

## Regulated Qualification Framework (RQF)

### QUALIFICATION SPECIFICATION

- Level 2 Diploma in Smart Metering - Dual Fuel
- Level 2 Diploma in Smart Metering - Gas
- Level 2 Diploma in Smart Metering - Power

#### 1.0 Area and scope of competence:

The purpose of the qualifications is for learners to demonstrate they are competent in accordance with legislation, regulations and industry standards to;

- Install and commission low pressure natural gas smart meters up to 6.0 cubic metres per hour capacity
- Install and change single phase power (electrical) meters
- Install and commission communication systems for smart meters
- Carry out related work safely
- Communicate effectively with customers

#### 2.0 Qualification Framework

2.1 The qualification framework comprises of 3 qualifications using a combination of the following unit specifications:

Reference Number	Quals	Unit title	Mandatory/Optional for Full Qualification	Credit value	Level
LCL-S2001	All	<u>Working practices in the energy and utilities sector</u> L/502/9858	Mandatory	2	2
LCL-S2002	All	<u>Working safely in the energy and utilities sector</u> A/502/9855	Mandatory	4	2
LCL-S2003	All	<u>Using and communicating technical information in the energy and utilities sector</u> J/503/0233	Mandatory	3	2
LCL-S2004	All	<u>Delivering customer service when working within the energy and utilities sector</u> F/502/9856	Mandatory	2	2
LCL-S2005	All	<u>Install and Commission Communication Systems for Smart Meters</u> A/503/0231	Mandatory	4	2
LCL-S2006	Dual Fuel /Power	<u>Install single phase meter and associated equipment</u> M/600/3988	Mandatory	11	2
LCL-S2007	Dual Fuel /Power	<u>Change single phase meter and associated equipment</u> A/600/3993	Mandatory	11	2

LCL-S2008	Dual Fuel / Gas	<u>Applied practices and principles for installing low pressure natural gas smart meters up to U6 only K/503/0256</u>	Mandatory	20	2
LCL-S2009	Dual Fuel / Gas	<u>Prepare, install and commission low pressure natural gas smart meter and regulator up to 6.0m<sup>3</sup>/hr F/503/0232</u>	Mandatory	3	2
LCL-S2010	Dual Fuel / Gas	<u>Low pressure gas smart meter tightness testing and direct purging J/502/9857</u>	Mandatory	3	2

### Additional Units

The following units may be added to any of the three qualifications as appropriate to the learner's work activity. However, the units do not form part of the Rule of Combination (RoC) for the qualifications.

Reference Number	Meter Type	Unit title	Optional	Credit value	Level
LCL-S2011	Power	<u>Install Multi Phase Meter Whole Current New Connection J/600/4001</u>	Power or Dual Fuel	15	2
LCL-S2012	Power	<u>Change Multi Phase Meter Whole Current F/600/4000</u>	Power or Dual Fuel	15	2
LCL-S2013	Power	<u>Install Single Phase Meter and Associated Equipment on Multi Phase Cut-Out New Connection M/600/4008</u>	Power or Dual Fuel	10	2
LCL-S2014	Power	<u>Change Single Phase Meter and Associated Equipment on Multi Phase Cut-Out T/600/4009</u>	Power or Dual Fuel	10	2
LCL-S2015	Gas	<u>Prepare, Install and Commission Medium Pressure Natural Gas Smart Meter and Regulator up to 6.0m<sup>3</sup>/hr F/505/0884</u>	Gas or Dual Fuel	10	2

### 2.2 Qualification structures:

- **LCL Level 2 Diploma in smart metering – dual fuel**, learners must successfully complete 10 units
  - **QAN** - 601/5845/1
  - **QW** - C00/1007/8
  - The Guided Learning Hours (GLH) are **322** hours
  - The Total Qualification Time (TQT) is **630** hours
  - The total credit required to achieve the qualification is **63**
- **LCL Level 2 Diploma in smart metering - gas**, learners must successfully complete 8 units
  - **QAN** - 601/5837/2
  - **QW** - C00/1007/6
  - The Guided Learning Hours (GLH) are **262** hours
  - The Total Qualification Time (TQT) is **410** hours
  - The total credit required to achieve the qualification is **41**
- **LCL Level 2 Diploma in smart metering - power**, learners must successfully complete 7 units.

- **QAN** - 601/5844/X
- **QW** - C00/1007/7
- The Guided Learning Hours (GLH) are **148 hours**
- The Total Qualification Time (TQT) is **370 hours**
- The total credit required to achieve the qualification is **37**

### 3.0 Unit Grading Structure:

The grading structure for the Units within the Qualification is that the learner is required to achieve a result of **Pass** to be awarded credit for each Unit.

### 4.0 Unit Specifications:

<b>LCL-S2001: Working Practices in the Energy and Utilities Sector</b>			
<i>Unit Assessment Requirements:</i>			
<ul style="list-style-type: none"> <li>• <i>Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio</i></li> <li>• <i>Assessments must be carried out as detailed in this table</i></li> </ul>			
Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	<p>A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.</p> <p>Where no assessments are conducted in a RWE,</p> <p><b>2 separate assessments MUST</b> be conducted in the workplace.</p> <p><i>Note: Assessment Criteria indicated * only requires assessment once.</i></p>	<p>Learners must complete a RWE and Work Experience Portfolio.</p> <p>To provide additional information about the experience gained by the learner in both RWE and the workplace.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner.</p> <p>It should include all relevant evidence as available and be authorised by a competent responsible person.</p>
<i>Assessment method – OP/LE in an RWE/WP</i>			

**Learning Outcome 01.** The learner will be able to plan and prepare to complete activities in the Energy and Utilities Sector.

*The learner will be able to;*

- 1.1 Select appropriate tools, equipment, materials and personal protective equipment (PPE) for the allocated activity.
- 1.2 Preparation of the working area.
- 1.3 Obtain authorisation to carry out the work from the responsible person.

**Learning Outcome 02.** The learner will be able to maintain working practices whilst completing activities in the Energy and Utilities Sector.

*The learner will be able to;*

- 2.1 All working practices and normative standards whilst completing activities in the Energy and Utilities Sector.

**Learning Outcome 03.** The learner will be able to identify, respond to and resolve problems and areas for improvement in own area of responsibility.

*The learner will be able to;*

3.1\* Identify problems and areas for improvement in own area of responsibility relating to 2 of the following within the Energy and utilities sector:

- Materials
- Tools
- Equipment
- Information sources
- People
- Safety procedures
- Workmanship
- Time
- Weather.

3.2\* Respond appropriately to problems and areas for improvement within the Energy and Utilities Sector.

3.3\* Resolve problems and areas for improvement within the Energy and Utilities Sector.

3.4\* Resolve issues and problems to complete the activity.

**Learning Outcome 04.** The learner will be able to create and maintain effective working relationships in the Energy and Utilities Sector.

*The learner will be able to;*

4.1 Dress appropriately for the working activity.

4.2 Communicate effectively with internal and external customers and members of the public.

4.3 Return information sources to designated personnel on completion of activities.

4.4 Return resources to designated locations on completion of activities.

**Learning Outcome 05.** The learner will be able to contribute to own personal learning and development needs in the Energy and Utilities Sector.

