



ENERGY & UTILITIES
INDEPENDENT
ASSESSMENT SERVICE

Skills for a greener world

Learner Assessment Pack

Level 2 Diploma in Network Construction Operations
(Gas) – Main Layer / Service Layer / Escape, Locate and
Repair

Level 2 Diploma in Network Construction Operations
(Water) – Main Layer / Service Layer / Repair and
Maintenance

January 2024 V1.0

Contents

Overview	4
Energy & Utilities Independent Assessment Service (EUIAS).....	4
Introduction.....	4
Pack Documentation	4
Evidence Declaration Form: Level 2 Diploma in Network Construction Operations (Water) and (Gas)	6
Assessment Summary Form	7
Evidence Matrices	15
7 EUIAS Policies	145
Appeals / Enquiries.....	145
Complaints	145
Equality, Diversity and Inclusion	145
Assessment Policies.....	146
Reasonable Adjustments and Special Considerations	146
Recognition of Prior Learning	146
Contact Us.....	147



Updates to this Guidance Pack

Since the first publication of this Assessment Pack the following updates have been made:

Overview

Energy & Utilities Independent Assessment Service (EUIAS)

EUIAS is an Ofqual recognised Awarding Organisation, offering qualifications including End-point Assessments within the energy and utilities footprint.

Introduction

This Learner Assessment Pack has been developed to support you, the learner through your assessment, with a particular focus on collecting valid, fit for purpose and authentic pieces of evidence for your Portfolio of Evidence, which will help you to demonstrate how you have met the knowledge, understanding and skills requirements of this qualification.

Alongside this Learner Assessment Pack you should also have access to:

- The ***EUIAS Qualification Specification for Level 2 Diploma in Network Construction Operations (Water) – Main Layer / Service Layer / Repair and Maintenance and Level 2 Diploma in Network Construction Operations (Gas) – Main Layer / Service Layer / Escape, Locate and Repair***
- The ***EUIAS Assessment Strategy for Level 2 Diploma in Network Construction Operations (Water) and Level 2 Diploma in Network Construction Operations (Gas)***

Pack Documentation

The qualification you will be undertaking includes a group of units some which are mandatory and some of which are optional, your Trainer / Assessor will help you to choose the right unit(s) for you, according to your role and working environment. In order to achieve each unit and then, subsequently through the combination of units chosen, to achieve your qualification, you will need to meet 'learning outcomes' and 'assessment criteria'. The assessment method to demonstrate that you meet these is through a Portfolio of Evidence. Within this pack you will find the documents which are designed to support you as you collect suitable pieces evidence to build your Portfolio of Evidence to meet these learning outcomes and assessment criteria.

- 1. Evidence declaration form** – this is to be attached to each piece of evidence and is signed by yourself, your Assessor and your Manager / Employer to confirm that the evidence is wholly your own work and that you have not worked with someone else or used information from an additional source, e.g. information from the internet or used an Artificial Intelligence (AI) source that you have not made reference to. Where third parties and/or additional sources have been used to support you in the production of the evidence there is a section of the form for you to provide details of this.
- 2. Unit completion form** – to be completed to show which parts, or “units” within the qualification that you have achieved and this will again be signed by yourself, your Assessor and your Manager / Employer.
- 3. Evidence matrices** – these are unit-specific and are used to map each piece of evidence to the individual learning outcomes and assessment criteria within each unit. The boxes next to each assessment criteria are for you to include the evidence reference number of the relevant piece of evidence in your Portfolio. EUIAS recommends that three pieces of evidence is usually required for each assessment criteria, although there may be occasions where fewer pieces of evidence fully meet the assessment requirements. There is space for up to four pieces of evidence to be referenced for each unit. Your Assessor will be able to advise you further on this.
- 4. EUIAS Policies** – information about the EUIAS policies and contact details in case of any queries.

Evidence Declaration Form: Level 2 Diploma in Network Construction Operations (Water) and (Gas)

Learner Name:	
EUIAS Learner Number:	
Centre Name:	
EUIAS Centre Number:	
Evidence Reference Number:	
Evidence Title/Brief Description (e.g. Observation of jointing activities):	

By completing and signing this form I hereby confirm that this evidence relates to work activities undertaken by myself and that it is a true reflection of my skills and/or underpinning knowledge and understanding. I confirm that the evidence is authentic and has been obtained under conditions which are in line with the EUIAS requirements as stipulated in the EUIAS Assessment Strategy for Level 2 Diploma in Network Construction Operations.

Please detail below any third parties or additional sources of evidence, which have contributed to the activities outlined within this piece of evidence:

E.g. This activity was completed as part of a group but the evidence included is an accurate reflection of my role within the activity. Other colleagues involved in the activity included...

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Manager / Employer signature: _____ Date: _____

Assessment Summary Form

Learner Name:	
EUIAS Learner Number:	
Centre Name:	
EUIAS Centre Number:	
Evidence Reference Number:	
Full Qualification Title: (e.g. Level 2 Diploma in Network Construction Operations (Gas) – Main Layer	

Please refer to the Qualification Structures in the Qualification Specification for all of the qualifications to ensure the correct units have been selected from each group for each pathway.

Please state the units which have been achieved and the required additional information in the table below.

This form can also be used for individual unit certificate requests.

Assessment Summary Form Page 2

Qualification Mandatory Units (Group A):

Unit Title	Date Achieved:	Learner Signature:	Assessor Signature:	IQA Signature:

Pathway-specific Mandatory Units (Group B or C):

Please note that each qualification has a different minimum number of units required.

Unit Title	Date Achieved:	Learner Signature:	Assessor Signature:	IQA Signature:

Qualification Optional Units (Group D):

Please note there is no minimum unit requirement for this group.

Unit Title	Date Achieved:	Learner Signature:	Assessor Signature:	IQA Signature:

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Manager / Employer signature: _____ Date: _____

Qualification Structure

The Qualification Structures for each of the Network Construction Operations qualifications are shown below. When completing a full qualification it is important that you meet the requirements of the qualification structure in order to be awarded the full qualification.

Level 2 Diploma in Network Construction (Water)

In order to achieve the **Level 2 Diploma in Network Construction Operations (Water) – Main Layer** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group B1. Learners may choose additional units from Group D.

.....

In order to achieve the **Level 2 Diploma in Network Construction Operations (Water) – Service Layer** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group B2. Learners may choose additional units from Group D.

.....

In order to achieve the **Level 2 Diploma in Network Construction Operations (Water) – Repair and Maintenance** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group B3. Learners may choose additional units from Group D.

Group A: Mandatory Units for all NCO Qualifications	
EUIAS Unit Ref:	Unit Title:
1078	Principles of health and safety in utilities network construction
1079	Install equipment for safe working on the highway in utilities network construction
1080	Locate and avoid supply apparatus for utilities network construction
1081	Excavate and maintain holes and trenches for utilities network construction
1082	Operate powered tools, and equipment for utilities network construction
1083	Joint materials by electrofusion processes on utilities network

Group B: Mandatory Units for Water Qualifications	
Group B1: Main Layer	
Unit Ref:	Unit Title:
1084	Joint materials by mechanical means on water network construction
1085	Install water mains up to 150mm nominal bore or 180mm polyethylene
1086	Joint materials by butt fusion processes on Utilities Network Construction, up to 180mm diameter

Group B2: Service Layer	
Unit Ref:	Unit Title:
1084	Joint materials by mechanical means on water network construction
1087	Install water services up to 50mm nominal bore or 63mm polyethylene
Group B3: Repair and Maintenance	
Unit Ref:	Unit Title:
1084	Joint materials by mechanical means on water network construction
1088	Restore water network assets to operational condition by repair

Group D: Optional Units for Water Qualifications	
Unit Ref:	Unit Title:
1089	Install water mains from 150mm – 300mm nominal bore or 180mm-355mm polyethylene
1090	Install water mains above 300mm nominal bore or 355mm polyethylene
1091	Joint materials by butt fusion processes between 180mm and 355mm for utilities network construction
1092	Joint materials by butt fusion processes above 355mm for utilities network construction
1093	Conduct pressure testing, swabbing and disinfection of water network engineering products of assets

Level 2 Diploma in Network Construction (Gas)

In order to achieve the **Level 2 Diploma in Network Construction Operations for (Gas) – Main Layer** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group C1. Learners may choose additional units from Group D.

.....

In order to achieve the **Level 2 Diploma in Network Construction Operations for (Gas) – Service Layer** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group C2. Learners may choose additional units from Group D.

.....

Pre-Requisite: Learners must have completed either the Main Layer or Service Layer qualification before attempting this qualification.

In order to achieve the **Level 2 Diploma in Network Construction Operations for (Gas) – Escape, Locate and Repair** qualification, learners must complete all mandatory units in Group A and all the mandatory units in Group C3. If they have already completed the units in Group A as part of their Main Layer or Service Layer qualification then Centres can apply to EUIAS to exempt learners from having to complete the same units again. Learners may choose additional units from Group D.

Group A: Mandatory Units for all NCO Qualifications	
Unit Ref:	Unit Title:
1078	Principles of health and safety in utilities network construction
1079	Install equipment for safe working on the highway in utilities network construction
1080	Locate and avoid supply apparatus for utilities network construction
1081	Excavate and maintain holes and trenches for utilities network construction
1082	Operate powered tools, and equipment for utilities network construction
1083	Joint materials by electrofusion processes on utilities network

Group C: Mandatory Units for Gas Qualifications	
Group C1: Main Layer	
Unit Ref:	Unit Title:
1086	Joint materials by butt fusion processes on Utilities Network Construction, up to 180mm diameter
1094	Conduct specified testing of gas network components and assets – mains
1095	Conduct specified connections to gas network mains and commissioning
1096	Install gas engineering products or assets up to 180mm
1097	Decommissioning and abandonment of mains and services 63mm and above
Group C2: Service Layer	
Unit Ref:	Unit Title:
1098	Conduct specified testing of Gas services
1099	Install gas services up to 63mm
1100	Disconnection of gas meters and regulators

Learners may only complete the units in C3 when they have completed the Main Layer or Service Layer qualifications. These units may be completed as stand-alone units, as per other units within the qualification, and certificated as unit achievements.

Group C3: Escape, Locate and Repair	
Unit Ref:	Unit Title:
1101	Conduct specified testing of gas networks associated with leakage location
1102	Minimise risks to life, property and the environment during Gas escapes
1103	Analyse and interpret the results of surveys to determine the location of gas escapes
1104	Restore gas network components to operational condition

Group E: Optional Units for Gas Qualifications	
Unit Ref:	Unit Title:
1091	Joint materials by butt fusion processes between 180mm and 355mm for utilities network construction
1105	Install or replace external gas service risers
1106	Install gas engineering products or assets above 355mm
1107	Install gas engineering products or assets above 180mm, up to and including 355mm

1108	Operate within the gas intermediate pressure range
1109	Principles of operating safely in emergency situations within the gas intermediate pressure range

Evidence Matrices

The following matrices are templates for you to show where the pieces of evidence you have submitted in your Portfolio of Evidence meet the learning outcomes and assessment criteria within each unit. You need to complete in full and sign a matrix for each unit that you are registered on. Once you have completed a unit the Assessor will make an assessment decision based on the evidence you have presented as to whether you are “competent” or “not yet competent” in each unit, that is whether your evidence demonstrates that you have met all of the requirements within each unit. Once they feel that you are “competent” in a unit they will counter-sign the evidence matrix and it may be subject to internal quality assurance monitoring by the Centre’s IQA.

The first partially completed evidence matrix is included as an example of how to complete the form. Your Assessor will help you to create an appropriate reference convention for use in your evidence matrix, the following example uses the learner’s initials and then a sequential number to provide a unique reference for each piece of evidence.

Example Evidence Matrix

Unit: Example Unit

Learner Name: *A Learner*

Centre Number: *12345678*

Evidence Reference Number:		SP01	SP02	SP03	SP04
1. Know and understand how to conduct a risk assessment					
1.1	Explain what a risk assessment is and why it is used	✓			✓
1.2	Describe how to conduct a risk assessment	✓		✓	

Evidence Matrix

Unit: Principles of Health and Safety in Network Construction Operations

EUIAS Unit Number: 1078

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Know and understand general Health and Safety guidance, legislation and organisational procedures in utilities network construction operations					
1.1	State the main responsibilities of the Employer and employee under the Health and Safety at Work Act and environmental protection legislation				
1.2	Describe the safe procedures for handling hazardous materials				
1.3	Explain the organisational accident recording and reporting procedures				
1.4	Identify the range, use and importance of personal protective equipment for network construction operations				
1.5	Describe the procedures for lone working				
1.6	Explain the importance of organisational procedures for safe lifting and handling				
1.7	Describe the procedures, regulatory requirements and Employer / employee responsibilities for working at heights				
1.8	Explain the importance of carrying out on-site risk assessments, and implementing safe systems of work and the need for constant review				
1.9	Describe the implications of noise to self, others, adjacent activities, the public and surrounding environment including the action levels for provision and wearing of hearing protection				
1.10	Describe the implications of toxic fumes, dust, hazardous materials and noise to self, others, adjacent activities, the public and surrounding environment				
1.11	Explain the importance of environmental control and reporting procedures				
2. Know and understand how to work in excavations safely					

2.1	Explain the health and safety guidance governing work in excavations and with live gases				
2.2	Explain the importance of understanding and implementing a safe system of work (SSOW) document when working in excavations				
2.3	Describe the implications of using poor excavation practices				
2.4	Explain the potential dangers of working in trenches and excavations				
2.5	Explain the dangers of working with or near to pressurised pipelines				
2.6	Explain the dangers of taking actions that can create confined spaces risks in excavations				

Range Statements:

Learning Outcome 1:

Lifting and Handling

- (a) Manual lifting & handling
- (b) Lifting with machinery

Learning Outcome 2:

Poor excavation practices: cost, time, damage to other utility apparatus

Potential Dangers: trench collapse, flooding, contamination, poor access and egress

Pressurised Pipelines: Water, Gas, Pumped sewer

Confined Space risks: Poor access & egress, flammable gases, noxious gases, lack of oxygen, introduction of incorrect cutting equipment

Evidence Guidance:

This unit is knowledge only and therefore the evidence type should provide an assessment of the learner's knowledge and understanding. Some examples are provided but please note this list is not exhaustive; professional discussion, Centre-devised knowledge test, written case study etc.

Evidence Matrix

Unit: Install equipment for safe working on the highway in utilities network construction

EUIAS Unit Number: 1079

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to set out temporary signing, lighting and guarding traffic control equipment					
1.1	Locate the area for highway works and determine the characteristics and conditions of the carriageway .				
1.2	Plan the works for minimum disruption and inconvenience to others in accordance with approved procedures and practices .				
1.3	Carry out a site-specific risk assessment to identify hazards and to determine the range of control signs and protection equipment necessary for the works.				
1.4	Select and wear the specified personal protective equipment (PPE), including high visibility vest or coat.				
1.5	Set out control signs and protection equipment in a safe manner, according to the risk assessment, industry codes of practice and current legislation.				
1.6	Remove all control equipment on completion of the works.				
1.7	Store and maintain control equipment in accordance with operational and organisational requirements.				
1.8	Work to approved procedures and practices and in compliance with statutory requirements.				
1.9	Maintain the security of the site where work is not completed.				
2. Be able to prepare resources for highway works					
2.1	Select the materials and equipment for the planned works in accordance with the work instructions and specifications.				
2.2	Confirm the materials and equipment supplies are correct for the work requirement and are of the quality and quantity required.				
2.3	Maintain in accordance with operational and organisational requirements: (a) the materials and equipment in storage.				

	(b) the security of materials and equipment				
3. Be able to use and communicate data and information when working on highways					
3.1	Use work instructions and specifications: (a) to determine the safety and security requirements for the area of the highways works (b) to ensure compliance with current legislation				
3.2	Demonstrate how to check with designated personnel any circumstances where information appears incorrect.				
4. Be able to resolve problems which could arise from work on the highway					
4.1	Resolve problems which arise from work on the highway.				
4.2	Record defects, replacements or additional equipment required and report them to the designated person				
4.3	Refer problems and conditions outside their responsibility to the designated person using approved procedures.				
5. Know and understand the health and safety requirements for safe working on the highway					
5.1	State the main sources of information on statutory requirements for the control of highways works.				
5.2	Give examples of the range and purpose of personal protective equipment used during highways works.				
5.3	Explain the importance of checking and reporting defects in personal protective equipment.				
6. Know and understand how to install equipment for safe working on the highway					
6.1	Give examples of the different types of signs, lights and guarding equipment.				
6.2	Give examples of the different types of traffic control equipment.				
6.3	Explain the importance of: (a) checking and reporting defects in signs, guards, lighting and traffic control systems. (b) ensuring that defective equipment is taken out of use.				
6.4	State the implications of incorrect signing, lighting, guarding and traffic control.				
6.5	Describe the purpose of each of the signs used for protecting highways works.				



6.6	<p>Explain the statutory positioning requirements for protection equipment relative to different highways environments and conditions, to cover:</p> <ul style="list-style-type: none"> (a) Signs (b) Lights (c) Guards (d) Traffic controls 				
6.7	<p>Describe guarding arrangements for highway works, including:</p> <ul style="list-style-type: none"> (a) the different types of guards used to protect highways works (b) their positioning requirements relative to the work. 				
6.8	<p>Give examples of when and which type of lighting is required for highways works.</p>				
6.9	<p>Outline the, operation, and maintenance requirements for traffic controls including:</p> <ul style="list-style-type: none"> • warning signs • priority signs • stop/go boards • portable traffic signals. 				
6.10	<p>Give examples of the different types of traffic control requirements for highways works in relation to traffic flow.</p>				
6.11	<p>Explain the correct procedures and sequences for implementing two way portable traffic signals.</p>				
6.12	<p>Explain the correct procedures for moving traffic controls as work progresses.</p>				
6.13	<p>Explain the importance of ensuring that signing, lighting, guarding and traffic control arrangements are checked and updated regularly as work progresses.</p>				
6.14	<p>Explain the importance of regular maintenance and cleaning of signs and lights throughout highways works.</p>				
6.15	<p>Describe the statutory requirements and recommendations for signing, lighting and guarding highways works on single and dual carriageways.</p>				
6.16	<p>List the persons and organisations with whom it is necessary to liaise on highways operations.</p>				

Range Statements:

Learning Outcome 1:

Characteristics and conditions of the carriageway: speed and volume of traffic; volume of pedestrian traffic; number and directions of lanes

Approved procedures and practices: environmental; statutory; regulatory; operational; health and safety; organisational and company procedures; risk assessments.

