualification candidates must complete TWO Mandatory units.

Unit Reference Number	Unit Title	Credits	Unit Level	GLH
Y/617/2838	Understanding Water Networks	12	5	120
R/617/2840	Management of Water Networks	12	5	120

Centre Requirements

Centres must be approved to offer this qualification. If your centre is not approved please complete and submit form **ProQual Additional Qualification Approval Application**.

Staff
Staff delivering this qualification must be appropriately qualified and occupationally competent.

Assessors/Internal Quality Assurance
For each competence-based unit centres must be able to provide at least one assessor and one internal quality assurance verifier who are suitably qualified for the specific occupational area. Assessors and internal quality assurance verifiers for competence-based units or qualifications will normally need to hold appropriate assessor or quality assurance verifier qualifications, such as:

- ProQual Level 3 Certificate in Teaching, Training and Assessing
- Award in Assessing Competence in the Work Environment
- Award in Assessing Vocationally Related Achievement
- Certificate in Assessing Vocational Achievement
- Award in the Internal Quality Assurance of Assessment Processes and Practices
- Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practices

Support for Candidates

Materials produced by centres to support candidates should:

- enable them to track their achievements as they progress through the learning outcomes and assessment criteria;
- provide information on where ProQual's policies and procedures can be viewed;
- provide a means of enabling Internal and External Quality Assurance staff to authenticate evidence

Assessment

Candidates must demonstrate the level of knowledge and/or skills described in the units. Assessment is the process of measuring a candidate's knowledge and understanding against the standards set in the qualification.

Each candidate is required to produce evidence which demonstrates their achievement of all of the learning outcomes and assessment criteria for each unit.

Evidence could include:
- observation report by assessor
- assignments/projects/reports
- professional discussion
- witness testimony
- record of oral and written questioning
- Recognition of Prior Learning

Learning outcomes set out what a candidate is expected to know, understand or be able to do. **Assessment criteria** specify the standard a candidate must meet to show the learning outcome has been achieved.

Learning outcomes and assessment criteria for this qualification can be found from page 7 onwards.

To achieve this qualification all candidates must produce evidence which demonstrates their achievement of all of the assessment criteria.

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.

Simulations are permitted where candidates, during the course of their qualification, are not able to provide evidence from naturally occurring events.

Internal Quality Assurance

An internal quality assurance verifier confirms that assessment decisions made in centres are made by competent and qualified assessors, that they are the result of sound and fair assessment practice and that they are recorded accurately and appropriately.

Adjustments to Assessment

Adjustments to standard assessment arrangements are made on the individual needs of candidates.   ProQual's Reasonable Adjustments Policy and Special Consideration Policy sets out the steps to follow when implementing reasonable adjustments and special considerations and the service that ProQual provides for some of these arrangements. Centres should contact ProQual for further information or queries about the contents of the policy.

Results Enquiries and Appeals

All enquiries relating to assessment or other decisions should be dealt with by centres, with reference to ProQual's Enquiries and Appeals Procedures.

Certification

Candidates who achieve the requirements for qualifications will be awarded:

- A certificate listing the units achieved, and
- A certificate giving the full qualification title -

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Claiming certificates
Centres may claim certificates for candidates who have been registered with ProQual and who have successfully achieved the requirements for a qualification. All certificates will be issued to the centre for successful candidates.

Unit certificates
If a candidate does not achieve all of the units required for a qualification, the centre may claim a unit certificate for the candidate which will list all of the units achieved.

Replacement certificates
If a replacement certificate is required a request must be made to ProQual in writing. Replacement certificates are labelled as such and are only provided when the claim has been authenticated. Refer to the Fee Schedule for details of charges for replacement certificates.

Learning Outcomes and Assessment Criteria

Unit Y/617/2838
Understanding Water Networks

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
1. Understand the regulatory and legislative framework in which the water industry operates, with particular emphasis on the impact of the framework on the operation and maintenance of the water network	1.1 List the main legislation which pertains to the water industry and demonstrate understanding of the key aspects and how they impact the operation of the water network
	1.2 Discuss possible future legislation and describe how the water industry can prepare, react and influence legislators and key opinion formers
	1.3 Contribute to the management of the expectations of the various stakeholder groups which influence the water industry, including regulators
	1.4 Explain the regulatory and economic impact of over and under achieving regulatory performance outcomes and contribute to the prioritisation of business activities to maximise the company's regulatory position in relation to the water network
	1.5 Describe the latest regulatory developments in relation to competition for water services and explain how the industry is adapting
2 Understand the implications of water treatment on the water quality aspects of water networks	2.1 Explain the impact of water source on water quality networks with particular reference to the water cycle
	2.2 Explain the impact of water treatment processes on network operations
	2.3 Demonstrate understanding of the link between water treatment and public health by an understanding of waterborne diseases and their prevention
	2.4 Carry out critical analysis of the causes of water quality deterioration within the network and the controls available to prevent it, particularly microbiological discolouration and acceptability
3 Understand the impact of major components of water network on water quality and resilience of the water network	3.1 Explain how the major components of the networks from WTW to customers' taps impact on function, selection and maintenance requirements