*The learner will be able to;*

5.1 Identify personal learning and development needs in relation to work activity and discuss with designated personnel.

5.2 Agree an appropriate action plan to address personal learning and development needs with designated personnel.

5.3 Review and revise personal development records.

#### **LCL-S2002: Working Safely in the Energy and Utilities Sector**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 6	1 assessment may be conducted in a RWE covering LO 1 – 6	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 6 where 1 assessment has been conducted in a RWE.	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the

		<p>Where no assessments are conducted in a RWE,</p> <p><b>2 separate assessments MUST</b> be conducted in the workplace.</p> <p><i>Note: Assessment Criteria indicated * only requires assessment once.</i></p>	<p>learner in both RWE and the workplace.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner.</p> <p>It should include all relevant evidence as available and be authorised by a competent responsible person.</p>
<p><i>Assessment method –WQSR in the AC &amp; OP/LE in a RWE/WP</i></p>			

**Learning Outcome 01.** The learner will know hazards and risks in the Energy and Utilities Sector.  
*The learner will demonstrate knowledge of;*

- 1.1 Hazards and risks in the Energy and Utilities Sector.
- 1.2 Appropriate action to mitigate identified hazards and risks.

**Learning Outcome 02.** The learner will be able to work to required safety signs and legislation in the Energy and Utilities Sector.  
*The learner will be able to;*

- 2.1 Work safely in accordance with normative industry standards and legislation. All of the following must be covered:
  - Environment
  - Use of tools and equipment
  - Materials and substances
  - Sector working practices.
- 2.2 Identify and work safely in accordance with statutory and advisory safety signs and labels.

**Learning Outcome 03.** The learner will be able to select, use and store personal protective equipment (PPE) relevant to the activity being carried out in the Energy and Utilities Sector.  
*The learner will be able to;*

- 3.1 Select appropriate PPE for the activity being carried out in the energy and utility sector.
- 3.2 Carry out pre-use checks on PPE according to company requirements.
- 3.3 Use PPE in accordance with legislative requirements.
- 3.4 Store PPE appropriately.

**Learning Outcome 04.** The learner will be able to take action in the event of accidents and emergencies in the Energy and Utilities Sector.  
*The learner will demonstrate knowledge of;*

- 4.1\* Respond to accidents and emergency situations:
  - Injury to self
  - Injury to others.
- 4.2\* Report accidents, injuries, hazardous or dangerous occurrences to the correct person in line with legislative requirements.

**Learning Outcome 05.** The learner will be able to maintain a safe working environment in the Energy and Utilities Sector.  
*The learner will be able to;*

- 5.1 Establish and maintain entry and exit routes to working locations.

- 5.2 Store tools, equipment and materials safely.
- 5.3 Use tools, equipment and materials safely and for the purpose intended.  
 All of the following must be covered:
- Tools
  - Equipment
  - Materials.

5.4 Dispose of hazardous substances and waste materials in accordance with legislative requirements.

**Learning Outcome 06.** The learner will be able to manually handle tools, equipment and materials safely in the Energy and Utilities Sector.  
*The learner will be able to;*

- 6.1 Demonstrate safe and correct lifting and carrying technique when carrying out lifting of:
- Tools
  - Equipment
  - Materials.

**LCL-S2003: Using and Communicating Technical Information in the Energy and Utilities Sector**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit’s Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio.*
- *Assessments must be carried out as detailed in this table.*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO)1 - 3	1 assessment may be conducted in a RWE covering LO 1 – 3	<p>A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 3 where 1 assessment has been conducted in a RWE.</p> <p>Where no assessments are conducted in an RWE,</p> <p><b>2 separate assessments MUST</b> be conducted in the workplace.</p> <p><i>Note: Assessment Criteria indicated * only requires assessment once.</i></p>	<p>Learners must complete a RWE and Work Experience Portfolio.</p> <p>To provide additional information about the experience gained by the learner in both RWE and the workplace.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner.</p> <p>It should include all relevant evidence as available and be authorised by a competent responsible person.</p>

*Assessment method – WQMC/WQSR in an AC & OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will know relevant information sources for the Energy and Utilities sector.  
*The learner will demonstrate knowledge of;*

- 1.1 Identify relevant technical information sources appropriate for the activity to cover 3 from the following:
- job instructions
  - test schedules
  - company information
  - material specifications

- reference table and chart
- planning documentation
- operating sheets
- process specification
- risk assessment
- method statements.

1.2 Identify relevant diagrammatic and pictorial information sources appropriate for the activity to cover 2 of the following:

- detailed component drawings
- general assembly drawings
- repair drawings
- wiring/circuit diagrams
- installation drawings
- approved sketches
- illustrations
- visual display screens
- modification drawings
- fabrication drawings
- operational diagrams
- physical layouts
- manufacturer's manuals and drawings
- photographic representations.

**Learning Outcome 02.** The learner will be able to obtain, interpret and use technical information in the Energy and Utilities sector.

*The learner will be able to;*

2.1 Obtain appropriate technical information from the information source to carry out activities in the energy and utilities sector.

2.2 Interpret technical information to carry out the work activity, 4 of the following must be covered:

- de-commissioning procedure
- installation procedure
- commissioning procedure
- test results procedure
- handover procedure.

2.3\* Report any inconsistencies or inaccuracies in information sources to appropriate person(s).

**Learning Outcome 03.** The learner will be able to record and communicate technical information in the Energy and Utilities sector.

*The learner will be able to;*

3.1 Produce technical information to record completed activities.

3.2 Correctly complete technical information to record completed activities.

3.3 Communicate technical information to the appropriate personnel.

## LCL-S2004: Delivering Customer Service When Working Within the Energy and Utilities Sector

### Unit Assessment Requirements:

- Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio
- Assessments must be carried out as detailed in this table.

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 2	1 assessment may be conducted in a RWE covering LO 1 – 2	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 2 where 1 assessment has been conducted in a RWE.  Where no assessments are conducted in a RWE, <b>2 separate assessments MUST</b> be conducted in the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the learner in both RWE and the workplace.  Evidence must be specific regarding actual work activities undertaken by the learner.  It should include all relevant evidence as available and be authorised by a competent responsible person.

*Assessment method – OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to prepare for a work activity in a customers' premises in the Energy and Utilities sector.

*The learner will be able to;*

- 1.1 Determine the purpose for visiting the customer from information given.
- 1.2 Identify the location of the customers' premises.
- 1.3 Prepare relevant information and documentation prior to visiting the customer.

*Evidence to cover 3 of the following:*

- Personal company identification
- Plans
- Work instructions
- Company information
- Customer or client information.

**Learning Outcome 02.** The learner will be able to establish and maintain working relations with customers in the Energy and Utilities sector.

*The learner will be able to;*

- 2.1 Introduce and identify self to customers in line with company requirements.
- 2.2 Explain to the customer the purpose of the visit.
- 2.3 Listen to the customer and respond appropriately to customer requirements.
- 2.4 Agree work-plan with the customer, providing all relevant information.
- 2.5 Record relevant information from the work activity.
- 2.6 Respond appropriately to customer concerns and issues in line with company procedures.

*Evidence to cover 2 of the following:*

- Resolve customer issues on site within own level of responsibility



- Resolve customer issues on site when outside own area of responsibility by referring to an appropriate person
- Report issues which cannot be resolved on site
- Provide the customer with contact details of other personnel if requested.