Hazards: traffic; weather; other activities

Control signs and protection equipment: traffic signs; cones; lights; barriers; traffic lights; stop and go boards.

Codes of Practice: statutory; regulatory, including New Roads and Street Works Act.

Learning Outcome 2:

Materials and equipment: Signs, lights, guards, traffic control equipment.

Learning Outcome 3:

Designated personnel: those people specified within work and health and safety procedures

Learning Outcome 4:

Problems: equipment failure; materials shortage

Designated person: those people specified within work and health and safety procedures

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment

Evidence Matrix

Unit: Locate and avoid supply apparatus for utilities network construction

EUIAS Unit Number: 1080

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to locate supply apparatus					
1.1	Apply work instructions and interpret utility plans to determine the extent of the work site and to enable the supply apparatus to be marked.				
1.2	Carry out site specific risk assessment, and review it in accordance with company procedures.				
1.3	Use Search Techniques including electronic location equipment, trial holes and up-to-date records to enable the location, identification and marking of supply apparatus.				
1.4	Demonstrate how to mark the position and type of supply apparatus and sub-structures on the work site in accordance with work instructions and statutory and regulatory Codes of Practice.				
2. Be able to maintain the safety and integrity of supply apparatus					
2.1	Maintain the position and condition of supply apparatus within the work site according to their specification and Codes of Practice.				
2.2	Take measures to ensure working practices on the site avoid damage to supply apparatus.				
2.3	Carry out all work so that it complies with: (a) the latest technical specifications (b) Health and safety regulations (c) Company codes of practice				
3. Be able to resolve problems which could arise during activities to locate and avoid supply apparatus					
3.1	Identify & report any damage to supply apparatus promptly to the designated person and make the area safe.				
3.2	Take precautions to protect personnel and equipment from the effects of damage to supply apparatus according to approved procedures and practices.				
3.3	Resolve day-to-day problems within their area of				



	responsibility and refer matters outside of own area of responsibility to the relevant designated people.				
4. Know and understand the different types of utility apparatus					
4.1	Explain industry procedures and practices for confirming the location and marking of supply apparatus				
4.2	State the key physical properties of the supply apparatus, including: <ul style="list-style-type: none"> • size (diameter) • colour • material and its resistance to impact from excavation activities • methods of identification • typical locations • typical depths 				
4.3	Describe the physical properties of the medium being carried by different types of supply apparatus, including where relevant: <ul style="list-style-type: none"> • ignition characteristics • density relative to air • electrocution risk • reaction to water damage • impact of sudden release of pressure 				
4.4	Describe the potential risks and consequences that may arise when supply apparatus is damaged.				
5. Know and understand equipment and techniques used for locating supply equipment					
5.1	Describe how to use electronic detection equipment.				
5.2	Explain the possible effects of external influences on electronic detection equipment readings.				
5.3	Explain how to visually locate and identify underground supply apparatus, using: <ul style="list-style-type: none"> • markers • signs and features • existing records 				
5.4	Describe the situations where trial holes can be used to locate underground supplies.				
5.5	Describe how to mark the position of supply services on the surface to ensure accurate location of the excavation.				
5.6	Explain the consequences of marking out excavations incorrectly, including: <ul style="list-style-type: none"> • costs 				

	<ul style="list-style-type: none"> loss of time 				
5.7	State the precautions to be taken when locating supply apparatus, including statutory and regulatory requirements.				
6. Know and understand roles, responsibilities and communication requirements for locating utilities apparatus					
6.1	Know how to communicate details of the position and type of supply apparatus and sub-structures to personnel in accordance with instruction and organisational requirements.				
6.2	Know how to check with appropriate people any circumstances where information appears incorrect.				
6.3	State the main sources of legislation relating to highways operations in the proximity of other supply apparatus.				
6.4	Identify the persons or organisations who must be notified where there is damage to supply apparatus or other underground structures.				
6.5	List the regulations that govern the location of supply apparatus where this exposes other services.				
6.6	Outline the requirements of the legislation that applies to new roads and street works.				
6.7	Explain why it is important to refer problems outside their area of job role responsibility to designated people.				
6.8	Describe the procedures for reporting and recording: job progress; problems; deviations to work programmes.				
6.9	Know how to report deviations in the position of apparatus and identification of other structures in accordance with instruction and organisational requirements.				

Range Statements:

Throughout the unit:

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services.

Learning Outcome 1:

Search techniques: electronic location in following modes: with and without signal generator, induction, connection, radio, power; trial holes; visual examination; use of drawing and records.

Learning Outcome 4:

Approved procedures and practices: environmental; statutory; regulatory; operational; health and safety; organisational and company procedures; risk assessments.

Learning Outcome 5:

External influences: Cables not under load; reinforced concrete; pipe materials that do not carry a signal.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Excavate and maintain holes and trenches for utilities network construction

EUIAS Unit Number: 1081

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to prepare to excavate holes and trenches					
1.1	Use information in work instructions and specification to determine the work site and the area to be excavated				
1.2	Determine the suitable excavation method for the surface and sub-surface materials being removed, and which meets with statutory and regulatory Codes of Practice.				
1.3	Carry out and review site-specific risk assessments according to company procedures.				
1.4	Select and wear the designated personal protective equipment (PPE).				
1.5	Confirm the condition of the ground adjacent to excavations is safe				
2. Be able to excavate on site to requirements					
2.1	Select and use the most suitable tools and equipment for the excavation method to be used.				
2.2	Excavate, identify, select, segregate, remove and store materials in accordance with work instructions and Codes of Practice.				
2.3	Carry out the excavation in a manner that avoids damage to supply apparatus.				
2.4	Minimise damage to the natural environment according to technical guidance.				
2.5	Remove surplus materials according to work instructions and requirements.				
2.6	Carry out excavations of a position and size that concurs with instructions and work specifications.				
2.7	Confirm the condition of excavations in accordance with approved procedures, practices and statutory requirements.				
2.8	Carry out checks to ensure the excavation is safe to enter and that it remains safe whilst carrying out work.				



2.9	Take measures to ensure work is carried out to approved procedures and practices and complies with statutory requirements.				
3. Be able to resolve problems which could arise during activities to locate and avoid supply apparatus					
3.1	Maintain the condition of excavations in line with safety standards.				
3.2	Implement arrangements for access to and egress from the excavation in line with statutory requirements and approved procedures and practices .				
3.3	Resolve day-to-day problems within your responsibility in line with approved procedures and practices , including checking any circumstances where information appears incorrect with appropriate people.				
3.4	Report detrimental conditions, defects or damage to excavations or supply apparatus which are outside your responsibility to appropriate people.				
3.5	Use organisational information systems to record and store data and information relating to excavation work.				
4. Be able to resolve problems which could arise from excavation work					
4.1	Report any damage to supply apparatus promptly to the designated person.				
4.2	Advise colleagues or Managers where situations need them to intervene.				
4.3	Refer matters that are outside their responsibility to the designated people using approved procedures.				
5. Know and understand how excavation work must be carried out to comply with legal, health and safety and industry requirements					
5.1	Explain how activities involved in excavation work can be carried out in compliance with legislative requirements and good industry practice.				
5.2	Explain the responsibilities of the Employer and employee in relation to activities involved in excavation.				
5.3	Explain how to store and dispose of materials and the consequences of incorrect storage, including those with an environmental hazard.				



6. Know and understand how to excavate in a variety of situations using different techniques and equipment					
6.1	Describe the safe procedures for handling the range of trench support equipment.				
6.2	Explain your responsibilities, the steps you should take to deal with dangerous situations and who to report to, whilst working in holes and trenches including poor atmosphere, instability and damaged utilities.				
6.3	Describe the different methods of excavation , including hand dig and machine and the safety risks of incorrect excavation practices.				
6.4	Describe how to use hand tools and power tools for excavation.				
6.5	Explain when a competent banksman is required and the associated benefits of having a banksman.				
6.6	Describe the different types of surfaces and sub-surfaces that may require to be excavated, including flexible, composite, rigid and modular pavement construction, verge and natural ground.				
6.7	Describe the types of sub-surface materials used for the different paving surfaces.				
6.8	Describe the consequences and implications of using incorrect excavation and reinstatement practices.				
6.9	Explain how to recognise when an excavation is or could become a confined space, and how to deal effectively with this.				
6.10	Identify circumstances where excavation support must be installed including those relating to excavation depth, soil type or where subsidence is likely.				
6.11	Explain the principles of trench support systems , including the materials and methods used.				
6.12	Describe the safe procedures for monitoring and maintaining the condition of support mechanisms.				
6.13	Identify causes of instability in excavated areas, including soil types, presence of ground water, leaks from water and drainage pipework.				
6.14	Describe how to remove water from excavations and the reasons why this would be necessary.				
6.15	Outline hazards that could arise from leaks, damaged supply or electrical apparatus or from working without natural or assisted ventilation.				

7. Know and understand the impact of excavation activities on others and the environment				
7.1	Describe how to identify types of supplies encountered in excavation work, including supply apparatus for above and below ground services and built structures.			
7.2	Describe how to minimize damage to the natural environment including foundations, tree roots and natural water courses.			
7.3	Describe the potential consequences of not providing the necessary support or use of incorrect materials to supply apparatus and sub-structures, including major safety hazards.			
7.4	Explain how your work can impact on costs and schedule.			
7.5	Describe the procedures for reporting and recording job progress, problems and any deviations to work programmes.			

Range Statements:

Throughout the unit:

Supply apparatus: relevant for utilities and other agencies including cables, metal pipes and non-metallic pipes; above and below ground services; built structures (e.g foundations); the natural environment (e.g tree roots, natural watercourses).

Learning Outcome 1:

Work site: Work on the highway

Surface and sub-surface: flexible, composite, rigid and modular pavement construction; verge; natural ground.

Excavation is safe: to ensure the safety and integrity of trenches and holes to avoid collapse.

Learning Outcome 3:

Approved procedures and practices: environmental; statutory; regulatory; emergency; operational; health and safety; organisational and company procedures; risk assessments, HSE guidance HSG47.

Learning Outcome 5:

Activities involved in excavation: assessment of risk; personal protection; excavation activities; the support of supply apparatus; the support of excavations; the competence of personnel; care for the environment; provision and use of equipment; reporting of accidents; dealing with hazardous materials and substances.

Learning Outcome 6:

Methods of excavation: by hand; with use of equipment

Consequences and implications: damage to other utilities; interruption to supplies, cost of operation; time; customers; members of the public; colleagues and other workers; scale of activity, company reputation.

Trench support systems: timber; steel; mechanical, proprietary systems.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Operate powered tools and equipment for utilities network construction

EUIAS Unit Number: 1082

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to prepare powered tools and equipment for routine and predictable use					
1.1	Use work instructions and specifications to confirm the operations requiring the use of powered tools and equipment.				
1.2	Carry out a site specific risk assessment, and review in accordance with company procedures.				
1.3	Apply control measures identified in risk assessments.				
1.4	Select, check condition, use and store the appropriate personal protective equipment (PPE).				
1.5	Carry out pre-use inspections on powered tools and equipment.				
1.6	Record and report any defects of the powered tools and equipment in accordance with company procedures.				
1.7	Take measures to check and confirm powered tools and equipment are safe and ready for use in accordance with the work requirements.				
2. Be able to run and operate powered tools and equipment					
2.1	Carry out start and stop procedures to confirm functions are in accordance with safe control and the manufacturers' operating instructions.				
2.2	Operate tools and equipment safely in accordance with specifications.				
2.3	Carry out all work to approved procedures and practice and in compliance with statutory and regulatory requirements.				
3. Be able to shut down and carry out post-stop checks on powered tools and equipment					
3.1	Take measures to stop powered tools and equipment safely.				
3.2	Carry out required post-stop checks in accordance with organisational and operational procedures.				
3.3	Store powered tools and equipment in accordance with safety requirements.				



4. Be able to use, apply and communicate data and information for the safe operation of powered tools and equipment					
4.1	Record and report the need for replacement tools and equipment to the appropriate people.				
4.2	Use organisational information systems to record and store data and information.				
4.3	Refer problems outside the responsibility of own job role to appropriate people using approved procedures.				
5. Know and understand the health and safety requirements for the safe operation of powered tools and equipment					
5.1	Explain how to carry out and review risk assessments for the safe operation of powered tools and equipment.				
5.2	Outline the company's reporting lines, roles, responsibilities and levels of authority.				
5.3	Describe the hazards posed by powered tools and equipment and explain how the associated risks must be controlled.				
5.4	Describe the full range of personal protective equipment (PPE) that must be worn when operating powered tools and equipment.				
5.5	Explain how to apply safety precautions before, during and after operations in accordance with company procedures.				
5.6	Explain how to apply correct handling and lifting techniques when using powered tools and equipment.				
6. Know how to work with powered tools and equipment					
6.1	Describe the competency requirements for operating power tools and equipment.				
6.2	Describe the manufacturers' requirements for pre-performance checks and other routine checks.				

6.3	<p>Identify the potential uses for a range of hand-operated, mobile and static powered tools and equipment available for work including:-</p> <ul style="list-style-type: none"> • Drills • Saws • Compressors • Generators • Water pumps • Vibrating plate compactors • Trench rollers • Pavement and road saws • Pneumatic or hydraulic breakers • Disc cutters 				
6.4	Explain how to select and use appropriate tools and equipment.				
6.5	Describe the manufacturers' recommendations for operating powered tools and equipment.				
6.6	Explain the importance of maintaining tools and equipment in good working order.				

Range Statements:

Learning Outcome 1:

Personal Protective Equipment (PPE): head; eyes; ears; respiratory system; hands; feet; body.

Learning Outcome 2:

Equipment: electric, pneumatic and hydraulic, cutting, grinding; pumping; compacting; pipe jointing, hand tools

Learning Outcome 5:

Hazards: vibration; handling; fumes; dust; moving parts; heat; electricity; fuel; substances, noise

Personal Protective Equipment (PPE): head; eyes; ears; respiratory system; hands; feet; body.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Joint materials by electrofusion processes on utilities network construction

EUIAS Unit Number: 1083

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to make joints using electrofusion jointing techniques					
1.1	Carry out site specific risk assessments, and review in accordance with company procedures.				
1.2	Interpret engineering specifications relevant to the engineering activity.				
1.3	Select and wear the designated PPE.				
1.4	Take measures to check that jointing related equipment and consumables are as specified and fit for purpose.				
1.5	Prepare joints in line with industry standards, using appropriate equipment.				
1.6	Provide adequate weather protection during the entire jointing cycle.				
1.7	Demonstrate how to mark and clamp the joint and in line with company procedures to ensure that they are secure and identifiable.				
1.8	Use the correct electrofusion jointing technique to produce joints of the required quality and confirm compliance with the: <ul style="list-style-type: none"> • Specified standard • Specified dimensional accuracy 				
1.9	Confirm that on completion of jointing activities the equipment is shut down to a safe condition.				
1.10	Confirm temporary attachments, excess and waste materials are dealt with promptly in line with approved and agreed procedures.				
1.11	Comply with approved procedures, practices, statutory and regulatory requirements involved in the work activity.				
2. Be able to use data and information when jointing materials					
2.1	Check with designated personnel any circumstances where information appears incorrect.				
2.2	Use organisational information systems to record and store data and information.				

3. Be able to resolve problems that arise during jointing work					
3.1	Report to the designated person damage to jointing equipment.				
3.2	Report to the designated person matters outside the responsibility of the job role.				
3.3	Demonstrate how to resolve day-to-day problems within the responsibility of the job role.				
3.4	Handle emergency situations when they arise.				
4. Know and understand how to joint Polyethylene pipes by electrofusion processes on utilities network construction					
4.1	State the health, safety and environment legislation and environmental procedures relevant to the work activities.				
4.2	Outline the industry codes of practice and company procedures relevant to jointing by electrofusion.				
4.3	Describe the different stages that take place during the jointing process and the importance of allowing each phase to complete.				
4.4	Explain the need for pipe restraint, pipe support and pipe alignment.				
4.5	Explain the cause and effect of defects caused by poor preparation.				
4.6	Interpret pipe specifications.				
4.7	Explain pipe compatibility.				
4.8	Identify different types of pipe materials.				
4.9	Describe equipment maintenance procedures.				
4.10	Describe equipment calibration.				
4.11	State the consequences of poor equipment maintenance.				
4.12	Identify quality assurance procedures that can be applied in recognising defects.				
4.13	Explain the correct reporting procedures.				

Range Statements:

Learning Outcome 2 and 3:

Designated personnel/person: those people specified within work and health and safety procedures

Learning Outcome 4:

Defects: poor pipe restraint, poor pipe support, misalignment, contamination

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Joint materials by mechanical means on water network construction

EUIAS Unit Number: 1084

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to meet health and safety requirements when jointing materials by mechanical means					
1.1	Work safely at all times in accordance with health, safety and environmental legislation.				
1.2	Work hygienically in accordance with water quality requirements.				
1.3	Select and wear the appropriate personal protective equipment (PPE).				
1.4	Carry out and review site-specific risk assessments, and review in accordance with company procedures.				
2. Be able to use and communicate data and information to carry out work activities					
2.1	Interpret task requirements from relevant method statements and work instructions.				
2.2	Take action to check with designated personnel any circumstances where information appears incorrect.				
2.3	Use organisational information systems to record and store relevant jointing data and information.				
2.4	Provide technical information using appropriate verbal and written communication techniques.				
2.5	Report any inaccuracies in the technical information sources used to the designated person.				
2.6	Complete work documentation accurately and record it in the specified place or pass to a designated person.				
3. Be able to joint materials by mechanical means					
3.1	Check that jointing and related equipment is approved for installation in water networks and are fit for purpose.				
3.2	Ensure all consumables and components are fit for purpose.				
3.3	Use mechanical joint types and jointing techniques that are appropriate for the material being jointed.				