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	3.2 Explain what data is required to inform the effective management of water network
	3.3 Demonstrate an awareness of the regulatory and legislative framework for the adoption of new assets to the new water network
4 Understand the water company's clean water delivery systems for effective operational management of the water network	4.1 Explain the water company's strategy for the coordination of across functional boundaries to ensure effective operational delivery of clean water
	4.2 Explain how specific systems and processes ensure effective operational management of water network to meet regulatory and customer requirements
	4.3 Explain the water company's strategy on the evaluation of risk and its impact on operational management
	4.4 Explain the types of actions appropriate in the event of a failure or problem
5 Understand hydraulic principles in relation to the water network	5.1 Explain the application and importance of hydraulics for water networks
	5.2 Apply and convert SI units and perform essential arithmetical operations for hydraulic calculations
	5.3 Explain fundamental Hydraulic principles including the Continuity Equation, hydraulic forces, Bernoulli energy conservation and energy friction losses
	5.4 Explain Pump Curves and System Curves
	5.5 Demonstrate the appropriate application of hydraulic principles across a range of water network applications and uses, including a scenario exercise
6 Understand best practice for leakage and demand management	6.1 Explain why demand management is critical to the water company's sustainability and the role leakage plays in the whole demand management strategy
	6.2 Critically evaluate the range of demand management operations available including leakage management, metering and water efficiency promotion
	6.3 Develop a leakage management strategy with regard to short and long run economic levels of leakage and external influences on the strategy

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	6.4 Analyse data and define data requirements to be able to carry out leakage calculations in accordance with current best practice
	6.5 Critically evaluate the main methods of leakage control and describe their relative effectiveness as part of an overall leakage reduction strategy
	6.6 Explain and critically evaluate the appropriate methods of network repair and maintenance and the options for managing this activity through contractors or direct labour
7 Understand best practice for management of water network assets	7.1 Explain the principles of whole life asset management, investment appraisal, and the application of water safety plans and maintenance strategies in the management of network assets
	7.2 Describe, evaluate and appraise options for water network investment projects to address risks and deficiencies in the water network asset base
	7.3 Describe and critically evaluate the Smart Network technology and innovations which are available and becoming available to proactively manage network assets, with emphasis on predict and prevention of asset failure
	7.4 Describe some of the origins of events and incidents – how they can occur – both self-inflicted and otherwise
	7.5 Identify processes that can be used to avoid and minimise the occurrence of operational network failures that affect customers and network operation
	7.6 Describe the legislation pertaining to working in the Highway and its impact on operational activity
8 Understand the importance and application of innovation within the Water Sector	8.1 Explain the importance and application of innovation within the Water Sector
	8.2 Describe how they can use the innovation process within their organisation to deliver tangible benefits
9 Understand the importance and application of resilience within the Water Sector	9.1 Explain how resilience can be applied to the operation of the water network of their organisation, including through the use of scenario planning

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
	9.2 Explain how innovation can enhance resilience and the management of the water network of their organisation
10 Understand the management of the customer experience within water networks	10.1 Describe how compliance with all customer legislative standards is achieved
	10.2 Explain how the customer experience within the water network can be monitored and how it is reported
	10.3 Describe factors to consider in managing and recovering from an incident
	10.4 Identify some of the factors to consider when reviewing and learning from an incident
	10.5 Describe all the external stakeholders involved in the customer experience and the structure needed to manage engagement with these bodies

Assessment

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.

Unit R/617/2840
Management of Water Networks

Learning Outcome - The learner will:	Assessment Criterion - The learner can:
1. Plan to comply with regulatory requirements for water networks for their area of responsibility within their organisation	1.1 Assess current and future regulatory requirements for water networks
	1.2 Plan action to ensure ongoing and future compliance with regulatory requirements for water networks
	1.3 Ensure compliance with legislation pertaining to competition in the water retail market (Open Water)
2 Manage water networks for their area of responsibility within their organisation	2.1 Take action to ensure ongoing compliance with regulatory requirements pertaining to the water network
	2.2 Take action to ensure ongoing safe and efficient operation of the water network ensuring a safe working environment for all involved in network operations
	2.3 Take action to support the implementation of aspects of corporate governance relevant to water networks
	2.4 Monitor activity within the water network to ensure compliance with regulatory requirements with particular focus on water quality
	2.5 Provide feedback to colleagues on regulatory compliance and efficiency of water networks
3 Take action to deal with failures or problems arising within network operations for their area of responsibility within their organisation	3.1 Describe their organisation's 'Events' escalation levels
	3.2 Identify processes to consider when planning work on a live asset that can minimise risks to customers and network giving examples on when they should be used
	3.3 Identify when managing an event necessary actions to safeguard the safety and welfare of staff
	3.4 Identify how event and near miss reviews can help the business in terms of continuous improvement and review the questions the review should pose

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
4	Take action to ensure that Demand Management is managed in an effective way within their area of responsibility within their organisation	4.1	Evaluate the management of the water network for effective control of leakage
		4.2	Take action to ensure leak detection and network repairs are carried out in the most efficient and least disruptive way for customers
		4.3	Ensure water efficiency and other demand management activities are carried out in line with their organisation's Water Resource Management Plan
		4.4	Ensure leakage reporting is compliant with regulatory requirements
5	Take action to ensure implementation of best practice within water networks for their area of responsibility within their organisation	5.1	Take action to enhance water network resilience
		5.2	Take action to enhance the customer experience
		5.3	Maintain water quality standards in the water network to the required standard
6	Contribute to the management of the relationship with the regulators of Water Networks	6.1	Manage the collection, validation, collation and analysis of compliance data for regulatory reporting
		6.2	Manage the compilation of compliance reports intended for regulatory reporting
		6.3	Implement regulatory requirements as and when required, for example a DWI advisory note
7	Contribute to the management of asset renewal and maintenance within water networks for their area of responsibility within their organisation	7.1	Monitor asset condition within the water network and demonstrate an understanding of the impact of any change
		7.2	Manage asset maintenance within the water network demonstrating the use of a planned maintenance regime

Assessment

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.