### LCL-S2005: Install and Commission Communication Systems for Smart Meters

#### Unit Assessment Requirements:

- Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio
- Assessments must be carried out as detailed in this table

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.  Where no assessments are conducted in a RWE,  <b>2 separate assessments MUST</b> be conducted in the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the learner in both RWE and the workplace.  Evidence must be specific regarding actual work activities undertaken by the learner.  It should include all relevant evidence as available and be authorised by a competent responsible person.

Assessment method: WQSR in the AC & OP/LE in a RWE/WP

**Learning Outcome 01.** The learner will know the principles of communication technologies used in smart metering.  
*The learner will demonstrate knowledge of;*

- 1.1 How communication systems for smart metering work.
- 1.2 The benefits of communication technologies used in smart metering for:
  - Customers
  - Energy suppliers
- 1.3 The different types of in-house display equipment.
- 1.4 The implications of installing one type of communication system over another.
- 1.5 How to achieve interoperability between meters.

**Learning Outcome 02.** The learner will be able to plan the location for the smart metering communication system.  
*The learner will be able to;*

- 2.1 How to assess the installation location for safety and correct operations of the communication system.
- 2.2 Carry out a risk assessment of proposed locations and record observations using approved documentation.
- 2.3 Identify a suitable location for the planned communication system installation for the customer.
- 2.4 Carry out relevant checks to ensure that equipment and components provided are correct for the planned installation.

**Learning Outcome 03.** The learner will be able to install communication system for smart meters.

*The learner will be able to;*

- 3.1 Select and use the designated tools and installation components.
- 3.2 Prepare the location to accommodate the planned installation using information from installation plans, manufacturer's manuals and the site-specific risk assessment.
- 3.3 Assemble equipment and components to manufacturer's specification.
- 3.4 Install communication system as required by the plan.
- 3.5 Install in home display/software equipment as required by the plan.
- 3.6 Connect the installation to services as required by the plan.
- 3.7 Leave the installation site in a safe, clean and secure condition upon completion.
- 3.8 Record installation information accurately using relevant documentation and procedures.
- 3.9\* Inform the customer if the installation cannot be completed and what actions are required for successful completion.

**Learning Outcome 04.** The learner will be able to commission, test and complete communication installation for smart meters.

*The learner will be able to;*

- 4.1 Activate the communication system.
- 4.2 Check that the installation functions according to specification.
- 4.3 Test the communication reception system for transmitting and receiving data.
- 4.4 Complete final checks on the communication system in accordance with specifications.
- 4.5 Confirm all communication systems work in accordance with manufacturers and employer's requirements.
- 4.6 Inform the customer when the installation is complete or if there are any problems with the installation and advise when work will be completed.
- 4.7 Demonstrate to the customer how the installation works providing them with any relevant user operating instructions, to include at least 2 of the following:
  - operation of IHU
  - access to supplier web-based energy information
  - appending credit and accessing relevant energy usage information
  - pairing smart meter with compatible appliances
  - operation of export tariffs.
- 4.8 Complete all relevant installation documentation.

**Learning Outcome 05.** The learner will be able to identify and rectify faults in smart meter communication systems.

*The learner will be able to;*

- 5.1\* Use relevant diagnostic procedures to determine the causes of system faults in line with manufacturer's guidelines.
- 5.2\* Report system faults in equipment and components that cannot be rectified on site to the responsible person/s.
- 5.3\* Explain guidelines on replacing defective components where applicable.
- 5.4\* Rectify system faults, replacing defective components.
- 5.5\* Complete appropriate documentation and report findings in line with industry procedures.

**LCL-S2008: Applied Practices and Principles for Installing Low Pressure Natural Gas Smart Meters up to U6 only.**

Assessment method: WQSR/WQMC in the AC.

Learning Outcome 01. The learner will be able to understand the dangers associated with electricity when preparing to install low pressure natural gas smart meters.

*The learner will demonstrate knowledge of;*

1.1 The potential risks of electrical shock resulting from the existing electrical installation and faulty electrical tools and equipment.

*All of the following must be covered:*

- common electrical dangers on construction sites, in business and private properties
- signs of damaged or worn electrical cables, power tools and property hard wiring systems
- signs of visual faults in electrical components
- trailing cables
- proximity of cables to any service pipework and meter installation
- buried and hidden cables
- avoidance of cables under wooden floor.

1.2 The different types of earthing used in properties, including main and supplementary protective bonding.

*All of the following must be covered:*

- requirements and procedures for use of temporary continuity bonding
- earthing methods and sizing
- main equipotential bonding
- supplementary bonding
- temporary bonding
- electrical earth bonding labels.

**Learning Outcome 02.** The learner will be able to use scientific principles in gas utilisation for natural gas smart metering.

*The learner will demonstrate knowledge of;*

2.1 The types of gas meters currently used in the gas industry and the capacity for each of them.

**Learning Outcome 03.** The learner will be able to understand how to use gas pressure regulators.

*The learner will demonstrate knowledge of;*

3.1 The correct operating pressures for low pressure in the natural gas network.

3.2 The network pressure tiers.

3.3 The need for, and use of, pressure regulators including factors affecting pressure loss.

3.4 How to correctly use pressure gauges to include digital and water.

**Learning Outcome 04.** The learner will know about combustion and the effects of its products.

*The learner will demonstrate knowledge of;*

4.1 The characteristics of:

- complete and incomplete combustion including air and fuel requirements
- pre and post aerated flames
- the effects of carbon monoxide on building occupants.

4.2 Identify, visually, burner faults resulting in incomplete combustion including:

- flame lift
- lighting back.

**Learning Outcome 05.** The learner will understand building materials and methods used in the installation of natural gas smart meters.

*The learner will demonstrate knowledge of;*

5.1 How to identify corrosion in metals and protection methods.

*All of the following must be covered:*

- properties of metals
- corrosion
- protection from corrosion to protective finishes

- construction materials including plastics, timber, bricks, concrete, cement and plaster.

5.2 How to identify correct and incorrect service entries into buildings.

*Both of the following must be covered:*

- damp proof course
- other services entering properties.

5.3 How to identify suitable and unsuitable routes within buildings for the installation of gas pipework and fittings.

*All of the following must be covered:*

- types of pipe materials and fittings suitable for carrying gas
- jointing of materials and fittings including copper capillary, compression, push-fit joints, press fit joints.
- steel including threaded and union joints
- suitable pipe supports and fixings including methods used for a variety of walls, brick, concrete, thermalite block, studded, dry lined and timber frame
- location of pipes, route and appearance
- pipework in walls, voids, ducts/shafts and under floors
- exterior pipework
- interrelation with other services
- corrosion protection
- gas pipe identification
- disconnection of pipes and fittings including use of temporary continuity bond.

5.4 Summarise the need for ventilation for gas fuelled appliances, ventilation paths and their effect upon sizes.

5.5 Calculate ventilation requirements for all types of gas-fuelled appliances.

*All of the following must be covered in the calculations:*

- ventilation openings and grilles
- adventitious ventilation
- location of vents
- installation of vents through walls
- ventilation paths via other rooms
- ventilation paths to compartments including ducts
- ventilation requirements for open-flue appliances
- ventilation requirements for flueless appliances
- ventilation requirements for appliances in compartments
- compartment ventilation labels
- effects of extractor fans
- ventilation for vertex flues
- passive stack ventilation.