3.4	Carry out jointing on various pipe types in accordance with the industry specifications and company procedures.				
3.5	Secure the components using connectors and securing devices in accordance with specifications and work instructions.				
3.6	Check to make sure that the finished joint assembly is complete and meets its operating requirements.				
3.7	Carry out work in accordance with company procedures and manufacturers' specifications.				
3.8	Take steps to deal with excess, waste materials in a timely manner in line with organisational and environmental procedures.				
4. Be able to resolve problems which arise when performing jointing activities					
4.1	Deal with problems within the limits of own responsibility.				
4.2	Report problems that are outside the responsibility of their job role to the designated person.				
5. Be able to resolve problems which arise when performing jointing activities					
5.1	Outline the requirements of legislation, environmental procedures, Codes of Practice and company procedures relevant to the specific work activities .				
5.2	Explain the importance of following all hygiene procedures, including personal hygiene in order to ensure the integrity and wholesomeness of the water				
5.3	Describe the need for hygiene and health checks to protect water quality and to maintain public health.				
6. Know how to joint materials by mechanical means					
6.1	Describe the methods and techniques for assembling and jointing components by mechanical means on all pipe types .				
6.2	Explain the purpose of quality control procedures and how to interpret them.				
6.3	Describe the handling equipment, tools and equipment required for mechanical jointing.				
6.4	Explain how to select preparation techniques for mechanical jointing activities.				
6.5	Explain why it is important to look after tools and equipment and how to do it.				

6.6	Describe assembly methods, techniques and control methods.				
6.7	Describe how to use mechanical fittings for transition between metallic and Polyethylene (PE).				
7. Know how to resolve problems which arise when performing jointing activities					
7.1	Describe typical problems that can occur during pipe jointing activities and explain possible remedial activities.				
7.2	Describe approved procedures for dealing with, and reporting problems.				
7.3	Describe how to use information and data storage systems.				

Range Statements:

Learning Outcome 3:

Joint types include:

- (a) Flanged
- (b) Flexible
- (c) Endload resistant (Anchored)
- (d) Pushfit
- (e) Metallic pipes

Learning Outcome 5:

Specific work activities include:

- (a) manual handling
- (b) the provision and use of equipment
- (c) hygiene and health checks
- (d) working with or near hazardous materials
- (e) personal protection
- (f) working in excavations.

Learning Outcome 6:

Pipe types:

- (a) Rigid - Metallic – Non metallic.
- (b) Polyethylene
- (c) PE/AL/PE (Barrier Pipe)

Methods and techniques for assembling and jointing components: includes cutting, and mechanical jointing on metallic and non-metallic rigid materials and the use of thrust blocks.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Install water mains up to 150mm nominal bore or 180mm polyethylene

EUIAS Unit Number: 1085

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing water mains					
1.1	Use drawings, records, work documents, manuals and technical specifications to provide work details for component installation.				
1.2	Use the technical information to confirm dimensions, lengths, widths and quantities required.				
1.3	Use the technical information to determine the positions of utilities plant, services, buildings, kerbs and boundaries.				
1.4	Take measures to ensure where discrepancies occur, ensure that necessary corrections are made or communicated to those who need to know.				
1.5	Follow the correct procedures if working on a 'Permit to Work' activity.				
2. Be able to select main components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications.				
2.2	Ensure components are in good condition and are fit for purpose.				
2.3	Follow procedures to ensure that defective, non-matching or sub-standard components are replaced.				
2.4	Ensure that sufficient quantities of suitable tools, plant and equipment are available, checked and fit for purpose.				
2.5	Ensure there is sufficient competent labour to carry out the work effectively and safely.				
3. Be able to install components of the system					
3.1	Carry out and review a site-specific risk assessment.				
3.2	Select and wear the designated personal protective equipment (PPE).				
3.3	Demonstrate how to check and confirm the condition of the excavation conforms with instructions and specifications.				



3.4	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions.				
3.5	Position components in accordance with the specification.				
3.6	Assemble components to industry standards using appropriate jointing techniques .				
3.7	Take adequate precautions to prevent damage to components , tools and equipment during installation.				
3.8	Take measures to protect installed assets and other utilities using appropriate protective techniques .				
3.9	Demonstrate how to Make connection to the existing water main using appropriate connection techniques.				
3.10	Demonstrate how to complete the connection in the specified time frame.				
3.11	Check the quality of the installation and confirm compliance with the specified standard.				
3.12	Demonstrate how to install all chambers covers and associated ancillary items in accordance with specifications.				
3.13	Maintain the security and safety of the site, job and third parties at all times.				
3.14	Demonstrate how to ensure safe working procedures are followed throughout the work activities.				
4. Be able to use and communicate data and information					
4.1	Provide technical information using appropriate verbal and written communication techniques .				
4.2	Ensure recipients have received and understood the information.				
4.3	Report any inaccuracies in the technical information sources used to the designated person.				
4.4	Complete work documentation accurately and record it in the specified place or pass to a designated person.				



5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to tools, equipment or materials using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install water mains					
6.1	Explain the importance of carrying out on-site risk assessments and implementing safe systems of work and the need for constant review.				
6.2	Explain the importance of understanding and implementing a safe system of work (SSOW) document when working in excavations.				
6.3	Outline the organisation's policy and procedures for meeting relevant statutory requirements, regulations and Codes of Practice.				
6.4	Describe the factors that affect the suitability of excavations, and how to confirm that an excavation is suitable.				
6.5	Describe situations where particular authorisations are required before undertaking work				
6.6	Explain the implications of not obtaining the required authorisations before undertaking work.				
6.7	Explain the potential dangers of working in excavations				
6.8	Outline the main responsibilities of Employers and employees under the current working at height regulations.				
6.9	Explain the dangers of taking actions that can create confined spaces risks in excavations.				
6.10	Describe the implications of using incorrect plant and tools.				
6.11	State the actions to be taken where plant, tools, materials and system components fail to meet required specification.				
6.12	Describe situations where mains pipe installation can go wrong and suitable actions available to rectify them.				
6.13	Describe the actions to be taken if work cannot proceed to schedule.				



6.14	Explain how to determine appropriate safe remedial action if work cannot proceed.				
6.15	Describe the types and causes of disruption that can occur when installing water mains pipes, and how to avoid them.				
6.16	Describe the dangers of using inadequate handling and lifting procedures.				
6.17	Describe the types and signs of defect likely to be encountered when installing water mains.				
6.18	Explain how to determine the correct, and safe, action to take to resolve defects encountered during installation of water mains				
6.19	Explain the importance of compliance with current industry standards.				

Range Statements:

Throughout the unit:

Components include:

- (a) Pipe – coil and stick
- (b) Joints
- (c) Valves
- (d) Hydrants and Wash outs

Technical information relates to:

- (a) job progress
- (b) discrepancies or deficiencies
- (c) work instructions
- (d) problems outside own responsibility
- (e) requirements for mains isolation

Tools, plant and equipment are for:

- (a) pipe cutting
- (b) pipe jointing
- (c) pumping

Learning Outcome 3:

Jointing techniques include:

- (a) mechanical flexible
- (b) mechanical flanged
- (c) butt fusion
- (d) electrofusion
- (e) push-fit.
- (f) Endload resistant

Protective techniques include:

- (a) using particular types of backfill materials
- (b) support
- (c) thrust protection

Safe working procedures cover:

- (a) working at height
- (b) permit to work systems
- (c) hygiene procedures
- (d) hazardous materials
- (e) lifting and handling.

Existing water main includes the following material:

- (c) polyethylene (PE)
- (d) Metallic / rigid

Learning Outcome 4:

Communication techniques include:

- (a) written
- (b) spoken face to face
- (c) spoken via telephone.

Evidence Requirements:

On-site observation is a mandatory requirement for this unit.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Joint materials by butt fusion processes on utilities network construction up to 180mm diameter

EUIAS Unit Number: 1086

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to make joints using butt fusion techniques					
1.1	Carry out site specific risk assessment, and review in accordance with company procedures				
1.2	Select and wear the designated PPE				
1.3	Interpret engineering specifications relevant to the engineering activity				
1.4	Take measures to check that jointing and related equipment and consumables are as specified and fit for purpose .				
1.5	Confirm there is adequate weather protection during the entire jointing cycle.				
1.6	Carry out and monitor the machine operations to produce butt fusion joints of the required quality				
1.7	Confirm compliance with <ul style="list-style-type: none"> (a) job instructions (b) correct preparation (c) specification (d) specified dimensional accuracy (e) approved practices and procedures 				
1.8	Demonstrate how to de-bead and carry out approved quality assurance test on bead.				
1.9	Confirm joint and bead are identifiable by marking in accordance with company procedures.				
1.10	Confirm the equipment is in a safe and clean condition on completion of jointing activities.				
1.11	Handle excess and waste materials and temporary attachments, in line with approved and agreed procedures.				
1.12	Apply the correct manual handling procedures				
2. Be able to use and communicate data and information when jointing materials					



2.1	Take action to confirm with designated personnel any circumstances where information appears incorrect.				
2.2	Use organisational information systems to record and store jointing data and information.				
3. Be able to resolve problems which arise from jointing materials					
3.1	Report promptly to the designated person damage or defects to tools, equipment, materials				
3.2	Report promptly to the designated person matters outside the responsibility of the job role				
3.3	Resolve day to day problems within the responsibility of the job role				
4. Know how to joint materials by butt fusion processes on utilities network construction above 180mm diameter					
4.1	State the health, safety and environment legislation and environmental procedures relevant to the work activities				
4.2	Explain the industry codes of practice and company procedures				
4.3	Explain why only pipes of similar specifications can be joined together				
4.4	Describe the different stages that take place during the jointing process and the importance of allowing each phase to complete				
4.5	Explain the need for pipe support, alignment and the consequences of poor support and mis-alignment				
4.6	Explain the cause and effect of defects and contaminations				
4.7	Describe maintenance procedures				
4.8	Describe equipment calibration				
4.9	Describe consequences of poor maintenance				
4.10	Describe different quality assurance procedures that can be applied in recognising defects				
4.11	Explain the correct reporting procedures.				

Range Statements:

Learning Outcome 1:

Fit for purpose: Clean, undamaged, compatible.

Learning Outcome 2:

Designated personnel: those people specified within work and health and safety procedures

Learning Outcome 3:

Designated person: those people specified within work and health and safety procedures

Learning Outcome 5:

Defects and contamination: Split defects, inadequate bead, excessive bead, pipe specifications, compatibility, different types of material and consumables

Quality assurance procedures: non-destructive and destructive testing

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Install water services up to 50mm nominal bore or 63mm polyethylene

EUIAS Unit Number: 1087

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing water services					
1.1	Use drawings, records, work documents, manuals and technical specifications to provide work details for component installation.				
1.2	Check that a service inspection has taken place before commencing work in line with relevant regulations				
1.3	Use the technical information to confirm dimensions, lengths, widths and quantities required.				
1.4	Confirm site conditions are suitable for installation in line with technical information				
1.5	Where discrepancies occur, ensure that the necessary corrections are made or arrangements are in place to correct them				
2. Be able to select water service components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications				
2.2	Ensure components are in good condition and are fit for purpose.				
2.3	Follow procedures to ensure that defective, non-matching or sub-standard components are replaced.				
2.4	Ensure that sufficient quantities of suitable tools, plant and equipment are available, checked and fit for purpose.				
3. Be able to install components of the system					
3.1	Carry out and review site-specific risk assessments				
3.2	Select and wear the designated PPE				
3.3	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions				
3.4	Demonstrate how to position components in accordance with the specification.				



3.5	Assemble components to industry standards using appropriate jointing techniques .				
3.6	Take adequate precautions to prevent damage to components , tools and equipment during installation.				
3.7	Take measures to protect installed assets and other utilities using appropriate protective techniques .				
3.8	Demonstrate how to make connection to the water main using appropriate techniques and equipment.				
3.9	Check the quality of the installation and confirm compliance with the specified standard.				
3.10	Maintain the security and safety of the site, job and third parties at all times.				
4. Be able to use and communicate data and information during installation					
4.1	Provide technical information using appropriate verbal and written communication techniques .				
4.2	Report any inaccuracies in the technical information sources used to the designated person.				
4.3	Complete work documentation accurately and record it in the specified place or pass to a designated person.				
4.4	Follow the correct procedures if working on a 'Permit to Work' activity.				
5. Know how to install water services					
5.1	Outline the organisation's policy and procedures for meeting relevant statutory requirements, regulations and Codes of Practice for installing water services.				
5.2	Describe suitable trench conditions to enable water services to be installed in line with relevant statutory requirements, regulations and Codes of Practice.				
5.3	Describe suitable pre-installation supply pipe conditions to enable service connections to be made in line with relevant statutory requirements and regulations and codes of practice.				
5.4	Explain the implications of not obtaining the required authorisations before undertaking work.				
5.5	Describe the implications of using incorrect plant and tools for installing water services				

5.6	Describe the implications of using unapproved materials and system components .				
5.7	Describe situations where service pipe installation can go wrong and suitable actions available to rectify them.				
5.8	Describe how to access information from reference documents, Regulations and Codes of Practice.				
5.9	Describe the procedures you follow to resolve problems within your control and to report and escalate problems which you cannot resolve				
5.10	Describe typical pipe defects likely to be encountered when installing water services.				
5.11	Explain how to determine the correct, and safe, action to take to resolve trench defects encountered during installation of water services.				
5.12	Describe how to access information from reference documents, Regulations and Codes of Practice				
5.13	Explain the importance of compliance with current industry legislation and regulations when installing water services.				
5.14	Describe what could cause the weld on an electrofusion tapping tee to fail?				
5.15	Explain why all electrofusion- welds must be securely clamped.				
5.16	Describe your actions if a gun metal ferrule leaks where it is threaded into the water main.				
5.17	Explain why all service connections should be flushed on completion and the potential implications of not doing so.				

Range Statements:

Throughout the unit:

Technical information

- (a) The tightening sequence for flanges and the importance of correctly applied torques.
- (b) The importance of end-load resistance in mechanical fittings for PE pipe
- (c) The importance of compatibility for barrier pipe fittings when jointing barrier pipes
- (d) Minimum and maximum depths for service pipes

Learning Outcome 2 and 5:

Components:

- (a) ferrule or tapping tee
- (b) pipe
- (c) joints
- (d) meter chamber
- (e) meter

Learning Outcome 3:

Joining techniques include:

- (a) mechanical
- (b) fusion
- (c) push-fit.
- (d) Flanged

Water Main (Three from)

- (a) polyethylene
- (b) polyethylene PE/AL/PE (Barrier Pipe)
- (c) UPVC or asbestos cement
- (d) Metallic

Protective techniques include:

- (a) using particular types of backfill materials
- (b) thrust protection

Learning Outcome 4:

Technical information relates to:

- (a) job progress
- (b) discrepancies or deficiencies
- (c) work instructions
- (d) problems outside own responsibility.

Communication techniques include:

- (a) written
- (b) spoken face to face
- (c) spoken via telephone.

Learning Outcome 5:

Water services include the following materials:

- (a) pipes
- (b) polyethylene
- (c) barrier

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some

sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment

Evidence Matrix

Unit: Restore water network assets to operational condition by repair

EUIAS Unit Number: 1088

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to restore components to operational condition					
1.1	Perform work activities in accordance with health, safety, and environment legislation and procedures				
1.2	Perform work activities in accordance with water quality and other relevant legislation and procedures				
1.3	Carry out and review site specific risk assessments in accordance with company procedures.				
1.4	Select and wear the designated personal protective equipment (PPE).				
1.5	Demonstrate how to interpret method statements, work instructions, drawings, plans, water company design and construction specifications and other specifications				
1.6	Select the correct types of tools and equipment to be used when restoring assets to operational condition by repair.				
1.7	Demonstrate how to prepare water network assets for repair or replacement .				
1.8	Demonstrate how to repair or replace water network assets in accordance with manufacturers' instructions, work instructions within agreed timescales				
1.9	Use approved suitable materials and assets for repairs or replacement.				
1.10	Use jointing methods that are suitable for water network assets				
1.11	Take measures to ensure that repaired assets meet the specified operating conditions and parameters.				
1.12	Carry out all work in accordance with industry standards and company procedures.				
2. Be able to use, and communicate, data and information during the restoration activities					
2.1	Interpret task requirements from relevant method statements and work instructions.				



2.2	Record information about possible cause, ground and asset conditions and work carried out in line with company procedures				
2.3	Take action to check with designated personnel any circumstances where information appears incorrect.				
2.4	Use organisational information systems to record and store relevant jointing data and information.				
2.5	Take action to make sure consumers are communicated with at relevant stages of the process				
3. Be able to resolve problems that arise when restoring components to operational condition					
3.1	Demonstrate how to deal promptly and effectively with problems within own control and refer those that cannot be solved.				
3.2	Refer problems and conditions outside the responsibility of the job to the designated person using approved procedures.				
3.3	Show how to deal with any emergencies that may arise when restoring assets to operational condition.				
4. Know and understand the health and safety requirements specific to restoring water network assets					
4.1	Outline the requirements of H&S & environmental legislation and company procedures relevant to the restoration of assets to operational condition by repair or replacement .				
4.2	Explain the importance of following all hygiene procedures , including personal hygiene and water supply quality regulations				
5. Understand the restoration of water network components to operational condition by repair					
5.1	Describe procedures for consumer notification, warnings and informing them about reconnection.				
5.2	Describe the different jointing methods and explain when it is appropriate to use them.				
5.3	Explain how to determine when & where repair or replacement is necessary.				
5.4	Describe the different techniques to repair assets				
5.5	Describe asset replacement methods for mains and services				
5.6	Describe the care and control procedures to be used to ensure compliance with hygiene				

	regulations.				
5.7	State the different types of information about repair and replacement activity that are required for ongoing asset management.				
5.8	Describe the approved procedures for dealing with, and reporting, problems				

Range Statements:

Throughout the unit:

Assets include:

- (a) Metallic
- (b) Non-metallic
- (c) All ancillary pipes and fittings, taps and valves

Learning Outcome 1:

Legislation and procedures include:

- (a) Working in deep excavations
- (b) Working with a near hazardous substance
- (c) Lifting and handling
- (d) Recording and reporting of accidents

Learning Outcomes 1, 4 and 5:

Jointing techniques include:

- (a) Joints
- (b) Horizontal and circumferential cracks and breaks
- (c) Corrosion
- (d) interference damage
- (e) inoperable fittings.

Learning Outcome 4:

4.2 Water supply quality regulations and hygiene procedures related to ensuring the integrity and wholesomeness of water supplies

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment



Evidence Matrix

Unit: Install water mains from 150 mm – 300mm nominal bore or 180mm – 355mm Polyethylene (PE)

EUIAS Unit Number: 1089

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing water mains					
1.1	Use drawings, records, work documents, manuals and technical specifications to provide work details for component installation.				
1.2	Use the technical information to confirm dimensions, lengths, widths and quantities required.				
1.3	Use the technical information to determine the positions of utilities plant, services, buildings, kerbs and boundaries.				
1.4	Take measures to ensure that where discrepancies occur necessary corrections are made or communicated to those who need to know using appropriate communication techniques .				
1.5	Follow the correct procedures if working on a 'Permit to Work' activity.				
2. Be able to select main components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications				
2.2	Ensure components are in good condition and are fit for purpose.				
2.3	Follow procedures to ensure that defective, non-matching or sub-standard components are replaced.				
2.4	Ensure that sufficient quantities of suitable tools, plant and equipment are available, checked and fit for purpose.				
2.5	Ensure there is sufficient competent labour to carry out the work effectively and safely.				
3. Be able to install components of the system					
3.1	Carry out and review a site-specific risk assessment and				
3.2	Select and wear the designated personal protective equipment (PPE).				



3.3	Demonstrate how to check and confirm the condition of the excavation conforms with instructions and specifications.				
3.4	Take measures to ensure a safe system of work is in place and communicated using appropriate communication techniques where lifting machinery is involved.				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions.				
3.6	Position components in accordance with the specification.				
3.7	Assemble components to industry standards using appropriate jointing techniques .				
3.8	Take adequate precautions to prevent damage to components, tools and equipment during installation.				
3.9	Take measures to protect installed assets and other utilities using appropriate protective techniques .				
3.10	Demonstrate how to make connection to the existing water main using appropriate connection techniques.				
3.11	Demonstrate how to complete the connection in the specified time frame.				
3.12	Check the quality of the installation and confirm compliance with the specified standard.				
3.13	Demonstrate how to Install all chambers covers and associated ancillary items in accordance with specifications.				
3.14	Maintain the security and safety of the site, job and third parties at all times.				
3.15	Demonstrate how to ensure safe working procedures are followed throughout the work activities.				
4. Be able to use and communicate data and information during installation					
4.1	Provide technical information using appropriate verbal and written communication techniques.				
4.2	Ensure recipients have received and understood the information.				
4.3	Report any inaccuracies in the technical information sources used to the designated person.				



4.4	Complete work documentation accurately and record it in the specified place or pass to a designated person.				
5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to tools, equipment or materials using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install water mains					
6.1	Explain the importance of carrying out on-site risk assessments and implementing safe systems of work and the need for constant review.				
6.2	Explain the importance of understanding and implementing a safe system of work (SSOW) document when working in excavations.				
6.3	Outline the organisation's policy and procedures for meeting relevant statutory requirements, regulations and Codes of Practice.				
6.4	Describe the factors that affect the suitability of excavations, and how to confirm that an excavation is suitable.				
6.5	Describe situations where particular authorisations are required before undertaking work				
6.6	Explain the implications of not obtaining the required authorisations before undertaking work.				
6.7	Explain the potential dangers of working in excavations and chambers.				
6.8	Describe the implications of using incorrect plant and tools, materials and system components.				
6.9	Describe the implications of using incorrect, materials and system components.				
6.10	State the actions to be taken where plant, tools, materials and system components fail to meet required specification.				
6.11	Describe situations where larger diameter mains pipe installation can go wrong and suitable actions available to rectify them.				



6.12	Describe the actions to be taken if work cannot proceed to schedule.				
6.13	Explain how to determine appropriate safe remedial action if work cannot proceed.				
6.14	Describe the types and causes of disruption that can occur when installing water mains pipes, and how to avoid them.				
6.15	Describe the dangers of using inadequate handling and lifting procedures to install larger diameter water mains.				
6.16	Describe the types and signs of defect likely to be encountered when installing water mains .				
6.17	Explain how to determine the correct, and safe, action to take to resolve defects encountered during installation of water mains.				
6.18	Explain the importance of compliance with current industry standards.				

Range Statements:

Learning Outcome 1 and throughout the unit:

Component requirements include:

- (a) Pipe
- (b) Joints
- (c) Valves
- (d) Hydrants and Wash outs

Technical information relates to:

- (a) job progress
- (b) discrepancies or deficiencies
- (c) work instructions
- (d) problems outside own responsibility
- (e) requirements for mains isolation

Learning Outcome 2

Tools, plant and equipment are for:

- (a) pipe cutting
- (b) pipe jointing
- (c) pumping
- (d) lifting pipes and fittings.



Learning Outcome 3

Joining techniques include:

- (a) mechanical flexible
- (b) mechanical flanged
- (c) butt fusion
- (d) electrofusion
- (e) push-fit.
- (f) Endload resistant.

Protective techniques include:

- (a) using particular types of backfill materials
- (b) support
- (c) thrust protection
- (d) Re-routing activities

Existing water main includes the following material:

- (a) Metallic / rigid
- (b) Polyethylene (PE)

Safe working procedures cover:

- (a) working at height
- (b) permit to work systems
- (c) hygiene procedures
- (d) hazardous materials
- (e) lifting and handling.

Communication techniques include:

- (a) written
- (b) spoken face to face
- (c) spoken via telephone
- (d) hand signals

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Install water mains above 300mm nominal bore or 355 mm Polyethylene (PE)

EUIAS Unit Number: 1090

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing water mains					
1.1	Use drawings, records, work documents, manuals and technical specifications to provide work details for component installation.				
1.2	Use the technical information to confirm dimensions, lengths, widths and quantities required.				
1.3	Use the technical information to determine the positions of utilities plant, services, buildings, kerbs and boundaries.				
1.4	Take measures to ensure that where discrepancies occur necessary corrections are made or communicated to those who need to know using appropriate communication techniques .				
1.5	Follow the correct procedures if working on a 'Permit to Work' activity.				
2. Be able to select main components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications				
2.2	Ensure components are in good condition and are fit for purpose.				
2.3	Follow procedures to ensure that defective, non-matching or sub-standard components are replaced.				
2.4	Ensure that sufficient quantities of suitable tools, plant and equipment are available, checked and fit for purpose.				
2.5	Ensure there is sufficient competent labour to carry out the work effectively and safely.				
3. Be able to install components of the system					
3.1	Carry out and review a site-specific risk assessment and				
3.2	Select and wear the designated personal protective equipment (PPE).				
3.3	Demonstrate how to check and confirm the condition of the excavation conforms with instructions and				



	specifications.				
3.4	Take measures to ensure a safe system of work is in place and communicated where lifting machinery is involved.				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions.				
3.6	Position components in accordance with the specification.				
3.7	Assemble components to industry standards using appropriate jointing techniques .				
3.8	Take adequate precautions to prevent damage to components , tools and equipment during installation.				
3.9	Take measures to protect installed assets and other utilities using appropriate protective techniques .				
3.10	Demonstrate how to make connection to the existing water main using appropriate connection techniques.				
3.11	Demonstrate how to complete the connection in the specified time frame.				
3.12	Check the quality of the installation and confirm compliance with the specified standard.				
3.13	Demonstrate how to install all chambers covers and associated ancillary items in accordance with specifications.				
3.14	Maintain the security and safety of the site, job and third parties at all times.				
3.15	Demonstrate how to ensure safe working procedures are followed throughout the work activities.				
4. Be able to use and communicate data and information during installation					
4.1	Provide technical information using appropriate communication techniques that are appropriate to the type of information provided and the way it will be used.				
4.2	Use appropriate communication techniques on site where noise and visibility may be compromised.				
4.3	Ensure recipients have received and understood the technical information.				



4.4	Report any inaccuracies in the technical information sources used to the designated person.				
4.5	Complete work documentation accurately and record it in the specified place or pass to a designated person.				
5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to tools, equipment or materials using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install water mains					
6.1	Explain the importance of carrying out on-site risk assessments and implementing safe systems of work and the need for constant review.				
6.2	Describe the factors that affect the suitability of excavations, and how to confirm that an excavation is suitable.				
6.3	Describe situations where particular authorisations are required before undertaking work				
6.4	Explain the implications of not obtaining the required authorisations before undertaking work.				
6.5	Explain the potential dangers of working in excavations and chambers.				
6.6	Outline the main responsibilities of Employers and employees under the current working at height regulations.				
6.7	Explain the dangers of taking actions that can create confined spaces risks in excavations.				
6.8	Describe the implications of using incorrect plant and tools.				
6.9	State the actions to be taken where plant, tools, materials and system components fail to meet required specification.				
6.10	State the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.11	Describe situations where large diameter mains pipe installation can go wrong and suitable actions available to rectify them.				



6.12	Describe how to access information from reference documents, Regulations and Codes of Practice.				
6.13	Describe the actions to be taken if work cannot proceed to schedule.				
6.14	Explain how to determine appropriate safe remedial action if work cannot proceed.				
6.15	Describe the types and causes of disruption that can occur when installing water mains pipes, and how to avoid them.				
6.16	Describe the dangers of using inadequate handling and lifting procedures to install large diameter water mains.				
6.17	Describe the types and signs of defect likely to be encountered when installing large diameter water mains				
6.18	Explain how to determine the correct, and safe, action to take to resolve defects encountered during installation of large diameter water mains				
6.19	Explain the importance of compliance with current industry standards.				

Range Statements:

Learning Outcome 1 and throughout the unit:

Technical information relates to:

- (a) job progress
- (b) discrepancies or deficiencies
- (c) work instructions
- (d) problems outside own responsibility
- (e) requirements for mains isolation

Learning Outcome 2 and throughout the unit:

Tools, plant and equipment are for:

- (a) pipe cutting
- (b) pipe jointing
- (c) pumping
- (d) lifting pipes and fittings

Components include:

- (a) Pipe
- (b) Joints
- (c) Valves
- (d) Hydrants & Washouts



Learning Outcome 3:

Safe working procedures cover:

- (a) working at height
- (b) permit to work systems
- (c) hygiene procedures
- (d) hazardous materials
- (e) lifting and handling

Existing water main includes the following material:

- (a) Metallic / rigid
- (b) Polyethylene (PE)

Jointing techniques include:

- (a) mechanical flexible
- (b) mechanical flanged
- (c) Butt fusion
- (d) Electrofusion
- (e) push-fit.
- (f) Endload resistant

Protective techniques include:

- (a) using particular types of backfill materials
- (b) support
- (c) thrust protection
- (d) re-routing activities.

Learning Outcome 4:

Communication techniques include:

- (a) written
- (b) spoken face to face
- (c) spoken via telephone
- (d) hand signals

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Joint materials by butt fusion processes between 180mm and 355 mm for utilities network construction

EUIAS Unit Number: 1091

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to make butt fusion joints on pipes between 180mm and 355mm					
1.1	Carry out site specific risk assessment, and review in accordance with company procedures				
1.2	Select and wear the designated PPE				
1.3	Interpret engineering specifications relevant to the engineering activity				
1.4	Take measures to check that jointing and related equipment and consumables are as specified and fit for purpose .				
1.5	Follow the job instructions and procedures accurately to prepare and make joints.				
1.6	Check and confirm that joint preparation: <ul style="list-style-type: none"> • complies with the specification • meets quality requirements. 				
1.7	Ensure suitable lifting and handling equipment is available.				
1.8	Provide adequate weather protection during the entire jointing cycle.				
1.9	Carry out and monitor the machine operations in line with specifications and job instructions.				
1.10	Demonstrate how to make butt fusion joints of the required quality and specified dimensions.				
1.11	Demonstrate how to de-bead and carry out the approved quality assurance test on the bead.				
1.12	Confirm joint and bead are identifiable by marking in accordance with company procedures				
1.13	Confirm the equipment is in a safe and clean condition on completion of jointing activities				
1.14	Handle excess and waste materials and temporary attachments, in line with approved and agreed procedures.				



2. Be able to use and communicate data and information					
2.1	Take action to check with designated personnel any circumstances where information appears incorrect.				
2.2	Use organisational information systems to record and store jointing data and information.				
3. Be able to resolve problems which arise from jointing materials					
3.1	Report promptly to the designated person damage or defects to tools, equipment, materials				
3.2	Resolve day to day problems within the responsibility of the job role				
3.3	Report promptly to the designated person matters outside the responsibility of the job role using approved procedures				
4. Know how to joint materials by butt fusion processes on utilities network construction between 180mm and 355mm diameter					
4.1	Describe the correct handling procedures to be used during butt fusion jointing.				
4.2	Outline the industry codes of practice and company procedures relating to butt fusion jointing.				
4.3	Explain why only pipes of similar specifications can be joined together.				
4.4	Describe the different stages that take place during the butt fusion jointing process and the importance of allowing each phase to complete				
4.5	Explain the need for pipe support, alignment and the consequences of poor support and mis-alignment.				
4.6	Explain the causes and effects of defects and contamination				
4.7	Describe the maintenance procedures that must be followed for butt fusion equipment				
4.8	Describe how equipment must be calibrated for butt fusion activities.				
4.9	Describe the consequences of poor maintenance.				
4.10	Describe the different quality assurance procedures that can be applied to recognise jointing defects				
4.11	Outline the correct reporting procedures used for butt fusion activities.				

Range Statements:

Learning Outcome 1:

Fit for purpose: Clean, undamaged, compatible.

Learning Outcome 2:

Designated personnel: those people specified within work and health and safety procedures

Learning Outcome 3:

Designated person: those people specified within work and health and safety procedures

Learning Outcome 5:

Defects and contamination: Split defects, inadequate bead, excessive bead, pipe specifications, compatibility, different types of material and consumables

Quality assurance procedures: non-destructive and destructive testing

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment

Evidence Matrix

Unit: Joint materials by butt fusion processes above 355mm for utilities network construction

EUIAS Unit Number: 1092

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to make butt fusion joints on pipes over 355mm					
1.1	Carry out site specific risk assessment, and review in accordance with company procedures				
1.2	Select and wear the designated PPE				
1.3	Interpret engineering specifications relevant to the engineering activity				
1.4	Take measures to check that jointing and related equipment and consumables are as specified and fit for purpose .				
1.5	Follow the job instructions and procedures accurately to prepare and make joints.				
1.6	Check and confirm that joint preparation: <ul style="list-style-type: none"> • complies with the specification • meets quality requirements. 				
1.7	Ensure suitable lifting and handling equipment is available.				
1.8	Provide adequate weather protection during the entire jointing cycle.				
1.9	Carry out and monitor the machine operations in line with specifications and job instructions.				
1.10	Confirm compliance with <ul style="list-style-type: none"> • job instructions • correct preparation • specification • specified dimensional accuracy • approved practices and procedures 				
1.11	Demonstrate-how to make butt fusion joints of the required quality and dimensions.				
1.12	Demonstrate how to de-bead and carry out the approved quality assurance test on the bead.				



1.13	Confirm joint and bead are identifiable by marking in accordance with company procedures				
1.14	Confirm the equipment is in a safe and clean condition on completion of jointing activities				
1.15	Handle excess and waste materials and temporary attachments, in line with approved and agreed procedures.				
2. Be able to use and communicate data and information					
2.1	Take action to check with designated personnel any circumstances where information appears incorrect.				
2.2	Use organisational information systems to record and store jointing data and information.				
3. Be able to resolve problems which arise from jointing materials					
3.1	Report promptly to the designated person damage or defects to tools, equipment, materials				
3.2	Report promptly to the designated person matters outside the responsibility of the job role				
3.3	Resolve day to day problems within the responsibility of the job role				
4. Know how to joint materials by butt fusion processes on pipes over 355mm diameter					
4.1	Describe the correct handling procedures to be used during butt fusion jointing.				
4.2	Outline the industry codes of practice and company procedures relating to butt fusion jointing.				
4.3	Explain why only pipes of similar specifications can be joined together.				
4.4	Describe the different stages that take place during the jointing process and the importance of allowing each phase to complete				
4.5	Explain the need for pipe support, alignment and the consequences of poor support & mis-alignment				
4.6	Explain the causes and effects of defects and contamination ,				
4.7	Describe the maintenance procedures that must be followed for butt fusion equipment				
4.8	Describe how equipment must be calibrated for butt fusion activities.				
4.9	Describe the consequences of poor maintenance.				
4.10	Describe the different quality assurance procedures that can be applied in recognising defects,				

4.11	Outline the correct reporting procedures used for butt fusion activities.				
------	---	--	--	--	--

Range Statements:

Learning Outcome 1:

Fit for purpose: Clean, undamaged, compatible.