5.6 How to identify correct and incorrect ventilators and installations.

5.7 The different types of open flue and room sealed chimney systems.

*All of the following types of chimney systems must be covered:*

- natural
- fanned draught
- rigid chimney types: brick/masonry, single and double wall, metallic and non-metallic
- flexible metallic liners
- shared (common) chimney systems
- SE & U Ducts

5.7 The suitability and characteristics of.

*All of the following chimney construction materials:*

- metallic (single/double wall)
- non metallic
- brick/masonry chimneys
- chimney blocks
- flexible metallic liners
- gas flue boxes

5.9 Identify correct and incorrect chimney outlet positions for open flue chimneys and room sealed appliances.

*Both of the following must be covered:*

- pitched and flat roofs
- proximity to windows, doors, carports.

5.10 The different flue and chimney systems and how they operate.

*All of the following must be covered:*

- parts of an open flue chimney
- open flue chimney system operation
- chimney system design
- temperature effects
- condensation problems
- flue terminal design
- open flue, natural draught chimney outlet locations/positions before and after 2001
- general operations of room sealed chimney including: parts and operation of a room-sealed appliance flue (natural draught and fan draught), room sealed appliance flue, flue terminal design
- room sealed chimney materials including metallic and plastic
- room sealed chimney outlet positions including terminal positions, neighbouring properties, carports or extensions, condensing appliances, basements, light wells and retaining walls, terminal guard requirements.

5.11 The need to test an open chimney and room sealed appliance and who would carry out the test.

*All of the following must be covered:*

- visual checks
- factors that affect performance including down draught and wind effects
- effects of passive stack ventilation
- effects of fans
- flue flow test and spillage
- testing fanned draught open flue systems
- checking case seals and case integrity
- checking/testing positive pressure case appliances.

**Learning Outcome 06.** The learner will understand gas safety regulations, legislation and standards in natural gas smart metering.

*The learner will demonstrate knowledge of;*

6.1 The scope and purpose of regulations, legislation and standards relating to work activities covering:

- Gas Safety (Installation and Use) Regulations
- RIDDOR.

6.2 The unsafe situations procedure and how the information at each level is passed on to the customer.

6.3 Identify, visually, unsafe situations in appliances, meters and installation pipework.

**LCL-S2009: Prepare, install and commission natural gas smart meter and regulator ( $\leq 6 \text{ m}^3/\text{h}$ )**

*Unit Assessment Requirements:*

- *Assessments must be carried out as documented in this table*
- *Learners must demonstrate sufficient evidence of competence through experience of satisfactorily undertaking the work activities documented across the full range. This shall be evidenced via the Learners Portfolio and be assessed as meeting the minimum documented requirements.*

**GSM 2.0.1: Installation of a gas smart meter**

RANGE	RWE ASSESSMENT	ASSESSMENT OF EXPERIENCE	WORKPLACE ASSESSMENT
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<p><b>Primary Range:</b></p> <ul style="list-style-type: none"> <li>Smart Meter ≤ 6 m<sup>3</sup>/h</li> </ul> <p><b>Secondary Range:</b></p> <ul style="list-style-type: none"> <li>Low Pressure Fed Supply</li> <li>Internal Installation</li> <li>Surface or built in Meter Box</li> <li>Semi concealed Meter Box</li> <li>New Installation</li> <li>Installation Exchange</li> </ul>	<p>One Successful Assessment</p>	<p>Evidence of experience undertaking the satisfactory installation of gas smart meters is required across the documented ranges.</p> <p>At least 10<sup>1</sup> separate installation occasions must occur with the Learner demonstrating experience across the Assessment Criteria on each occasion.</p> <p>At least 6<sup>1</sup> of the installation occasions must be from the workplace.</p>	<p>One Successful Assessment</p>
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*Table Notes:*

- 1 The documented numbers required to be evidenced include the assessment occasions.
- 2 LO 1 & 2 require evidence from a minimum of 3 Jobs including the 2 independent assessments

*Assessment Method: WQMC/WQSR in the AC, & OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to plan and prepare work activities to install natural gas smart meter (up to 6m<sup>3</sup>/hr) on low pressure gas systems.

*The learner will be able to;*

- 1.1 Identify and agree the work location using available information.
- 1.2 Check the work site for damage or defects.
- 1.3 Record and report any damage or defects to the correct people.
- 1.4 Inform all affected parties of their intended work plan, in line with industry standards.
- 1.5 Demonstrate how to test for the presence of voltage at the meter installation using an approved voltage sensing device.
- 1.6 Confirm the siting of the emergency control valve is accessible, correctly labelled and operating correctly, reporting any defects to the network owner for rectification.
- 1.7 Conduct a site-specific risk assessment, completing required documentation in line with health and safety regulations and industry standards.
- 1.8 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety requirements.
- 1.9\* Explain what to look for when carrying out a visual inspection of tools and equipment.
- 1.10 Plan the work to be undertaken to comply with industry standards and manufacturer's guidelines taking into account risk assessment, location, ventilation.
- 1.11 Explain the appropriate industry standards and procedures that directly impact on the work to be undertaken.
- 1.12 Describe the appropriate regulations relating to safe access and working at heights.
- 1.13 Select the appropriate tools and equipment required to work at heights and in confined spaces.

**Learning Outcome 02.** The learner will be able to prepare resources to install natural gas smart meter (up to 6.0m<sup>3</sup>/hr) on low pressure gas systems.

*The learner will be able to;*

- 2.1 Select and prepare tools and equipment compatible with the work plan, risk assessment and industry standards.
- 2.2\* Report any defects and/or shortages.
- 2.3 Apply correct control measures to ensure the work site is in a safe and suitable condition for work and the area is protected from damage being caused throughout the work.
- 2.4 Identify and confirm the meter installation is supplied with low pressure (75mbar or less).
- 2.5 Confirm and record meter readings.

- 2.6 Confirm the gas load is operating at the maximum capacity of the meter.
- 2.7 Explain the actions to be taken in case of non-compliance of the meter installation.
- 2.8 Identify and confirm suitability of the meter and associated equipment to be installed in line with industry standards and work plan.

**Learning Outcome 03.** The learner will be able to de-commission natural gas meters and regulators (up to 6.0m<sup>3</sup>/hr) on low pressure gas service.

*The learner will be able to;*

- 3.1 Check that conditions within the gas and earthing systems permit safe de-commissioning.
- 3.2 Use the correct tools and equipment for the different de-commissioning activities including use of temporary continuity bonds.
- 3.3 Use designated safe isolation methods, tests and procedures to de-commission meters, regulators, gas installation and components.
- 3.4 Take appropriate precautionary action to ensure that temporarily de-commissioned meters, regulators, gas installation components do not present a safety hazard.
- 3.5 Permanently remove and disconnect meters, regulators, gas systems and components including any equipotential bonding as required ensuring the appropriate labelling, storage and waste management procedures are followed.
- 3.6\* Correctly label any live gas pipes following permanent removal of a meter leaving a permanent bond or other electrical safety measures in place.
- 3.7 Explain the procedures for temporary and permanent de-commissioning of meters and regulators, including the use of temporary continuity bonds.
- 3.8 Explain the precautions to be taken to ensure they do not present safety hazards.
- 3.9 Communicate appropriately with responsible persons in the de-commissioning process.

**Learning Outcome 04.** The learner will be able to install natural gas meters and regulators (up to 6.0m<sup>3</sup>/hr) on low pressure gas service.