Learning Outcome 2:

Designated personnel: those people specified within work and health and safety procedures

Learning Outcome 3:

Designated person: those people specified within work and health and safety procedures

Learning Outcome 5:

Defects and contamination: Split defects, inadequate bead, excessive bead, pipe specifications, compatibility, different types of material and consumables

Quality assurance procedures: non-destructive and destructive testing

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner’s portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner’s skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Conduct pressure testing, swabbing and disinfection of water network engineering products or assets

EUIAS Unit Number: 1093

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to perform pressure testing activities					
1.1	Carry out work safely in accordance with health and safety and environment regulations and legislation.				
1.2	Carry out a site-specific risk assessment, and review it in accordance with company procedures.				
1.3	Carry out and review method statements in accordance with company procedures				
1.4	Select and wear the designated personal protective equipment (PPE).				
1.5	Demonstrate how to use all tools and equipment for pressure testing in accordance with work instructions and manufacturers specifications.				
1.6	Demonstrate how to remove excess air from the system and ensure that the system to be tested is isolated.				
1.7	Demonstrate how to carry out swabbing of the system to remove excess air and cleanse the system.				
1.8	Demonstrate how to safely set up the equipment and carry out hydrostatic pressure testing appropriate to system type				
1.9	Demonstrate how to safely flush and reduce residual system pressure following system testing				
1.10	Record and review test results to confirm the soundness of the system against the performance parameters.				
1.11	Report to the designated person the need for remedial action in the event of system test failure .				
1.12	Repeat test following suitable system recovery period				
1.13	Dispose of waste products in accordance with environmental standards				
1.14	Demonstrate how to select tools, equipment and consumables for contact disinfection of the new main in				

	accordance with work instructions and manufacturers specifications.				
1.15	Demonstrate how to apply and measure the correct high range dosage of free chlorine in line with company procedures.				
1.16	Demonstrate how to flush and return the system to a normal low range residual chlorine content following contact.				
1.17	Carry out all work in line with industry and company standards whilst protecting the surrounding environment				
2. Be able to use and communicate data and information relating to testing activities					
2.1	Record results of all test activities using required company reporting systems and documentation				
2.2	Record results of contact disinfection following company procedures				
3. Be able to resolve problems which arise when performing test activities					
3.1	Demonstrate how to report damage or defects to test equipment to the designated person.				
3.2	Deal promptly and effectively with problems within their control and report those that cannot be solved.				
3.3	Refer problems and conditions outside their responsibility to the designated person using approved procedures.				
3.4	Deal with any emergencies that may arise.				
4. Know how to conduct specified testing of water engineering product or assets					
4.1	Explain how to interpret drawings, plans and specifications for different test activities and procedures.				
4.2	Describe the lines and procedures for reporting problems associated with testing activities , including: (a) standard company documentation (b) relevant company procedures.				
4.3	Describe the different types of pressure tests and how they are carried out depending on the pipe materials concerned.				
4.4	Describe the importance of testing equipment being calibrated				
4.5	Explain the actions required when faults or problems occur with pressure testing equipment				
4.6	Explain how to respond to problems with the				

	pipeline during testing activities				
4.7	Explain how the results of the test are recorded and interpreted.				
4.8	Explain how air can enter pipe systems and the methods of removing it.				
4.9	Explain the criteria for passing or failing a pressure test and the follow-up actions required in either case.				
4.10	Explain the consequences of test failure and the likely remedial activities.				
4.11	Explain the consequences of mechanical failures during testing due to the pressure ranges.				
4.12	Describe the procedures to follow and documentation to be used to record test results.				

Range Statements:

Learning Outcome 1 and throughout the unit:

Testing activities to be carried out safely with regard to:

- (a) working in excavations
- (b) handling hazardous materials
- (c) working on or near to pressurised systems
- (d) provision and use of work equipment
- (e) accident reporting.

Consequences of **test failure** include those to:

- (a) the environment
- (b) operations
- (c) cost
- (d) time

Waste Products

- (a) Chlorinated Water
- (b) Chlorine solutions
- (c) Flushed Water
- (d) Used swabs
- (e) Reagents

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Conduct specified testing of gas network components and assets - mains

EUIAS Unit Number: 1094

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to perform test activities					
1.1	Perform tasks safely and ensure all work is carried out in accordance with legislative and regulatory requirements				
1.2	Carry out a site specific risk assessment				
1.3	Select and wear the designated PPE				
1.4	Take measures to protect the test site from third party interference and the consequences of test failure on third parties				
1.5	Comply with procedures in accordance with work instructions and manufacturers specifications when using tools and equipment				
1.6	Take measures to confirm equipment is functioning in accordance with system operating requirements and parameters				
2. Be able to use and communicate data and information within test activities					
2.1	Set up and carry out the test activities, within agreed timescales, following agreed industry standards and approved codes of practice				
2.2	Review test results to establish that the performance of the system is in accordance to specifications and performance parameters				
2.3	Record the results of test activities and complete test record documents				
2.4	Use documentation in accordance with company procedures and statutory requirements.				
3. Be able to resolve problems which arise when performing test activities					
3.1	Resolve problems within the limits of the responsibility of the job role				
3.2	Communicate problems outside the responsibilities of the job role to the designated person				

4. Know and understand specified testing of gas services					
4.1	Outline the health, safety and environmental requirements relevant to this activity				
4.2	Explain the importance of adequate anchorage during the testing procedure				
4.3	Explain how to use various types of test, purging and commissioning specifications for gas services				
4.4	Describe how to use various types of test, purging and commissioning equipment				
4.5	Explain how to calibrate the relevant pressure gauges				
4.6	Describe why pressure gauges need calibrating				
4.7	Explain how to interpret test results against specifications and codes of practice				
4.8	Describe the effect of atmospheric pressure and temperature on test results on services				
4.9	Outline the potential consequences of test failure to the environment.				

Range Statements:

Learning Outcome 1:

Legislative and regulatory requirements: Health and safety and environment regulations, legislation, company procedures, statutory procedures

Learning Outcome 2:

Agreed industry standards and approved codes of practice: work instructions; approved procedures and practices; statutory and regulatory requirements; drawings; plans; specifications for the pressure testing of gas network mains and services

Record: hard copy records, computerised records

Learning Outcome 3:

Designated person: Those people specified within work and health and safety procedures

Evidence Requirements:

Learning outcome 2 **must** be evidenced through workplace observation by an Assessor. Competence in testing **must** be evidenced on pressure ranges:

- up to and including 75 mb
- above 75 mb to a maximum of 4 bar.

At least **one** of these pressure ranges **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment

As stated in the Evidence Requirements section at least **one** of the methods specified in the range **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Matrix

Unit: Conduct specified connections to gas network mains and commissioning

EUIAS Unit Number: 1095

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for connecting engineering assets to the system					
1.1	Produce work details for the connection using technical information				
1.2	Use technical information to determine measurements				
1.3	Identify the location where the connection is to be made to the network				
2. Be able to select components and resources for the connection					
2.1	Select the components for the work in compliance with specifications				
2.2	Take action to comply with procedures to replace defective components				
2.3	Take action to comply with procedures to replace sub-standard components				
2.4	Take measures to ensure the availability of sufficient resources				
2.5	Plan for actual and foreseeable changes to the availability of resources				
3. Be able to connect engineering products or assets to the system					
3.1	Determine the method of connection to be used				
3.2	Carry out a site-specific risk assessment and review as job progresses, in accordance with company policy				
3.3	Select and wear the designated PPE				
3.4	Ensure the condition and size of the excavation is sufficient and conforms to instructions and specifications				
3.5	Install, test and configure bypass in accordance with approved codes of practice and organisational procedure				
3.6	Appropriately position fire extinguishers on site				



3.7	Check fire extinguishers are in good working order				
3.8	Check sufficient sets of breathing apparatus are assembled ready for use				
3.9	Support and anchor installed engineering assets in accordance with approved codes of practice				
3.10	Comply with safe working procedures throughout the whole of the work activity				
3.11	Confirm the availability of authorised job instructions, operational procedures and permits to work, prior to commencement of connection work				
3.12	Undertake site-specific tasks appropriately to prevent damage to equipment				
3.13	Use selected techniques to make the connection to the existing system				
3.14	Purge air from the connection and carry out the commissioning in accordance with operational procedures.				
4. Be able to use and communicate data and information					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately.				
5. Be able to resolve problems that arise during assembly or sub-assembly replacement					
5.1	Report to the designated person damage or defects to resources using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule, using approved procedures				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role, using approved procedures.				



6. Understand specified connections to gas network mains and commissioning					
6.1	State the organisation's policy and procedures for connections to meet the relevant statutory requirements <ul style="list-style-type: none"> • regulations • codes of practice 				
6.2	Explain the importance of compliance with current industry standards relating to connections				
6.3	Explain the importance of obtaining necessary permissions for isolation of any part of network				
6.4	Explain the importance of obtaining authorisation to proceed with connections				
6.5	Explain the implications of using incorrect plant, tools, materials and system components				
6.6	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.7	Describe potential faults associated with the use of inappropriate installation methods and tools				
6.8	Identify potential dangers in excavations				
6.9	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.10	Describe actions that can create confined space risks in excavations				
6.11	Describe the range of isolation methods available and the rationale for their selection				
6.12	Identify actions to be taken if work cannot proceed to schedule				
6.13	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
6.14	Explain the organisation's operational reporting procedures				
6.15	Describe different sources and ways to access information on operational procedures				
6.16	Identify types and causes of likely disruptions to work on site				
6.17	Identify methods of preventing disruption to work on site				

Range Statements:

Learning Outcome 1:

Technical Information: Drawings, records, work documents, manuals and technical specifications, Company policies and procedures

Measurements: Dimensions, lengths, widths, depths, pressure, quantities

Learning Outcome 2:

Components: Metallic and non-metallic and all ancillary pipes and fittings

Resources: Labour, plant, equipment, materials, consumables

Learning Outcome 3:

Operational procedures: method statement, company procedures

Connection: main diameters >63mm but ≤180mm

Learning Outcome 4:

Instructions: Verbal, written

Learning Outcome 5:

Designated Person: Team leader, Manager

Resources: Pipe, fittings, equipment

Learning Outcome 6:

Components: Pipe, fittings, materials

Evidence Requirements:

Learning outcome 3 must be evidenced through workplace observation by an Assessor. Competence in testing must be evidenced on pressure ranges:

- up to and including 75 mb
- above 75 mb to a maximum of 4 bar.

At least one of these pressure ranges must be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Install gas engineering products or assets up to 180mm

EUIAS Unit Number: 1096

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation use				
1.2	Select and apply technical information from relevant technical specifications and work instructions including: <ul style="list-style-type: none"> • dimensions (length, width, depth) • diameter • quantities of products and assets 				
1.3	Identify appropriate positions of: <ul style="list-style-type: none"> • utilities plant • services • buildings • kerbs • boundaries 				
1.4	Demonstrate how to make corrections to drawings, records and work documents and report these in line with organisational procedures				
2. Be able to select components and resources for installation of the system					
2.1	Confirm the availability of sufficient resources				
2.2	Select the type of components in compliance with the work and quality specifications				
2.3	Replace defective components in line with procedures				
2.4	Replace non-match components in line with procedures				
2.5	Replace sub-standard components in line with procedures				
2.6	Respond to changes to the planned use of the resource				
2.7	Confirm components and installation equipment are operational				
3. Be able to install components of the system					
3.1	Determine the method of installation to be used				



	that meet technical specifications and work instructions				
3.2	Carry out and review site-specific risk assessments and apply control measures in accordance with company policy				
3.3	Confirm the condition of the excavation conforms with instructions and specifications				
3.4	Select, prepare and operate installation equipment in accordance with the specification and manufacturers' instructions				
3.5	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.6	Carry out site-specific tasks appropriately to prevent equipment damage				
3.7	Position components in accordance with the specification				
3.8	Protect installed assets with fine fill in accordance with specification and approved codes of practice				
3.9	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice				
3.10	Connect to the existing system in accordance with codes of practice				
3.11	Support and anchor installed assets in accordance with codes of practice				
3.12	Confirm that the quality of the installation complies with the specified standard				
3.13	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.14	Ensure work practices conform to safe working procedures throughout the work activity				
3.15	Comply with procedures where lone working is required				
4. Be able to use and communicate technical information to brief colleagues					
4.1	Provide technical information to appropriate people when required				
4.2	Check and confirm understanding of technical information				
4.3	Brief team members on their delegated roles and responsibilities in line with work instructions				



4.4	Report to a designated person problems and conditions outside own responsibility				
4.5	Complete and store work documentation in line with organisational procedures				
5. Know and understand health and safety and environmental requirements for the installation of gas network products or assets					
5.1	Explain the organisational reporting lines, roles, responsibilities and levels of authority				
5.2	Identify the range and use of PPE for installing gas network products or assets and procedures for checking PPE is fit for purpose				
5.3	Explain the procedures for, and importance of, obtaining necessary authorisations for isolation of any part of utilities network				
5.4	Explain the importance of complying with current industry standards				
5.5	State the organisation's policy and procedures for meeting the relevant statutory requirements, regulations and codes of practice				
5.6	Describe the organisation's reporting procedures and who to report problems to				
6. Know how to install gas engineering products or assets up to 180mm					
6.1	Describe different methods of accessing technical specifications and how to interpret them				
6.2	Explain how to interpret work instructions including drawings, records, work authorisations and other project specific information				
6.3	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.4	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
6.5	Identify types and causes of likely disruption to the work				
6.6	Identify methods of avoiding disruption to the work				
6.7	Describe how to relay technical information to others according to the recipient, the type of information and how it will be used				
6.8	Describe techniques to check understanding of technical information and work instructions				
6.9	Explain the importance of implementing and following a safe system of work (SSOW) document				

	when working in excavations				
6.10	Explain the implications of using incorrect plant, tools and materials				
6.11	Explain the implications of using incorrect system components				
6.12	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.13	Describe faults associated with the use of inappropriate installation methods and tools				
6.14	Describe the range of isolation methods available and the rationale for their selection				
6.15	Explain the procedure for obtaining authorisation to proceed with connections				
6.16	Identify the range of actions to be taken if work cannot proceed to schedule				
6.17	Identify methods of accessing information from different sources				
6.18	Describe the types and signs of defect likely to be present on sub-system and means of determining the appropriate safe action.				

Range Statements:

The scope of this unit is for Mains 90mm – 180mm.

Learning Outcome 1:

Work details: Drawings, records, work documents, manuals, technical specifications

Learning Outcome 2:

Resources: Labour, plant, equipment, materials, consumables

Components: Metallic and non-metallic and all ancillary pipes and fittings

Learning Outcome 3:

Method: Dead insertion, live insertion, soil displacement, open cut and connection method; in-line, top tee, side entry tee

Components: Metallic and non-metallic and all ancillary pipes and fittings

Equipment: Components, tools

Learning Outcome 4:

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 5:

Problems: may include inaccuracies in technical information sources, damage or defects to tools, equipment or materials and work which is incomplete or not to schedule

Learning Outcome 6:

Technical Specifications: from reference documents, manuals, regulations, codes of practice, risk assessments and method statements

Sources: Reference documents, regulations, codes of practice

Evidence Requirements:

Learning outcome 3 **must** be evidenced through workplace observation by an Assessor.

At least **one** of the methods specified in the range **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report. In total **two** of the four identified installation methods should be assessed.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Decommissioning and abandonment of mains and services 63mm and above

EUIAS Unit Number: 1097

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to conduct specified testing of gas networks associated with decommissioning					
1.1	Perform work activities safely at all times in accordance with legislative and regulatory requirements				
1.2	Carry out a site specific risk assessment and review in accordance with company procedures				
1.3	Select and wear the designated PPE for the testing activities				
1.4	Select and use the specified equipment				
1.5	Use tools and equipment in accordance with industry standards and codes of practice				
1.6	Carry out mains decay tests in accordance with codes of practice				
1.7	Interpret decay test results to determine if the asset is in a suitable condition for abandonment				
1.8	Identify actions required if the decay test indicates there are connections to the pipe to be abandoned				
1.9	Take actions within your own level of responsibility				
1.10	Demonstrate how to purge the system in accordance with industry standards and codes of practice				
1.11	Report results that require action that which are outside your authority to authorised persons				
2. Be able to interpret technical information for decommissioning					
2.1	Produce work details for the decommissioning operation				



2.2	Use technical information to identify: <ul style="list-style-type: none"> • dimensions • lengths • widths • depth • diameters • pressure • volumes • utilities plant 				
2.3	Demonstrate how to make corrections to drawings, records and work documents.				
3. Be able to select components and resources for decommissioning					
3.1	Select components in compliance with the work and quality specifications				
3.2	Demonstrate how to comply with procedures to replace defective components				
3.3	Take action to confirm the availability of sufficient resources				
3.4	Respond to changes to the planned use of resource				
3.5	Take action to confirm components and decommissioning equipment are operational.				
4. Be able to decommission the system					
4.1	Determine the method for decommissioning when abandoning the system				
4.2	Identify the purge parameters and follow procedures to safely purge gas from the system				
4.3	Take action to confirm that all gas has been removed from the system				
4.4	Demonstrate how to confirm the condition of the excavation conforms with instructions and specifications				
4.5	Select, prepare and operate decommissioning equipment in accordance with the specification and manufactures instructions				
4.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
4.7	Carry out site-specific tasks appropriately to prevent equipment damage				
4.8	Position components in accordance with the specification				



4.9	Disconnect the existing main or service system by flowstopping in accordance with codes of practice				
4.10	Take action to confirm that the decommissioning process is completed in accordance with codes of practice				
4.11	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
4.12	Demonstrate how to ensure work practices conform to safe working procedures throughout the work activity.				
5. Be able to use and communicate data and information					
5.1	Provide instructions to individuals who will be using technical information				
5.2	Take action to confirm instructions have been understood by individuals using technical information				
5.3	Report to a designated person inaccuracies in the technical information sources used				
5.4	Complete work documentation accurately and store appropriately in accordance with organisational procedures				
5.5	Demonstrate how to comply with procedures if working on a 'permit to work' designated activity.				
6. Be able to resolve problems that arise from technical information and decommissioning work					
6.1	Report to the designated person damage or defects to resources using approved procedures				
6.2	Report to the designated person work which is incomplete and not to schedule				
6.3	Report to the designated person problems and conditions outside the responsibility of the job role.				
7. Know how to decommission gas engineering products or assets.					
7.1	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network				
7.2	Explain the risks associated with using incorrect system components, plant, tools, materials and authorisations				
7.3	Describe the range of isolation methods available and the rationale for their selection				

7.4	Explain the procedure for obtaining authorisation to proceed with decommissioning				
7.5	Identify the range of actions to be taken if work cannot proceed to schedule				
7.6	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
7.7	Identify methods of accessing information from different sources				
7.8	Identify types and causes of likely disruption and how to avoid disruption				

Range Statements:

This unit covers:

- Abandonment of metallic or PE pipes
- Abandonment of pipes >2" / 63mm
- Suggest that for this unit the abandonment is for pipes <=6" / 180mm

Learning Outcome 4:

Method: The purge to air may be either direct or indirect

Flowstopping method to include bagging off or squeeze-off

Learning Outcome 8:

Disruption: equipment failure, weather conditions, system load, ground conditions, lack of available resources, communication breakdown.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Conduct specified testing of Gas services

EUIAS Unit Number: 1098

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation use				
1.2	From the technical information determine <ul style="list-style-type: none"> • dimensions • lengths • widths • depth • pressure • quantities • utilities plant • services • sewers and drains • buildings • kerbs • boundaries 				
1.3	Demonstrate how to make corrections to drawings, records and work documents				
2. Be able to select components and resources for installation of the system					
2.1	Select the necessary components in compliance with the work and quality specifications				
2.2	Identify and replace defective components in line with key procedures				
2.3	Confirm the availability of sufficient resources				
2.4	Respond to changes to the planned use of the resource				
2.5	Confirm components and installation equipment are fit for purpose				
3. Be able to select components and resources for decommissioning					
3.1	Determine the method to be used for installing components				
3.2	Carry out a site-specific risk assessment and				



	review it in accordance with company policy				
3.3	Select and wear the designated PPE				
3.4	Confirm the condition of the excavation conforms with instructions and specifications				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions				
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.7	Carry out site-specific tasks appropriately to prevent damage to equipment				
3.8	Position components in accordance with the specification				
3.9	Protect installed assets with fine fill in accordance with specification and approved codes of practice				
3.10	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice				
3.11	Connect to the existing system, side entry or top entry tee in accordance with codes of practice				
3.12	Support and anchor installed assets in accordance with codes of practice				
3.13	Confirm that the quality of the installation complies with the specified standard				
3.14	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.15	Ensure work practices conform to safe working procedures throughout the work activity				
4. Be able to use and communicate data and information during installation					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately				
4.5	Record work documentation in the specified place or pass to a designated person				
4.6	Demonstrate how to comply with procedures if				



	working on a 'Permit to Work' designated activity				
5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to resources using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install gas services up to 63mm					
6.1	Explain the importance of obtaining necessary permissions for isolation of any part of the utility network				
6.2	Explain the importance of complying with current industry standards and codes of practice and regulatory and statutory requirements for servicelaying				
6.3	State the organisation's policy and procedures for servicelaying for meeting the relevant <ul style="list-style-type: none"> • statutory requirements • regulations • codes of practice 				
6.4	Explain the potential implications of not obtaining the correct authorisation				
6.5	Explain the potential implications of using incorrect plant, tools and materials				
6.6	Explain the potential implications of using incorrect system components				
6.7	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.8	Describe potential faults associated with the use of inappropriate installation methods and tools				
6.9	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.10	Describe the range of isolation methods available and the rationale for their selection				
6.11	Explain the procedure for obtaining authorisation to proceed with connections				
6.12	Identify the range of actions to be taken if work cannot proceed to schedule				

6.13	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
6.14	Identify methods of accessing information from different sources				
6.15	Explain how to avoid disruption when working on site				

Range Statements:

Learning Outcome 1:

Work details: Drawings, records, work documents, manuals, technical specifications, Company policies and procedures

Components: Metallic and non-metallic and all ancillary pipes and fittings

Learning Outcome 2:

Components: Metallic and non-metallic and all ancillary pipes and fittings

Resources: Labour, plant, equipment, materials, consumables

Learning Outcome 3:

Equipment: Components, tools, equipment

Components: Metallic and non-metallic and all ancillary pipes and fittings

The following statements cover the different types of service construction which need to be covered in this unit. They indicate the installation method to be adopted.

Method: Dead insertion, live insertion, soil displacement, open cut

Method: New or replacement services

Method: Connection to PE or metallic mains

Method: Termination: internal meter position, meter box, semi-concealed meter box

Learning Outcome 4:

Instructions: Oral, written

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 5:

Resources: Equipment, materials and tools

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 7:

Components: metallic and non-metallic and all ancillary pipes and fittings

Sources: Reference documents, regulations, codes of practice

Evidence Requirements:

Learning outcome 3 **must** be evidenced through workplace observation by an Assessor. Competence in pressure testing **must** be evidenced through the appropriate unit on pressure ranges.

At least **one** of these pressure ranges **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment (RWE)

As stated in the Evidence Requirements section at least **one** of the methods specified in the range **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Matrix

Unit: Install Gas services up to 63mm

EUIAS Unit Number: 1099

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation use				
1.2	From the technical information determine <ul style="list-style-type: none"> • dimensions • lengths • widths • depth • pressure • quantities • utilities plant • services • sewers and drains • buildings • kerbs • boundaries 				
1.3	Demonstrate how to make corrections to drawings, records and work documents				
2. Be able to select components and resources for installation of the system					
2.1	Select the necessary components in compliance with the work and quality specifications				
2.2	Identify and replace defective components in line with key procedures				
2.3	Confirm the availability of sufficient resources				
2.4	Respond to changes to the planned use of the resource				
2.5	Confirm components and installation equipment are fit for purpose				
3. Be able to install components of the system					
3.1	Determine the method to be used for installing components				
3.2	Carry out a site-specific risk assessment and review it in accordance with company policy				



3.3	Select and wear the designated PPE				
3.4	Confirm the condition of the excavation conforms with instructions and specifications				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufactures instructions				
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.7	Carry out site-specific tasks appropriately to prevent damage to equipment				
3.8	Position components in accordance with the specification				
3.9	Protect installed assets with fine fill in accordance with specification and approved codes of practice				
3.10	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice				
3.11	Connect to the existing system, side entry or top entry tee in accordance with codes of practice				
3.12	Support and anchor installed assets in accordance with codes of practice				
3.13	Confirm that the quality of the installation complies with the specified standard				
3.14	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.15	Ensure work practices conform to safe working procedures throughout the work activity				
4. Be able to use and communicate data and information during installation					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately				
4.5	Record work documentation in the specified place or pass to a designated person				
4.6	Demonstrate how to comply with procedures if working on a 'Permit to Work' designated activity				



5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to resources using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install gas services up to 63mm					
6.1	Explain the importance of obtaining necessary permissions for isolation of any part of the utility network				
6.2	Explain the importance of complying with current industry standards and codes of practice and regulatory and statutory requirements for servicelaying				
6.3	State the organisation's policy and procedures for servicelaying for meeting the relevant: <ul style="list-style-type: none"> • statutory requirement • regulations • codes of practice 				
6.4	Explain the potential implications of not obtaining the correct authorisation				
6.5	Explain the potential implications of using incorrect plant, tools and materials				
6.6	Explain the potential implications of using incorrect system components				
6.7	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
5.8	Describe potential faults associated with the use of inappropriate installation methods and tools				
6.9	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.10	Describe the range of isolation methods available and the rationale for their selection				
6.11	Explain the procedure for obtaining authorisation to proceed with connections				
6.12	Identify the range of actions to be taken if work cannot proceed to schedule				
6.13	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				

6.14	Identify methods of accessing information from different sources				
6.15	Explain how to avoid disruption when working on site				

Range Statements:

Learning Outcome 1:

Work details: Drawings, records, work documents, manuals, technical specifications, Company policies and procedures

Components: Metallic and non-metallic and all ancillary pipes and fittings

Learning Outcome 2:

Components: Metallic and non-metallic and all ancillary pipes and fittings

Resources: Labour, plant, equipment, materials, consumables

Learning Outcome 3:

The following statements cover the different types of service construction which need to be covered in this unit. They indicate the installation method to be adopted.

Method: Dead insertion, live insertion, soil displacement, open cut

Method: New or replacement services

Method: Connection to PE or metallic mains

Method: Termination: internal meter position, meter box, semi-concealed meter box

Equipment: Components, tools, equipment

Components: Metallic and non-metallic and all ancillary pipes and fittings

Evidence Requirements:

Learning outcome 3 **must** be evidenced through workplace observation by an Assessor. Competence in pressure testing **must** be evidenced through the appropriate unit. on pressure ranges

At least **one** of these pressure ranges **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report

At least **one** of the methods specified in the range **must** be evidenced as part of workplace observed assessment; the other can be assessed in a RWE through an Assessor Observation Report.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Disconnection of gas meters and regulators

EUIAS Unit Number: 1100

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to prepare for disconnecting gas meters and regulators					
1.1	Take steps to make sure all required pre-work checks have been carried out prior to starting disconnection activities				
1.2	Check that conditions within gas and earthing systems will permit safe disconnection				
1.3	Select and wear designated PPE				
1.4	Carry out site specific risk assessment				
1.5	Select and use the correct tools, test equipment and other equipment for all aspects of the work				
2. Be able to disconnect gas meters					
2.1	Use designated safe isolation methods, tests, fittings and procedures to disconnect gas systems and components				
2.2	Take precautionary actions to ensure that temporarily disconnected meters do not present a safety hazard, including use of temporary continuity bonds				
2.3	Minimise damage to customer property and building features throughout all stages of work				
2.4	Demonstrate how to disconnect and remove any decommissioned regulators, gas systems and components in line with disconnection plans				
2.5	Complete all relevant documentation and paperwork in line with industry standards				
2.6	Resolve problems within own area of responsibility and competence in accordance with approved procedures				
3. Know and understand health and safety requirements underpinning the disconnection of gas meters and regulators					
3.1	Outline key legislation, regulations and guidance covering your responsibilities for your own safety and that of others when disconnecting gas meters and regulators, including lone working				



3.2	Outline key legislation, regulations and guidance covering environmental protection and the use of risk assessments				
3.3	Identify potential hazards that could arise from all disconnection activities and checks to be carried out before work takes place				
3.4	Explain how to safely collect and dispose of system contents that may be hazardous to health or the environment				
3.5	Describe the safe use of a standard voltage stick and the limitations of use				
4. Know and understand how to disconnect gas meters and regulators					
4.1	Identify disconnection plans and explain how to interpret them				
4.2	Describe industry standard practices for removing existing gas meters and regulators				
4.3	Outline safe isolation methods, tests and procedures for temporary and permanent disconnection of gas meters, regulators, gas systems and all components				
4.4	Identify measures to prevent disconnected gas meters and regulators being brought back into operation				
4.5	Describe methods of working which protect: <ul style="list-style-type: none"> • Building décor • Customer property • Existing systems and components 				
4.6	Describe the tools, test equipment, other equipment, materials and components required for the gas meter and regulator system disconnection				
4.7	Explain how to secure and store tools, test equipment, other equipment and components				
4.8	Describe labelling protocols for temporarily disconnected systems, components or live gas pipes				
4.9	Describe job management structures				
4.10	Describe methods of reporting and recording job progress including any problems which may delay progress				
4.11	Identify different types of meter				
4.12	Explain how to correctly handle different types of				

	meters				
4.13	Explain the principles of Equipotential Bonding				
4.14	Identify situations where it is necessary to leave temporary continuity bonding in place on completion of the work				

Range Statements:

Please note that this unit only relates to natural gas.

Learning Outcome 4:

AC4.3 To include use of temporary continuity bonds and volt sticks

Measures: including capping and securing emergency control valve (ECV)

Types: U6; E6; Quantum

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment (RWE)

Evidence Matrix

Unit: Conduct specified testing of gas networks associated with leakage location

EUIAS Unit Number: 1101

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to conduct specified testing of gas networks associated with leakage location					
1.1	Perform work activities safely at all times in accordance with legislation, regulations and company requirements				
1.2	Carry out a site specific risk assessment and review in accordance with company procedures				
1.3	Select and wear the designated PPE				
1.4	Carry out a plant detection survey prior to barholing				
1.5	Use barhole equipment safely				
1.6	Demonstrate how to calibrate gas detection equipment prior to use				
1.7	Select and use the specified equipment for undertaking gas detection				
1.8	Use testing equipment in accordance with industry standards and codes of practice				
1.9	Determine the testing methods to be employed and procedure to be followed to locate the escape of gas into ducts and underground apparatus				
1.10	Carry out leakage detection tests within agreed timescales				
2. Be able to use and communicate data and information relevant to testing activities					
2.1	Communicate to individuals affected by the risk control measures in place				
2.2	Confirm information provided about safety systems is clear, accurate and concise				
2.3	Review the results of the test to establish the precise location of the leak				
2.4	Record the results of testing activities using company reporting systems and documentation.				
3. Be able to resolve problems that arise when testing gas networks for leaks					

3.1	Resolve problems within the limits of the responsibility of the job role				
3.2	Communicate problems outside the responsibilities of the job role to the designated person				
4. Know and understand specified testing of gas networks associated with leakage location					
4.1	State the reporting lines and procedures to be used for gas escapes				
4.2	Identify types of test procedures that can be used to locate leaks				
4.3	Identify the correct and appropriate test procedure for a given situation				
4.4	Interpret and follow test procedures and documentation				
4.5	Explain how to calibrate the relevant gas detection equipment prior to use				
4.6	Explain why the relevant gas detection equipment should be calibrated				
4.7	Demonstrate bar holing, sampling and escape surveying techniques used on services and mains				
4.8	Interpret test results against specifications				
4.9	Describe the potential consequences of test failures to the public, property and the environment				
4.10	Determine actions required following analysis of test results				
4.11	Identify the various test records that are required				
4.12	Describe the consequences of incorrectly recording and reporting test results in line with industry requirements.				

Range Statements:

The following terms provide an indicator of the scope of gas escapes that might be encountered by the learner. They do not relate to specific words in the unit but should be considered as part of the delivery of the unit as a whole.

Gas: natural gas, liquid petroleum gas (LPG)

Pressure: low pressure and medium pressure

Types of escape: controlled and uncontrolled, external, gas in properties

Escapes from mains and services

Escapes in the public highway and private property

Escapes identified by a public report or by survey

Range Statements:

Learning Outcome 1:

Legislation, regulation and company requirements: Health, safety and environment requirements, legislation, industry standards, statutory requirements, company procedures, work instructions

Testing: Bar hole and other leakage surveys, gas detection equipment

Industry standards and codes of practice: work instructions; health and safety regulations; codes of practice; equipment specifications

Learning Outcome 3:

Designated person: Those people specified within work and health and safety procedures

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment
- ✓ Simulation

It is recommended that one piece of evidence is either through simulation or realistic work environment plus one piece of evidence from site.

Evidence Matrix

Unit: Minimise risks to life, property and the environment during gas escapes

EUIAS Unit Number: 1102

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to assess risks to life, property and the environment during gas emergencies					
1.1	Perform work activities in accordance with legislation, regulations and company procedures				
1.2	Carry out a site specific risk assessment, both inside and outside of properties				
1.3	Select and wear the designated PPE				
1.4	Assess the hazards and risks and identify the actions required to control risks				
1.5	Record the findings of the risk assessment				
2. Be able to minimise and prioritise risks to life, property and the environment during gas emergencies					
2.1	Prioritise hazards and take action to minimise the risk to safeguard life, property and the environment, including evacuation and forced entry				
2.2	Take action to make the site safe, including control of hazards				
2.3	Take action to make safe sources and potential sources of ignition				
2.4	Monitor the effectiveness of the risk control measures and take prompt additional action where				
2.5	Establish and maintain a safe working area				
2.6	Demonstrate how to ventilate: <ul style="list-style-type: none"> • property • voids • ducts • drains • other street furniture 				



2.7	Excavate to prevent underground tracking gas from entering: <ul style="list-style-type: none"> • property • voids • ducts • drains • other street furniture 				
2.8	Recheck the site and ensure it is safe.				
3. Be able to use approved gas detection and safety equipment					
3.1	Confirm safety equipment is available for use in accordance with site specific risk assessment				
3.2	Confirm that gas detection equipment meets standards				
3.3	Take and record, high and low level atmosphere samples from <ul style="list-style-type: none"> • internal spaces • external sources • no access properties • voids • bar holes • plant • street furniture 				
3.4	Check properties and voids for gas ingress				
4. Be able to use and communicate data and information					
4.1	Maintain contact with the emergency call Centre				
4.2	Communicate to individuals affected by the risk control measures which are in place				
4.3	Confirm information provided about safety systems is clear, accurate and concise				
4.4	Record the results of testing activities and steps taken, using company reporting systems and documentation				
5. Be able to resolve problems that arise when testing for escapes of gas					
5.1	Resolve problems within the limits of the responsibility of the job role				
5.2	Communicate problems outside the responsibilities of the job role to the designated person				
6. Understand how to minimise risks to life, property and the environment during gas escapes					

6.1	State the order of priority to safeguard life, property and the environment				
6.2	Explain the difference between controlled and uncontrolled gas escapes				
6.3	State immediate action criteria for gas escapes				
6.4	Explain the increased risk of gas from a medium pressure network				
6.5	State the reporting lines and procedures to be used when dealing with gas emergencies				
6.6	Identify different types of hazards and risks that could occur during a gas emergency				
6.7	State the properties of liquified petroleum gas (LPG) and explain how they differ from natural gas				
6.8	Explain how actions required for LPG differ from those for escapes of natural gas				
6.9	Explain why it is important to reduce the risk quickly in a gas emergency				
6.10	Describe the potential consequences of failure to control the risks to the public, property and the environment				

General Unit Information:

Gas: natural gas, liquid petroleum gas (LPG)

Pressure: low pressure and medium pressure

Types of escape: controlled and uncontrolled, external, gas in properties

Escapes from mains and services

Escapes in the public highway and private property

Escapes identified by a public report or by survey

Range Statements:

Learning Outcome 1:

Legislation, regulations and company procedures: Health, safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices, risk assessments

Learning Outcome 3:

Standards: Approved, in date, correctly calibrated

Learning Outcome 5:

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 6:

Reporting lines and procedures: Who should be kept informed of progress, the criteria to be used for forced entry into buildings, the criteria to be used for excavation of properties, the policy for dealing with media and emergency services during a gas emergency

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment
- ✓ Simulation

It is recommended that one piece of evidence is either through simulation or realistic work environment plus one piece of evidence from site.