*The learner will be able to;*

- 4.1 Work in accordance with relevant health, safety, environmental and industry standards throughout the installation.
- 4.2\* Explain how and where to access information relating to the installation.
- 4.3 Install the identified natural gas smart meter (2.5 to 6.0m<sup>3</sup>/hr) and associated equipment on low pressure gas service using selected tools and equipment, in line with the work plan, risk assessment, manufacturer's specifications and relevant regulations and standards.
- 4.4\* Explain who to liaise with when procedures or routines may be affected by the suspension of the gas supply and the importance of this.
- 4.5 Correctly carry out testing procedures on completed installations in line with industry standards.
- 4.6 Check the completed installation meets and complies with the work plan and equipment specifications.
- 4.7 Check for adequate earthing and bonding to the installation.
- 4.8 Explain the actions to be taken if earthing and bonding are inadequate
- 4.9 Confirm the integrity of the installation and gas system using tightness and purging procedures (low pressure testing only).
- 4.10\* Appropriately complete and attach a warning notice on at least ONE occasion.
- 4.11 Resolve any problems encountered during the installation safely and efficiently in line with industry standards, referring matters which cannot be resolved to an appropriate person.
- 4.12 Inform the customer if work not completed and explain the reason(s).
- 4.13 Complete all relevant documentation/electronic data relating to the installation in line with industry standards.
- 4.14 Store all tools and equipment in line with industry standards and health and safety requirements.
- 4.15 Safely collect and dispose of all waste, including components that may be hazardous to health or the environment in line with industry standards.

**Learning Outcome 05.** The learner will be able to commission natural gas meters and regulators (up to 6.0m<sup>3</sup>/hr) on low pressure gas service.

*The learner will be able to;*

- 5.1 Confirm that conditions within the gas installation are suitable and will permit safe commissioning.
- 5.2 Select and use appropriate tools and equipment for the commissioning activity.
- 5.3 Confirm the gas operating pressure is correct for the activity and adjust or inform the network owner if not able to achieve the correct pressure.
- 5.4 Visually inspect to confirm the operation of the installation conforms to manufacturer's instructions, industry standards and British Standards.
- 5.5 Explain the gas industry unsafe situations procedure and when this applies including when to isolate unsafe gas appliances, systems and components.
- 5.6 Relight any previously connected appliances to manufacturer's instructions and visually inspect for safety defects.
- 5.7 Instruct the customer on the correct operation of the installation, providing a copy of manufacturer's instructions and other relevant documentation.

<b>LCL-S2010: Low Pressure Smart Meter Tightness Testing and Direct Purging (IGEM/UP/1B)</b>			
<i>Unit assessment requirements:</i>			
<ul style="list-style-type: none"> <li>• Assessments must be carried out as documented in this table</li> <li>• Learners must demonstrate sufficient evidence of competence through experience of satisfactorily undertaking the work activities documented across the full range. This shall be evidenced via the Learners Portfolio and be assessed as meeting the minimum documented requirements.</li> </ul>			
<b>3.1: Tightness Testing and Purging Gas Installations</b>			
RANGE	RWE ASSESSMENT	ASSESSMENT OF EXPERIENCE	WORKPLACE ASSESSMENT
<b>Primary Range:</b> <ul style="list-style-type: none"> <li>• Natural Gas Installations</li> </ul> <b>Secondary Range:</b> <ul style="list-style-type: none"> <li>• Purge Natural Gas Installation with Volume <math>\leq 0.02 \text{ m}^3</math></li> <li>• Purge Natural Gas Installation with Volume <math>&gt; 0.02 \text{ m}^3 \leq 0.035 \text{ m}^3</math></li> <li>• New Installation</li> <li>• Existing Installation</li> <li>• Simulated medium pressure gas supply</li> <li>• Existing Installation with no meter inlet valve (MIV) fitted</li> </ul>	One Successful Assessment	Evidence of experience undertaking the satisfactory tightness testing and purging is required across the documented ranges.  At least 5 <sup>1</sup> separate installation occasions must occur with the Learner demonstrating experience across the Assessment Criteria on each occasion.  At least 3 <sup>1</sup> of the installation occasions must be from the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	One Successful Assessment
<i>Table Notes: <sup>1</sup> The documented numbers required to be evidenced do include the assessment occasions.</i>			
<i>Assessment Method: OP/LE in a RWE/WP</i>			
<b>Learning Outcome 01.</b> The learner will be able to plan and prepare work activities for tightness testing and direct purging low pressure only. <i>The learner will be able to;</i>			
1.1 Confirm the siting of the gas supply and provision of ventilation meets the industry requirements for tightness testing and direct purging.			



- 1.2 Conduct a site-specific risk assessment, completing required documentation in line with health and safety regulations and industry standards.
- 1.3 Plan the work to be undertaken to comply with industry standards and manufacturer’s guidelines taking into account risk assessment, location, ventilation.
- 1.4 Confirm that the gas supply meets the industry requirements for the installation.

**Learning Outcome 02.** The learner will be able to De-commission natural gas systems and components to industry standards.  
*The learner will be able to;*

- 2.1 Check and confirm that conditions within the gas installation permit safe de-commissioning.
- 2.2 Select and use the correct tools and equipment for de-commissioning activities.
- 2.3\* Explain the process to be followed should materials, components, tools and equipment not be available to commence the de-commissioning process.
- 2.4 Use designated safe isolation methods, tests and procedures to de-commission gas installations and components.
- 2.5 Take appropriate precautionary action to ensure that temporarily de-commissioned appliances, gas systems and components do not present a safety hazard.
- 2.6 Take appropriate, safe and correct action to prevent de-commissioned gas systems being brought into operation.
- 2.7 Communicate with others who may be affected by the suspension of the gas supply including other trades and customer.

**Learning Outcome 03.** The learner will be able to tightness test and direct purge low pressure natural gas smart meters.  
*The learner will be able to;*

- 3.1 Apply control measures to ensure safety and suitability of the work site during the test in-line with a site-specific risk assessment.
- 3.2 Apply methods of working which protect the building décor, customer property and existing systems and components.
- 3.3\* Carry out a trace and repair to a gas escape and retest.
- 3.4\* Isolate unsafe gas appliances, gas systems and components and apply the gas industry unsafe situations procedure.
- 3.5 Carry out low pressure purging procedures to the current standard to confirm the safe supply of gas to the installed gas pipe work and appliances.
- 3.6\* Resolve any problems as they arise in accordance with approved procedures and refer to an appropriate person when problems cannot be resolved.
- 3.7 Instruct the customer or appropriate person on the correct operation of the meter installation, valves and components, providing a copy of any literature.
- 3.8 Complete all records and documentation in line with industry standards following tightness testing and direct purging.
- 3.9 Store all tools and equipment in line with health and safety requirements.
- 3.10\* Safely collect and dispose of all waste, including system contents that may be hazardous to health or the environment in line with legislative requirements.

**LCL-S2006: Install Single Phase Meter and Associated Equipment**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit’s Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio

<p>Learning Outcomes (LO) 1 - 5</p>	<p>1 assessment may be conducted in a RWE covering LO 1 – 5</p>	<p>A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.</p> <p>Where no assessments are conducted in a RWE, <b>2 separate assessments MUST</b> be conducted in the workplace.</p> <p><i>Note: Assessment Criteria indicated * only requires assessment once.</i></p>	<p>Learners must complete a RWE and Work Experience Portfolio.</p> <p>To provide additional information about the experience gained by the learner in both RWE and the workplace.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner.</p> <p>It should include all relevant evidence as available and be authorised by a competent responsible person.</p>
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Assessment Method: WQSR in the AC & OP/LE in a RWE/WP

**Learning Outcome 01.** The learner will be able to plan for work activities to install single phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 1.1 Identify work location using available information.
- 1.2 Conduct a site-specific risk assessment in line with health and safety regulations.
- 1.3 Plan the work to be undertaken in line with risk assessment.
- 1.4 Inform all affected parties of their intended work plan.

**Learning Outcome 02.** The learner will be able to prepare resources to install single phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2 Apply control measures to ensure the work area is fit for purpose in line with risk assessment.
- 2.3 Identify the meter and associated equipment to be installed, in line with the work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan and risk assessment.
- 2.5 Check tools and equipment are fit for purpose to carry out the identified work.
- 2.6 Check meter details and accurately record meter readings.
- 2.7 Report faults with tools, equipment and personal protective equipment (PPE).

**Learning Outcome 03.** The learner will be able to install a single-phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 3.1 Install the identified single-phase meter and associated equipment using selected tools and equipment, in line with the work plan and risk assessment.
- 3.2\* Install an isolator on at least one occasion, in line with the work plan.
- 3.3 Perform testing procedures on completed installations.
- 3.4 Check the completed installation complies with work instructions and equipment specifications.
- 3.5 Demonstrate that problems are resolved safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.6 Work in accordance with safe working and environmental practices, health and safety regulations and, environmental legislation.
- 3.7 Complete required post activity documentation.
- 3.8 Demonstrate that tools and equipment are stored.

- 3.9 Demonstrate that waste materials are handled in line with statutory procedures.  
 3.10 Demonstrate that the work area is left in a safe condition.

**Learning Outcome 04.** The learner will understand how to install a single-phase meter and associated equipment using general knowledge.  
*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety regulations and environmental legislation.  
 4.2 Identify company reporting lines, authorisation roles and responsibilities.  
 4.3 The company policies and procedures that directly impact on the work to be undertaken.

**Learning Outcome 05.** The learner will understand how to install a single-phase meter and associated equipment using work-specific knowledge.  
*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.  
 5.2 The procedures and information sources used to make sure that tools and equipment are fit for purpose.  
 5.3 The processes and procedures for inspecting and preparing tools and equipment prior to use.  
 5.4 The instructions and processes for using tools and equipment safely when undertaking routine checks.  
 5.5 What personal protective equipment (PPE) needs to be worn when undertaking work activities.  
 5.6 What materials and substances are dangerous and hazardous to health.  
 5.7 How to maintain safe working and environmental practices.  
 5.8 How to minimise risks to self and others when undertaking work activities.  
 5.9 Identify company work instructions and reporting systems.  
 5.10 The required response to different types and categories of emergency situations that may occur.  
 5.11 How to install plant and apparatus using specified principles, methods, processes and procedures.  
 5.12 Identify and report inaccurate and incorrect work instructions and documentation.

**LCL-S2007: Change Single Phase Meter and Associated Equipment**

- Unit Assessment Requirements:*
- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
  - *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 – 5	1 assessment may be conducted in a RWE covering LO 1 – 5	<p><b>A minimum of 1</b> meter removal assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.</p> <p>Where no assessments are conducted in a RWE,</p> <p><b>3 separate assessments MUST</b> be conducted in the workplace.</p> <p><b>A minimum of 2-meter</b> replacement assessments must be conducted in the workplace covering LO 1 – 5</p>	<p>Learners must complete a RWE and Work Experience Portfolio.</p> <p>To provide additional information about the experience gained by the learner in both RWE and the workplace.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner.</p> <p>It should Include all relevant evidence as available and be authorised by a competent responsible person.</p>

*Note: Assessment Criteria indicated \* only requires assessment once.*

*Assessment Method: WQSR in the AC & OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to plan for work activities to install single phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 1.1 Identify work location using available information.
- 1.2 Conduct a site-specific risk assessment in line with health and safety regulations.
- 1.3 Plan the work to be undertaken in line with risk assessment.
- 1.4 Inform all affected parties of their intended work plan.

**Learning Outcome 02.** The learner will be able to prepare resources to install single phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2 Apply control measures to ensure the work area is fit for purpose in line with risk assessment.
- 2.3 Identify the meter and associated equipment to be installed, in line with the work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan and risk assessment.
- 2.5 Check tools and equipment are fit for purpose to carry out the identified work.
- 2.6 Check meter details and accurately record meter readings.
- 2.7\* Report faults with tools, equipment and personal protective equipment (PPE).

**Learning Outcome 03.** The learner will be able to change a single-phase meter and associated equipment in line with company procedures.

*The learner will be able to;*

- 3.1 Remove the identified single-phase meter and associated equipment using selected tools and equipment, in line with the work plan and risk assessment.
- 3.2 Remove replaced meters.
- 3.3 Perform testing procedures on completed installations.
- 3.4\* Demonstrate that problems are resolved safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.5 Demonstrate that work in accordance with safe working and environmental practices, health and safety regulations and, environmental legislation.
- 3.6 Complete required post activity documentation.
- 3.7 Demonstrate that tools and equipment are stored.
- 3.8 Demonstrate that waste materials are handled in line with statutory procedures.
- 3.9 Demonstrate that the work area is left in a safe condition.

**Learning Outcome 04.** The learner will understand how to change a single-phase meter and associated equipment using general knowledge.

*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety regulations and environmental legislation.
- 4.2 Company reporting lines, authorisation roles and responsibilities.
- 4.3 The company policies and procedures that directly impact on the work to be undertaken.

**Learning Outcome 05.** The learner will understand how to install a single-phase meter and associated equipment using work-specific knowledge.

*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.
- 5.2 The procedures and information sources used to make sure that tools and equipment are fit for purpose.
- 5.3 The processes and procedures for inspecting and preparing tools and equipment prior to use.
- 5.4 The instructions and processes for using tools and equipment safely when undertaking routine checks.
- 5.5 What personal protective equipment (PPE) needs to be worn when undertaking work activities.
- 5.6 What materials and substances are dangerous and hazardous to health.
- 5.7 How to maintain safe working and environmental practices.
- 5.8 How to minimise risks to self and others when undertaking work activities.
- 5.9 The procedures and documentation for reporting problems.
- 5.10 Company works instructions and reporting systems.
- 5.11 The required response to different types and categories of emergency situations that may occur.
- 5.12 How to replace plant and apparatus using specified principles, methods, processes and procedures.
- 5.13 Identify and report inaccurate and incorrect work instructions and documentation.

### Optional Units:

#### **LCL-S2011: Install Multi Phase Meter Whole Current New Connection**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	<p>A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.</p> <p>Where no assessments are conducted in a RWE,</p> <p><b>2 separate assessments MUST</b> be conducted in the workplace</p> <p><i>. Note: Assessment Criteria indicated * only requires assessment once.</i></p>	<p>Learners must complete a RWE and Work Experience Portfolio.</p> <p>To provide additional information about the experience gained by the learner in both RWE and the work place.</p> <p>Evidence must be specific regarding actual work activities undertaken by the learner. It should include all relevant evidence as available and be authorised by a competent responsible person.</p>

*Assessment Method: WQSP in the AC & OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to plan for work activities to install multi-phase meter (whole current)

*The learner will be able to;*

- 1.1 Identify correct work location using available information.