Evidence Matrix

Unit: Analyse and interpret the results of gas leakage surveys to determine the location of gas escapes

EUIAS Unit Number: 1103

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to analyse and interpret the results of surveys to determine the location of escapes					
1.1	Perform work activities safely in accordance with legislation, regulations and company requirements				
1.2	Obtain the necessary test data on which to conduct the analysis				
1.3	Analyse data using specified methods in accordance quality assurance standards				
1.4	Check the data analysis is accurate, thorough and takes account of the test conditions				
1.5	Identify faults and variations from specification				
1.6	Perform necessary actions based on the findings of the analysis activity				
2. Be able to use and communicate data and information					
2.1	Record the results of the analysis in accordance with company communication and documentation systems				
2.2	Record actions taken as a result of the analysis in accordance with company reporting systems and documentation				
3. Be able to resolve problems that arise when analysing and interpreting the results of surveys					
3.1	Resolve inconsistencies in the test data in accordance with company procedures				
3.2	Resolve problems within the limits of the responsibility of the job role				
3.3	Communicate problems outside the responsibilities of the job role to the designated person				
3.4	Check properties and voids for gas ingress				
4. Understand how to analyse and interpret the results of gas leakage surveys to determine the location of gas escapes					

4.1	Explain the health, safety and environment regulatory requirements for protecting self and others during gas escapes.				
4.2	Describe how to use analysis methods and techniques, including comparison of data				
4.3	Explain the use of the various types of test documentation for gas escapes				

General Unit Information:

The following terms provide an indicator of the scope of gas escapes that might be encountered by the learner, where analysis and interpretation may be required. They do not relate to specific words in the unit but should be considered as part of the delivery of the unit as a whole.

Gas: natural gas, liquid petroleum gas (LPG)

Pressure: low pressure and medium pressure

Types of escape: controlled and uncontrolled, external, gas in properties

Escapes from mains and services

Escapes in the public highway and private property

Escapes identified by a public report or by survey

Range Statements:

Learning Outcome 1:

Legislation, regulatory and company requirements: Health, safety and environment requirements, legislation, industry standards, statutory requirements, company procedures, work instruction

Test data: Results obtained from bar hole and other leakage surveys

Learning Outcome 3:

Test data: Results obtained from bar hole and other leakage surveys

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 4:

Data: Results obtained from bar hole and other leakage surveys

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment
- ✓ Simulation

Evidence Matrix

Unit: Restore gas network components to operational condition

EUIAS Unit Number: 1104

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to restore components to operational condition					
1.1	Perform work activities in accordance with health and safety and environmental protection regulations, legislation and organisational procedures				
1.2	Carry out and review site-specific risk assessments in accordance with company procedures				
1.3	Select and wear the designated PPE				
1.4	Show how to check, deploy and use breathing apparatus when working on a live gas repair				
1.5	Monitor and maintain a safe environment and gas system when undertaking live gas operations				
1.6	Check and position a minimum of two fire extinguishers in suitable locations for the work activity				
1.7	Prepare components for repair or replacement in line with organisational procedures				
1.8	Carry out repairs or replacements of assets in accordance with technical specifications and work instructions, to agreed timescale using approved materials and components				
1.9	Use jointing methods that are suitable for materials and components				
1.10	Confirm that the gas escape has been completely resolved and the site is safe				
1.11	Confirm the repaired component meets the specified operating conditions and parameters				
1.12	Produce accurate and complete records of all repair work carried out.				
2. Be able to resolve problems that arise when restoring components to operational condition					



2.1	Resolve problems within the limits of own responsibility in line with organizational procedures				
2.2	Communicate problems outside job responsibilities or which cannot be resolved to designated person .				
2.3	Demonstrate how to deal with any emergencies that may arise in line with approved procedures				
3. Know and understand the health and safety requirements specific to restoring gas network components					
3.1	State the health, safety and environment legislation , procedures and codes of practice relevant to work activities including: <ul style="list-style-type: none"> • work in excavations • hazardous materials • PPE • breathing apparatus • accidents 				
3.2	Describe the requirements for fire extinguishers to be deployed on gas escapes and how to check and position them				
4. Know and understand the restoration of gas network components to operational condition by repair					
4.1	Explain the health, safety and environment regulatory requirements for protecting self and others during gas escapes.				
4.2	Describe how to use analysis methods and techniques, including comparison of data				
4.3	Explain the use of the various types of test documentation for gas escapes				
4.4	Describe how to select the appropriate repair technique , jointing method and flow-stopping technique to be used for the specification of the component to be repaired				
4.5	Identify the various components in use on the gas network				
4.6	Describe how to repair joints, horizontal and circumferential cracks and breaks, corrosion and interference damage and when replacement is necessary				
4.7	Explain how to identify the types of pipe , materials, their characteristics and how to work with them				
4.8	Identify types of tools and equipment to be used when restoring components to operating condition				

	by repair				
4.9	Describe component replacement methods for mains and services				
4.10	Define the care and control procedures to be used to ensure compliance with live gas working				
4.11	Explain the types of records and documentation used to record maintenance activities				

Range Statements:

Learning Outcome 1:

Regulations, legislation: Health and safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices

Component: metallic and non-metallic and all ancillary pipes and fittings

Repairs: Joints, horizontal and circumferential cracks and breaks, corrosion and interference damage

Gas escape: controlled and uncontrolled, external, gas in properties. Escapes in the public highway and private property. Escapes identified by a public report or by survey

Learning Outcome 2:

Designated person: Those people specified within work and health and safety procedures

Learning Outcome 3:

Legislation: Health and safety and environment regulations, legislation, statutory and regulatory requirements, company procedures, safe working practices

Learning Outcome 4:

Work instructions: including drawings, records, work authorisations and other project specific information.

Types of pipe: metric and imperial polyethylene, cast iron, ductile iron, steel

Components: Metallic and non-metallic gas mains and services and all ancillary pipes and fittings, including service connections, mechanical and bolted joints, lead yarn joints

Repair techniques: mains and services; pressure ranges to include up to and including 75mb (ie low pressure) and above 75mb (ie medium pressure)

Gas: natural gas, liquid petroleum gas (LPG), hydrogen

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment
- ✓ Simulation

Evidence Matrix

Unit: Install or replace external gas service risers

EUIAS Unit Number: 1105

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation use				
1.2	Interpret the following from technical information: <ul style="list-style-type: none"> • dimensions • length • height • diameters • pressure • width • storeys • properties • quantities • utilities plant • services • buildings • kerbs • valve requirements • boundaries • termination points 				
1.3	Demonstrate how to make corrections through drawings, records and work documents				
2. Be able to select components and resources for installation of the system					
2.1	Select the type of components in compliance with the work and quality specifications				
2.2	Replace defective components in line with key procedures				
2.3	Confirm the availability of sufficient resources				
2.4	Respond to changes to the planned use of the resource				
2.5	Confirm components and installation equipment are operational				
3. Be able to install components of the system					



3.1	Determine the method of installation to be used when installing components of the system				
3.2	Carry out a site-specific risk assessment and review in accordance with company policy				
3.3	Select and wear the designated PPE				
3.4	Confirm the condition of the excavation conforms with instructions and specifications				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufactures instructions				
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.7	Carry out site-specific tasks appropriately to prevent equipment damage				
3.8	Position components in accordance with the specification				
3.9	Connect to the existing system in accordance with codes of practice				
3.10	Support and anchor installed assets in accordance with codes of practice				
3.11	Confirm that the quality of the installation complies with the specified standard				
3.12	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.13	Ensure work practices conform to safe working procedures throughout the work activity				
3.14	Demonstrate safe working practices for working at height				
3.15	Demonstrate how to comply with procedures if working on a 'Permit to Work' designated activity				
4. Be able to use and communicate data and information					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately				



4.5	Record work documentation in the specified place or pass to a designated person				
4.6	Identify methods of accessing information from different sources				
5. Be able to resolve problems that arise from technical information and installation work					
4.8	Report to the designated person damage or defects to resources using approved procedures				
4.9	Report to the designated person work which is incomplete and not to schedule				
4.10	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install or replace gas service risers					
6.1	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network				
6.2	Explain the risks associated with using incorrect system components, plant, tools, materials and authorisations				
6.3	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.4	Describe faults associated with the use of inappropriate installation methods and tools				
6.5	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.6	Describe the range of isolation methods available and the rationale for their selection				
6.7	Explain the procedure for obtaining authorisation to proceed with connections				
6.8	Identify the range of actions to be taken if work cannot proceed to schedule				
6.9	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
6.10	Identify types and causes of likely disruptions and how to avoid them				
6.11	Describe the types and signs of defect likely to be present on sub-system and means of determining the appropriate safe action				
6.12	Explain the requirements for the protection of the work site and area				

General Unit Information:

Pipe size: ≤ 2 " or 63mm diameter

Construction may include use of scaffolding, scaffold towers, ladders, mobile elevated work platforms (MEWPs) but these are outside the scope of this unit

Risers should be on properties of 2 or more storeys, 'High rise' properties would normally be out of scope.

Risers would need to be pressure tested to appropriate standards.

Please note that EUIAS recommends that learners undertake the **Level 2 Diploma in Network Construction Operations (Gas) - Service-layer** qualification prior to undertaking this unit.

Range Statements:

Learning Outcome 1:

Work details: drawings, records, work documents, manuals, technical specification and design and restriction.

Component: metallic and non-metallic and all ancillary pipes and fittings.

Learning Outcome 2:

Components: metallic and non-metallic and all ancillary pipes and fittings.

Resources: labour, plant, equipment, materials, consumables.

Learning Outcome 3:

Method: Dead insertion, live insertion, new installation

Equipment: Components, tools.

Components: Metallic and non-metallic and all ancillary pipes and fittings, proprietary systems.

Learning Outcome 4:

Instructions: Oral, written

Designated person: Those people specified within work and health and safety procedures

Sources: Reference documents, regulations, code of practice, company procedures

Learning Outcome 5:

Designated person: Those people specified within work and health and safety procedures

Resources: Materials, tools

Learning Outcome 6:

Components: Metallic and non-metallic and all ancillary pipes and fittings

Evidence Guidance:

The **EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some

sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others. It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Due to the subject matter one piece of evidence is sufficient for this unit.

Evidence Matrix

Unit: Install gas engineering products or assets above 355mm

EUIAS Unit Number: 1106

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation				
1.2	Interpret the following from technical information: <ul style="list-style-type: none"> • dimensions (length, width, depth) • diameter • weight • pressure • quantities • utilities plant • services • buildings • kerbs • boundaries 				
1.3	Demonstrate how to make corrections through drawings, records and work documents				
2. Be able to select components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications				
2.2	Replace defective components in line with key procedures				
2.3	Confirm the availability of sufficient resources				
2.4	Respond to changes to the planned use of the resource				
2.5	Confirm components and installation equipment are operational				
3. Be able to install components of the system					
3.1	Determine the method of installation to be used for installing components of the system				
3.2	Carry out a site-specific risk assessment and review in accordance with company policy				
3.3	Select and wear the designated PPE in line with company procedure				



3.4	Confirm the condition of the excavation conforms with instructions and specifications				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions				
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.7	Carry out site-specific tasks appropriately to prevent equipment damage				
3.8	Position components in accordance with the specification				
3.9	Install products or assets in accordance with the specification				
3.10	Protect installed assets with fine fill in accordance with specification and approved codes of practice				
3.11	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice				
3.12	Make connections to existing systems using in-line flowstopping and under pressure connections in accordance with codes of practice				
3.13	Ensure continuity of supply during flowstopping operations				
3.14	Support and anchor installed assets in accordance with codes of practice				
3.15	Confirm that the quality of the installation complies with the specified standard				
3.16	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.17	Demonstrate how to ensure work practices conform to safe working procedures throughout the work activity				
3.18	Demonstrate how to ensure all on-site personnel comply with relevant work specifications and complete tasks safely.				
4. Be able to use and communicate data and information					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately				



5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to resources using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install gas engineering products or assets above 355mm					
6.1	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network				
6.2	Explain the risks associated with using incorrect system components, plant, tools, materials and authorisations				
6.3	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.4	Describe faults associated with the use of inappropriate installation methods and tools				
6.5	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.6	Explain the dangers of taking actions that can create confined space risks in excavations				
6.7	Explain the dangers of lifting operations and inadequate handling and lifting procedures to on-site personnel on site				
6.8	Describe the types and signs of defect likely to be present, and means of determining the appropriate safe action.				
7. Understand isolation and connection methods					
7.1	Describe the range of isolation methods available and the rationale for their selection				
7.2	Explain the procedure for obtaining authorisation to proceed with connections				
7.3	Identify the range of actions to be taken if work cannot proceed to schedule				
7.4	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
7.5	Identify methods of accessing information from different sources				

7.6	Identify types and causes of likely disruption and how to avoid disruption				
-----	---	--	--	--	--

General Unit Information:

Each individual organisation will determine which standards, policies and procedures apply to operational activities. It is not appropriate to list these individually, however, it is expected that they include policies and procedures associated with operational emergencies and that the learner is trained accordingly. Consideration should also be given to ensuring appropriate procedures are covered when learners are trained.

This unit applies to:

PE and metallic pipe and fittings

Pipe >355mm

Please note that EUIAS recommends that learners undertake the “*Install gas engineering products or assets between 180-355mm*” unit prior to undertaking this unit.

Range Statements:

Learning Outcome 1:

Work details: to include project file including installation method.

Learning Outcome 2:

Components: pipes, fittings, pipe support, anchorage

Resources: Gas networks engineering staff, contractors

Learning Outcome 3:

AC 3.1: To cover PE and metallic; assessment on metallic can be covered under RWE.

Equipment: Jointing equipment, flowstopping equipment

Components: pipe, fittings

Learning Outcome 4:

Instructions: Verbal, written

Designated Persons: Managers, supervisors, team leaders

Learning Outcome 5:

Resources: Pipe, fittings, equipment

Designated Persons: Managers, supervisors, team leaders

Learning Outcome 7:

AC 7.1: Learners need to demonstrate a background knowledge of all isolation methods, i.e. valves, stopple, iris stop, in-line flowstopping, PE bagstop

AC 7.2: Obtaining authorisation will fall under the remit of Safe Control of Operations (SCO); learners may not have an SCO qualification, but would be expected to comply with

the procedures within the Permit to Work.

Disruption: equipment failure, weather conditions, system load, ground conditions, lack of available resources, communication breakdown, traffic, public

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

- ✓ In a Realistic Work Environment

Evidence Matrix

Unit: Install gas engineering products or assets above 180mm, up to and including 355mm

EUIAS Unit Number: 1107

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Be able to interpret technical information for installing components of the system					
1.1	Produce work details for component installation				
1.2	Interpret the following from technical information: <ul style="list-style-type: none"> • dimensions (length, width, depth) • diameter • weight • pressure • quantities • utilities plant • services • buildings • kerbs • boundaries 				
1.3	Demonstrate how to make corrections through drawings, records and work documents				
2. Be able to select components and resources for installation of the system					
2.1	Select the components in compliance with the work and quality specifications				
2.2	Replace defective components in line with key procedures				
2.3	Confirm the availability of sufficient resources				
2.4	Confirm relevant authorisations and notices are in place to undertake the work				
2.5	Respond to changes to the planned use of the resource				
2.6	Confirm components and installation equipment are operational				
3. Be able to install components of the system					
3.1	Determine the method of installation for components of the system				
3.2	Carry out a site-specific risk assessment and review in accordance with company policy				



3.3	Select and wear the designated PPE				
3.4	Confirm the condition of the excavation conforms with instructions and specifications				
3.5	Select, prepare and operate installation equipment in accordance with the specification and manufacturer's instructions				
3.6	Assemble components to industry standards using mechanical and/or fusion welding techniques				
3.7	Carry out site-specific tasks appropriately to prevent equipment damage				
3.8	Position components in accordance with the specification				
3.9	Protect installed assets with fine fill in accordance with specification and approved codes of practice				
3.10	Maintain proximity distances from other utilities apparatus in accordance with approved codes of practice				
3.11	Make connections to existing systems using in-line flowstopping and under pressure connections in accordance with codes of practice				
3.12	Ensure security of supply during flowstopping operations				
3.13	Support and anchor installed assets in accordance with codes of practice				
3.14	Confirm that the quality of the installation complies with the specified standard				
3.15	Maintain the security and safety of the system and third parties where work is not complete or not to schedule				
3.16	Demonstrate how to ensure work practices conform to safe working procedures throughout the work activity				
3.17	Demonstrate how to ensure all on-site personnel comply with relevant work specifications and complete tasks safely.				
4. Be able to use and communicate data and information					
4.1	Provide instructions to individuals who will be using technical information				
4.2	Confirm instructions have been understood by individuals using technical information				
4.3	Report to a designated person inaccuracies in the technical information sources used				
4.4	Complete work documentation accurately and store appropriately				
4.5	Comply with procedures if working on a 'Permit to Work' designated activity				

5. Be able to resolve problems that arise from technical information and installation work					
5.1	Report to the designated person damage or defects to resources using approved procedures				
5.2	Report to the designated person work which is incomplete and not to schedule				
5.3	Report to the designated person problems and conditions outside the responsibility of the job role				
6. Know how to install gas engineering products or assets above 355mm					
6.1	Explain the importance of obtaining necessary permissions for isolation of any part of utilities network				
6.2	State the organisation's policy and procedures for meeting the relevant: <ul style="list-style-type: none"> • statutory requirements • regulations • codes of practice 				
6.3	Explain the implications of not obtaining the correct authorisation				
6.4	Explain the implications of using incorrect plant, tools and materials				
6.5	Explain the implications of using incorrect system components				
6.6	Explain the actions to be taken where plant, tools, materials and system components fail to meet required specification				
6.7	Describe faults associated with the use of inappropriate installation methods and tools				
6.8	Identify potential dangers in excavations				
6.9	Describe the factors affecting, and means of confirming, the suitability of excavations				
6.10	Describe the range of isolation methods available and the rationale for their selection				
6.11	Explain the procedure for obtaining authorisation to proceed with connections				
6.12	Identify the range of actions to be taken if work cannot proceed to schedule				
6.13	Explain how to determine appropriate safe remedial action if for any reason work cannot proceed				
6.14	Identify methods of accessing information from different sources				
6.15	Identify types and causes of likely disruption and				

	how to avoid disruption				
6.16	Explain the dangers of lifting operations and inadequate handling and lifting procedures to on-site personnel on site				
6.17	Describe the types and signs of defect likely to be present, and means of determining the appropriate safe action.				