- 1.2. Conduct a site-specific risk assessment, completing required documentation, in line with health and safety regulations.
- 1.3. Plan the work to be undertaken to comply with company procedures in line with risk assessment, taking into account factors such as location, content and sequence of tasks and personnel.
- 1.4 Inform all affected parties of their intended work plan, in line with company procedures.

**Learning Outcome 02.** The learner will be able to prepare resources to install multi-phase meter (whole current).  
*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2 Apply appropriate control measures to ensure the work area is in a safe and suitable condition for work to commence in line with risk assessment requirements and Company procedures (e.g. signs and barriers, demarcation of work area, control and removal of hazards, contamination protection).
- 2.3 Identify the correct meter to be installed, in line with company procedures and work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan, risk assessment and Company procedures.
- 2.5 Check the tools and equipment are fit for purpose to carry out the identified work in line with Company procedures.
- 2.6 Confirm meter details and record meter readings.
- 2.7\* Report faults with tools, equipment and PPE, including that which is unavailable, in line with company procedures.

**Learning Outcome 03.** The learner will be able to install a multi-phase meter (whole current).  
*The learner will be able to;*

- 3.1 Install identified multi-phase meter using selected tools and equipment, in line with the work plan, risk assessment and company procedures. Installation to include ONE electronic multi-phase meter and any ONE of the following: multi-phase multi-rate meter with communication method, mechanical multi-phase meter, mechanical multi-phase multi rate with or without off peak supplies, Electronic multi-phase multi-rate meter with or without off peak supplies.
- 3.2 Carry out appropriate testing procedures on completed installations, in line with company procedures.
- 3.3 Check the completed installation to ensure it meets and complies with work instructions and equipment specifications.
- 3.4\* Deal with all problems encountered safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.5 Work throughout the duration of the work in accordance with;
  - a) safe working and environmental practices
  - b) company procedures
  - c) health and safety regulations
  - d) environmental legislation.
- 3.6 Complete all required post activity documentation in line with company policy.
- 3.7 Ensure all tools and equipment are stored in line with company procedures.
- 3.8 Ensure hazardous and non-hazardous waste materials are dealt with and disposed of in accordance with Company and statutory procedures.
- 3.9 Ensure the work area is left in a safe condition compatible with company procedures.

**Learning Outcome 04.** The learner will know and understand how to install multi-phase meter (whole current) using general knowledge.  
*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety and environmental legislation and regulations.
- 4.2 The company reporting lines and authorisation roles and responsibilities.
- 4.3 The company policies and procedures that directly impact on the work to be undertaken.

**Learning Outcome 05.** The learner will know and understand how to install multi-phase meter (whole current) using work-specific knowledge.

*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.
- 5.2 How to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use.
- 5.3 The processes and procedures to be followed for inspecting and preparing tools and equipment prior to use.
- 5.4 How to read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks.
- 5.5 What personal protective equipment needs to worn when undertaken work activities.
- 5.6 What materials and substances are dangerous and hazardous to health.
- 5.7 How to maintain safe working and environmental practices throughout the duration of the work.
- 5.8 How to minimise risks to self and others when undertaking work activities.
- 5.9 The company work instruction, information and reporting systems and documentation.
- 5.10 How to respond to the different types and categories of emergency situations that might occur.
- 5.11 How to install plant and apparatus using specified principles, methods, processes and procedures.
- 5.12 How to recognise and report inaccurate and incorrect work instructions and documentation.

#### LCL-S2012: Change Multi-Phase Meter Whole Current

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.  Where no assessments are conducted in a RWE  <b>2 separate assessments MUST</b> be conducted in the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the learner in both RWE and the workplace.  Evidence must be specific regarding actual work activities undertaken by the learner.  It should Include all relevant evidence as available and be authorised by a competent responsible person.

*Assessment Method: WQSP in the AC & OP/LE in an RWE/WP*

**Learning Outcome 01.** The learner will be able to plan for work activities to change multi-phase meter (whole current).

*The learner will be able to;*

- 1.1 Identify correct work location using available information.
- 1.2. Conduct a site-specific risk assessment, completing required documentation, in line with health and safety regulations.

- 1.3. Plan the work to be undertaken to comply with company procedures in line with risk assessment, taking into account factors such as location, content and sequence of tasks and personnel.
1. 4 Inform all affected parties of their intended work plan, in line with company procedures.

**Learning Outcome 02.** The learner will be able to prepare resources to change multi-phase meter (whole current)  
*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2. Apply appropriate control measures to ensure the work area is in a safe and suitable condition for work to commence in line with risk assessment requirements and company procedures (e.g. signs and barriers, demarcation of work area, control and removal of hazards, contamination protection).
- 2.3 Identify the correct meter and associated equipment, in line with company procedures and work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan, risk assessment and company procedures.
- 2.5 Check the tools and equipment are fit for purpose to carry out the identified work in line with company procedures.
- 2.6 Confirm meter details and record meter readings.
- 2.7\* Report faults with tools, equipment and PPE, including that which is unavailable, in line with company procedures.

**Learning Outcome 03.** The learner will be able to change multi-phase meter (whole current).  
*The learner will be able to;*

- 3.1 Remove the identified multi-phase meter and associated equipment using selected tools and equipment, in line with the work plan, risk assessment and company procedures. Removal must include ONE multi-phase single rate meter and any ONE of the following: multi-phase mechanical meter with or without timeswitch and teleswitch, electronic multi-phase meter, multi-rate meter with communication.
- 3.2 Follow job instructions and company procedures to replace the removed meters with any TWO of the following: multi-phase multi-rate meter with communication method, mechanical multi-phase meter, mechanical multi-phase multi-rate with or without off peak supplies, electronic multi-phase multi-rate meter with or without off peak supplies.
- 3.3 Carry out appropriate testing procedures on completed installations, in line with company procedures.
- 3.4\* Deal with all problems encountered safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.5 Work throughout the duration of the work in accordance with;
  - a) safe working and environmental practices
  - b) company procedures
  - c) health and safety regulations
  - d) environmental legislation.
- 3.6 Complete all required post activity documentation in line with company policy.
- 3.7 Ensure all tools and equipment are stored in line with company procedures.
- 3.8 Ensure hazardous and non-hazardous waste materials are dealt with and disposed of in accordance with company and statutory procedures.
- 3.9 Ensure the work area is left in a safe condition compatible with company procedures.

**Learning Outcome 04.** The learner will know and understand how to change multi-phase meter (whole current) using general knowledge.  
*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety and environmental legislation and regulations.
- 4.2 The company reporting lines and authorisation roles and responsibilities.
- 4.3 The company policies and procedures that directly impact on the work to be undertaken.



**Learning Outcome 05.** The learner will know and understand how to change multi-phase meter (whole current) using work-specific knowledge.

*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.
- 5.2 How to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use.
- 5.3 The processes and procedures to be followed for inspecting and preparing tools and equipment prior to use.
- 5.4 How to read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks.
- 5.5 What personal protective equipment needs to worn when undertaken work activities.
- 5.6 What materials and substances are dangerous and hazardous to health.
- 5.7 How to maintain safe working and environmental practices throughout the duration of the work.
- 5.8 How to minimise risks to self and others when undertaking work activities.
- 5.9 The procedures and documentation used for reporting problems.
- 5.10 How to respond to the different types and categories of emergency situations that might occur.
- 5.11 How to install plant and apparatus using specified principles, methods, processes and procedures.
- 5.12 How to recognise and report inaccurate and incorrect work instructions and documentation.