Range Statements:

Learning Outcome 1:

Work details: to include project file including installation method.

Learning Outcome 2:

Components: pipes, fittings, pipe support, anchorage

Resources: Gas networks engineering staff, contractors

Learning Outcome 3:

Flowstopping: iris stop, PE bagstop, stopple, squeeze off

Learning Outcome 6:

Disruption: equipment failure, weather conditions, system load, ground conditions, lack of available resources, communication breakdown, traffic, public.

Evidence Guidance:

The ***EUIAS Assessment Strategy for Level 2 Network Construction Operations (Water) and Level 2 Network Construction Operations (Gas)*** includes a list of suitable evidence types for use within the learner's portfolio of evidence. This list is not exhaustive but is designed to provide an indication of what may be used as acceptable sources of evidence. Some sources of evidence will be more relevant to the unit content and the assessment of the learner's skills and/or knowledge than others.

It is a requirement that workplace evidence is used where possible.

For this unit, EUIAS also allows assessment:-

✓ In a Realistic Work Environment

Evidence Matrix

Unit: Operate within the Gas intermediate pressure range

EUIAS Unit Number: 1108

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Understand key documents that apply to working in the gas intermediate pressure range					
1.1	List the key legislation, regulations and industry standards in relation to work in the gas intermediate pressure range				
1.2	State the consequences of not complying with key legislation, regulations and industry standards				
2. Understand how to comply with key legislation, organisational policies and procedures that apply to work instructions in the gas intermediate pressure range					
2.1	Describe the content of a detailed method statement for work in the intermediate pressure range				
2.2	Describe how to comply with legislation and regulations according to information contained within a work instruction				
2.3	Describe how to comply with organisational policy and procedural information contained within a work instruction.				
3. Know how to evaluate hazards and risks associated with the gas intermediate pressure range					
3.1	Identify risks and hazards and risks associated with work in the gas intermediate pressure range				
3.2	Identify control measures associated with work in the gas intermediate pressure range.				
4. Know the correct personal protective equipment (PPE) used within the gas intermediate pressure range					
4.1	List personal protective equipment (PPE) typically used for work in the gas intermediate pressure range				
4.2	List safety equipment typically used for work in the gas intermediate pressure range.				
5. Know how to identify and install pressure reduction equipment within the gas intermediate pressure range on services up to and including 63 mm or 2" diameter.					
5.1	Identify suitable locations for pressure regulating				



	equipment				
5.2	Identify suitable locations for emergency isolation valves				
5.3	State housing requirements for pressure reduction equipment				
5.4	Select materials and equipment to be used in the gas intermediate pressure range sector				
5.5	Identify jointing techniques applicable to services up to and including 63 mm or 2" diameter				
6. Understand how to comply with organisational procedures within the gas intermediate pressure range.					
6.1	Explain the importance of quality assurance certification				
6.2	Identify the organisational procedures to be followed when incorrect materials are encountered in the gas intermediate pressure range.				
6.3	Describe the installation and commissioning of pressure reduction equipment for services in the intermediate pressure range				
7. Know how to use cathodic protection within the gas intermediate pressure range					
7.1	Explain the purpose of cathodic protection on metallic systems				
7.2	Interpret design details for cathodic protection				
7.3	Explain the requirements for insulating joints				
7.4	Identify methods of protecting exposed metallic pipework				
7.5	Explain how to select appropriate components used for cathodic protection, where appropriate				
7.6	Describe the installation of cathodic protection on metallic pipework within the gas intermediate pressure range.				
8. Know how to identify and install pressure reduction equipment within the gas intermediate pressure range to assets above 63 mm or 2" diameter.					
8.1	State the restrictions on installation techniques in the gas intermediate pressure range				
8.2	Describe typical valve arrangements in the gas intermediate pressure range				
8.3	State approved flow stop methods in the gas intermediate pressure range				

8.4	Select materials and equipment to be used in the gas intermediate pressure range sector above 63 mm or 2" diameter				
8.5	Identify jointing techniques applicable to assets above 63 mm or 2" diameter				

General Unit Information:

Each individual organisation will determine which standards, policies and procedures apply to operational activities. It is not appropriate to list these individually, however, it is expected that they include policies and procedures associated with operational emergencies and that the learner is trained accordingly. Consideration should also be given to ensuring appropriate procedures are covered when learners are trained.

Range Statements:

Learning Outcome 1:

Key legislation and regulations:

- (a) Health & Safety at Work Act,
- (b) Control of Substances Hazardous to Health (COSHH),
- (c) Construction (Design and Management) Regulations,
- (d) Dangerous Substances & Explosive Atmosphere Regulations,
- (e) Gas Safety (Management) Regulations,
- (f) Management of Health & Safety at Work Regulations,
- (g) Pipeline Safety Regulations,
- (h) Pressure Systems Safety Regulations,
- (i) The Lifting Operations & Lifting Regulations Equipment Regulations (LOLER),
- (j) Provision & Use of Work Equipment Regulations (PUWER),
- (k) Reporting on Injuries, Diseases and Dangerous Occurrences (RIDDOR).

Industry standard documents:

- Health & Safety Executive Approved Codes of Practice,
- Health & Safety Executive Guidance notes,
- Institution of Gas Engineers and Managers (IGEM) suite of documents applicable to work in the gas intermediate pressure range (IGEM/TD/1)
- IGEM/TD/3 – Distribution Mains <16 bar,
- IGEM/TD/4 – Distribution Services <16 bar,
- IGEM/TD/13 – Pressure Regulating Installations,
- IGEM/GL/5 – Procedures for Managing New Works, Modifications and Repairs).

Consequences: injury or death, prosecution, prohibition and enforcement notices, disciplinary procedures, loss of supply

Learning Outcome 2:

Method statement: compliance with Safe Control of Operations (SCO), safe system of work, site specific risk assessment, environmental risk assessment, generic risk assessment, industry standard documents.

Learning Outcome 3:

Hazards: catastrophic failure of pipe wall and fittings, working at the parent main, disturbing anchorage of pipe, fittings and end caps, sudden release of pressure from a pressurised system, ignition of gas, potential escape at elevated pressure, working with elevated pressure

in the gas intermediate pressure range, lifting operations, trench collapse.

Risks: fire, explosion, noise, airborne pollution, water pollution land pollution, debris, environmental damage, asphyxiation, escape of gas, personal injury, loss of gas supply.

Control measures: staff competency, PPE, fire fighting equipment, breathing apparatus, lifting plan, mechanised lifting equipment, trench support, access and egress, emergency services, pressure reduction/isolation of supply, media coverage, evacuation and safeguarding of life and property, extinguish sources of ignition, effective communication, use of correct waste streams, Safe Control of Operations (SCO).

Learning Outcome 4:

Personal protective equipment: full fire suit made from suitable fire retardant material, fire resistant clothing made from suitable fire retardant material, eye protection, safety headgear, ear defenders, reflective garments, gloves, safety footwear, dust masks, welding visors where appropriate.

Safety equipment: breathing apparatus with forced air available, personal alarm/gas monitor, fire extinguishers, intrinsically safe equipment.

Learning Outcome 5:

Jointing techniques: fillet weld joints for steel services, mechanical jointing – flanged, electrofusion joints, branch saddles for intermediate pressure services.

Learning Outcome 8:

Installation techniques: trenchless technology, open cut.

Jointing techniques: Butt weld joints for steel mains, hot work at the parent main, mechanical jointing – flanged, butt fusion on polyethylene mains, electrofusion joints on mains, branch saddle connections on, polyethylene parent main.

Materials: steel, HDPE

Evidence Guidance:

This unit is knowledge only and therefore the evidence type should provide an assessment of the learner's knowledge and understanding, e.g. professional discussion, Centre-devised knowledge test, written case study etc. This list is not exhaustive.

Evidence Matrix

Unit: Principles of operating safely in emergency situations within the gas intermediate pressure range

EUIAS Unit Number: 1109

Learner Name:

Centre Number:

Evidence Reference Number:					
1. Know and understand key documents that apply to emergency situations when working in the-intermediate pressure range.					
1.1	List the key legislation, regulations and industry standards in relation to emergency situations when working in the intermediate pressure range				
1.2	State the consequences of not complying with key legislation, regulations and industry standards				
1.3	Describe company procedures for working in emergency situations in the intermediate pressure range				
2. Know how to evaluate hazards and risks, including environmental, that apply to emergency situations in the intermediate pressure range					
2.1	Identify environmental and general risks and hazards that apply to work in emergency situations in the intermediate pressure range				
2.2	Evaluate increased risks , including those to the environment that apply to work in emergency situations in the intermediate pressure range				
2.3	Describe control measures associated with emergency situations when working in the intermediate pressure range				
2.4	Explain how to produce a site specific and environmental risk assessment associated with emergency situations in the intermediate pressure range				
2.5	Explain risks to other team members that apply to work in emergency situations in the gas intermediate pressure range.				
2.6	Explain the requirements and benefits of liaising with others during an escape from an intermediate pressure system.				
3. Know the importance of using the correct personal protective equipment and safety equipment when working in emergency situations in the intermediate pressure range.					
3.1	List personal protective equipment (PPE) required when working in emergency situations in the intermediate pressure range				

3.2	List safety equipment required when working in emergency situations in the intermediate pressure range				
4. Know how to set up a safety exclusion zone at the location of a gas escape within the intermediate pressure range sector for emergency working.					
4.1	Explain the requirements for safety exclusion zones				
4.2	State exclusion distances applicable for emergencies in the intermediate pressure range				
5. Know how to identify and use repair methods and materials within emergency situations in the intermediate pressure range					
5.1	Explain the characteristics of differing valve types found in intermediate pressure systems				
5.2	Explain the effects of strategic valve closure on a Gas Distribution Network in an emergency situation				
5.3	State the operational controls and authorisations required for valve operation				
5.4	Explain the potential impact of valve operation on security of supply				
5.5	Explain how to comply with manufacturers' instructions for valve operation and repair				
5.6	Identify and select approved materials to Gas Industry standards for emergency work in the intermediate pressure range				
5.7	Explain how to comply with organisational procedures when incorrect materials are encountered in the intermediate pressure range				
5.8	Explain the importance of compliance with approved methods of repair				
5.9	Describe repair methods suitable for use in an emergency situation on an intermediate pressure system				

General Unit Information:

Each individual organisation will determine which standards, policies and procedural to apply for operational activities. It is not appropriate to list these individually, however, it is expected that they include policies and procedures associated with operational emergencies and that the learner is trained accordingly. Consideration should also be given to ensuring appropriate procedures are covered when learners are trained.

Range Statements:

Learning Outcome 1:

Key legislation and regulations:

- Health & Safety at Work Act,
- Control of Substances Hazardous to Health (COSHH),
- Dangerous Substances & Explosive Atmosphere Regulations,

- Gas Safety (Management) Regulations,
- Management of Health & Safety at Work Regulations,
- Pipeline Safety Regulations,
- Pressure Systems Safety Regulations,
- The Lifting Operations & Lifting Regulations Equipment Regulations (LOLER), Provision & Use of Work Equipment Regulations (PUWER),
- Reporting on Injuries, Diseases and Dangerous Occurrences (RIDDOR),
- Personal Protective Equipment (PPE) Regulations,
- Control of Noise at Work Regulations,
- Manual Handling Regulations.

Industry standard documents:

- Health & Safety Executive Approved Codes of Practice,
- Health & Safety Executive Guidance notes,
- Institution of Gas Engineers and Managers (IGEM) suite of documents applicable to work in the gas intermediate pressure range - IGEM/TD/1
- Handling, Transport and Storage of Steel Pipe,
- IGEM/TD/3 – Distribution Mains <16 bar,
- IGEM/TD/4 – Distribution Services <16 bar,
- IGEM/TD/13 – Pressure Regulating Installations,
- IGEM/GL/5 – Procedures for Managing New Works, Modifications and Repairs), Health and safety in construction (HSG 150),
- Health and Safety in Excavations (HSG 185).

Consequences: injury or death, prosecution, prohibition and enforcement notices, disciplinary procedures, loss of supply

Learning Outcome 2:

General risks: elevated pressure, catastrophic failure of pipe wall and fittings, anchorage of pipe, fittings and end caps, sudden release of pressure from a pressurised system, potential escape at elevated pressure, proximity to occupied property, public buildings, railways, roads, etc, potential for gas ingress to property over a wider than normal area, potential for gas ingress to underground apparatus over a wider than normal area, potential for ignition, personal injury, asphyxiation, loss of gas supply.

Hazards: fire, catastrophic failure of pipe wall and fittings, working at the parent main, disturbing anchorage of pipe, fittings and end caps, sudden release of pressure from a pressurised system, ignition of gas, potential escape at elevated pressure, working with elevated pressure in the gas, intermediate pressure range, lifting operations, trench collapse, airborne/noise pollution, debris.

Environmental hazards: noise pollution, airborne pollution, water pollution, land pollution.

Environmental risks: contamination to the environment, failure to protect the health and safety of operatives and the general public, incorrect disposal of waste and excess hazardous materials.

Increased risks: working with elevated pressure in the gas intermediate pressure range, control measures for specialised equipment, control measures for specialised contractors, control measures differ from other pressure ranges, increased potential of an incident, differing requirements for Personal Protective Equipment (PPE), manual handling of materials and equipment, mechanised lifting, concern for security of supply

Control measures: staff competency, PPE, fire fighting equipment, breathing apparatus, lifting plan, mechanised lifting equipment, trench support, access and egress, emergency services, pressure reduction/isolation of supply, media coverage, evacuation and safeguarding of life and property, extinguish sources of ignition, effective communication, use of correct waste streams, Safe Control of Operations (SCO).

Learning Outcome 3:

Personal protective equipment (PPE): full fire suit made from suitable fire retardant material, fire resistant clothing made from suitable fire retardant material, eye protection, safety headgear, ear defenders, reflective garments, gloves, safety footwear, dust masks, welding visors where appropriate, breathing apparatus with forced air available.

Safety equipment: air movers, personal alarm/gas monitor, fire extinguishers, intrinsically safe equipment.

Learning Outcome 5:

Repair methods suitable for use: are dependent on what is leaking and what has caused it. The following must therefore also be considered; *source of leakage:* pipe barrel, joints, valve, fittings and *cause of escape:* interference damage, corrosion, joints

Evidence Guidance:

This unit is knowledge only and therefore the evidence type should provide an assessment of the learner's knowledge and understanding, e.g. professional discussion, Centre-devised knowledge test, written case study etc. This list is not exhaustive.

7 EUIAS Policies

EUIAS has published comprehensive policies, which are made available to approved Centres and learners on the EUIAS Qualifications website at: [Policies and Fees: End Point Assessment Organisation - EUIAS](#). In particular, you may find the following policies useful when delivering this qualification.

Appeals / Enquiries

If you wish to appeal an assessment result or have an enquiry relating to an assessment result relating to this qualification, you should first contact your Centre who will then investigate and, if appropriate, raise the enquiry and/or appeal to EUIAS. EUIAS understands that it is essential that all enquiries relating to a result are responded to, and investigated, in a timely and responsive manner.

Complaints

The EUIAS Complaints Policy outlines the process for approved Centres or learners to make a complaint; the EUIAS process for handling the complaint, including any escalation and associated timescales. It is important that if you have a complaint regarding your qualification that you contact your Centre in the first instance. The appropriate Centre policy and process must have been followed prior to a complaint being accepted by EUIAS.

Equality, Diversity and Inclusion

EUIAS is committed to designing, developing, delivering, assessing and quality assuring qualifications which fully comply with the requirements of Equalities Law. Measures have been taken during the development phase to ensure that no features of this qualification and its associated assessment instruments directly or indirectly disadvantage any learners. EUIAS will continue to monitor this qualification through a process of annual review and formal assessment review processes to ensure that this qualification continues to meet the requirements of Equalities law.

If you have any concerns regarding how accessible this qualification is and indeed any other concern relating to equality, diversity and inclusion please [contact us](#).

Assessment Policies

This Qualification Specification contains specific information relevant to the delivery of this qualification and its associated assessment(s), including the ***EUIAS Assessment Strategy for Level 2 Diploma in Network Construction Operations (Water) and Level 2 Diploma in Network Construction Operations (Gas)***. It is important that you have access to these documents and you familiarise yourself with the content. Your Centre and Assessor will be able to guide you through the assessment process and will provide further advice on the collation of appropriate pieces of evidence for your Portfolio of Evidence.

Reasonable Adjustments and Special Considerations

As a learner you may request that a reasonable adjustment is made to your assessment, often as a result of a disability or a medically diagnosed physical or mental health condition. In some circumstances, Centres will need to apply to EUIAS for any reasonable adjustment requests to be considered at the point of registering the learner with EUIAS. Reasonable adjustment requests will be made at the point of registering a learner onto the qualification and in line with the requirements within the EUIAS Reasonable Adjustments and Special Considerations Policy.

Similarly, you may require a special consideration application being made to EUIAS as a result of unforeseen circumstances during or immediately prior to an assessment taking place. In these instances the approved Centre is required to follow the EUIAS Reasonable Adjustments and Special Considerations Policy.

Recognition of Prior Learning

EUIAS has a comprehensive Recognition of Prior Learning (RPL) and Recognition of Prior Achievement (RPA) Policy, which all approved Centres have access to and is available here: <https://www.euias.co.uk/end-point-assessment/policies-and-fees/>. This policy outlines the type of evidence required by EUIAS when submitting a claim for RPL/RPA, the criteria EUIAS use when making a decision about RPL/RPA and the process for both the approved Centre and EUIAS.

RPL/RPA applies to the acceptance of evidence that the learner has completed learning which may exempt them from certain elements of a qualification but it will not exempt them from the assessment(s).

Contact Us

Please do not hesitate to contact the EUIAS Qualifications team for any query relating to the delivery, assessment, quality assurance or certification of this qualification. Our team will be happy to help you with any queries you may have.

Telephone: 0121 713 8310

Email: qualifications@euias.co.uk



© *Energy & Utility Skills*

All rights reserved. No part of this publication may be reproduced, stored in a retrievable system, or transmitted in any form or by any means whatsoever without prior written permission from the copyright holder.

www.euskills.co.uk