**LCL-S2013: Install Single Phase Meter and Associated Equipment on Multi Phase Cut-Out New Connection**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.  Where no assessments are conducted in a RWE  <b>2 separate assessments MUST</b> be conducted in the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the learner in both RWE and the workplace.  Evidence must be specific regarding actual work activities undertaken by the learner.  It should include all relevant evidence as available and be authorised by a competent responsible person.

*Assessment Method: OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to plan for work activities to install single phase meter and associated equipment on multi-phase cut-outs.

*The learner will be able to;*

- 1.1 Identify work location using available information.
- 1.2 Conduct a site-specific risk assessment in line with health and safety regulations.

- 1.3 Plan the work to be undertaken to comply with company procedures in line with risk assessment, taking into account factors such as location, content and sequence of tasks, personnel.
- 1.4 Inform all affected parties of their intended work plan.

**Learning Outcome 02.** The learner will be able to prepare resources to install single phase meter and associated equipment on multi-phase cut-outs.

*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2 Apply appropriate control measures to ensure the work area is in a safe and suitable condition for work to commence in line with risk assessment requirements and Company procedures (e.g. signs and barriers, demarcation of work area, control and removal of hazards, contamination protection).
- 2.3 Identify the correct meter to be installed, in line with company procedures and work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan, risk assessment and Company procedures.
- 2.5 Check the tools and equipment are fit for purpose to carry out the identified work in line with Company procedures.
- 2.6 Confirm meter details and record meter readings.
- 2.7\* Report faults with tools, equipment and PPE, including that which is unavailable, in line with company procedures.

**Learning Outcome 03.** The learner will be able to install a single-phase meter and associated equipment on multi-phase cut-outs.

*The learner will be able to;*

- 3.1 Install identified single multi-phase meter and associated equipment on multi-phase cut outs using selected tools and equipment, in line with the work plan, risk assessment and company procedures. Installation to include **ONE** single phase single-rate meter and any **ONE** of the following:  
*Multi-rate with communication method; Two rate (with time switch and teleswitch with or without off peak supplies), multi-rate 5 terminal meter, multi-rate meter, two rate key and token (with or without communication method, with or without off peak supplies).*
- 3.2 Install an isolator on at least ONE occasion, in line with company procedures and work plan.
- 3.3 Carry out company required testing procedures on completed installations, in line with company procedures.
- 3.4 Check the installation meets and complies with the work instructions and equipment specifications.
- 3.5\* Deal with all problems encountered safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.6 Work throughout the duration of the work in accordance with safe working and environmental practices, company procedures, health and safety regulations and environmental legislation.
- 3.7 Complete all required post activity documentation in line with company policy.
- 3.8 Ensure all tools and equipment are stored in line with company procedures.
- 3.9 Ensure hazardous and non-hazardous waste materials are dealt with and disposed of in accordance with Company and statutory procedures.
- 3.10 Ensure the work area is left in a safe condition compatible with company procedures.

**Learning Outcome 04.** The learner will know and understand how to install single phase meter and associated equipment on multi-phase cut-outs using general knowledge.

*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety and environmental legislation and regulations.
- 4.2 The company reporting lines and authorisation roles and responsibilities.
- 4.3 The company policies and procedures that directly impact on the work to be undertaken.

**Learning Outcome 05.** The learner will know and understand how to install single phase meter and associated equipment on multi-phase cut-outs using work-specific knowledge.  
*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.
- 5.2 How to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use.
- 5.3 The processes and procedures to be followed for inspecting and preparing tools and equipment prior to use.
- 5.4 How to read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks.
- 5.5 What personal protective equipment needs to worn when undertaken work activities.
- 5.6 What materials and substances are dangerous and hazardous to health.
- 5.7 How to maintain safe working and environmental practices throughout the duration of the work.
- 5.8 How to minimise risks to self and others when undertaking work activities.
- 5.9 The company work instruction, information and reporting systems and documentation.
- 5.10 How to respond to the different types and categories of emergency situations that might occur.
- 5.11 How to install plant and apparatus using specified principles, methods, processes and procedures.
- 5.12 How to recognise and report inaccurate and incorrect work instructions and documentation.

**LCL-S2014: Change Single Phase Meter and Associated Equipment on Multi-Phase Cut-Out.**

*Unit Assessment Requirements:*

- *Learners must be allowed to practice and gain experience on all of the Unit's Learning Outcomes and the evidence from those activities must be recorded in the Learner Portfolio*
- *Assessments must be carried out as detailed in this table*

Unit Components	Assessments conducted in Realistic Work Environment (RWE)	Assessments to be conducted in the Workplace	RWE and Work Experience Portfolio
Learning Outcomes (LO) 1 - 5	1 assessment may be conducted in a RWE covering LO 1 – 5	A minimum of 1 assessment must be conducted in the workplace covering LO 1 – 5 where 1 assessment has been conducted in a RWE.  Where no assessments are conducted in a RWE  <b>2 separate assessments MUST</b> be conducted in the workplace.  <i>Note: Assessment Criteria indicated * only requires assessment once.</i>	Learners must complete a RWE and Work Experience Portfolio.  To provide additional information about the experience gained by the learner in both RWE and the workplace.  Evidence must be specific regarding actual work activities undertaken by the learner.  It should include all relevant evidence as available and be authorised by a competent responsible person.

*Assessment Method: WQSR in the AC & OP/LE in a RWE/WP*

**Learning Outcome 01.** The learner will be able to plan for work activities to change single phase meter and associated equipment on multi-phase cut-outs.  
*The learner will be able to;*

- 1.1 Identify work location using available information.
- 1.2 Conduct a site-specific risk assessment in line with health and safety regulations.
- 1.3 Plan the work to be undertaken to comply with company procedures in line with risk assessment, taking into account factors such as location, content and sequence of tasks and personnel.

1.4 Inform all affected parties of their intended work plan in line with company procedures.

**Learning Outcome 02.** The learner will be able to prepare resources to change single phase meter and associated equipment on multi-phase cut-outs.

*The learner will be able to;*

- 2.1 Select, inspect and wear personal protective equipment (PPE) compatible with the work plan, risk assessment and health and safety regulations.
- 2.2 Apply appropriate control measures to ensure the work area is in a safe and suitable condition for work to commence in line with risk assessment requirements and company procedures (e.g. signs and barriers, demarcation of work area, control and removal of hazards, contamination protection).
- 2.3 Identify the correct meter and associated equipment to be installed, in line with company procedures and work plan.
- 2.4 Select and prepare tools and equipment compatible with the work plan, risk assessment and company procedures.
- 2.5 Check the tools and equipment are fit for purpose to carry out the identified work in line with company procedures.
- 2.6 Confirm meter details and record meter readings.
- 2.7\* Report faults with tools, equipment and PPE, including that which is unavailable, in line with company procedures.

**Learning Outcome 03.** The learner will be able to change a single-phase meter and associated equipment on multi-phase cut-outs.

*The learner will be able to;*

- 3.1 Remove the identified single-phase meter and associated equipment using selected tools and equipment, in line with the work plan, risk assessment and company procedures.  
*Removal must include ONE single phase single-rate meter and any ONE of the following: multi-rate with communication method, two-rate (with timeswitch and teleswitch with or without off peak supplies), multi-rate 5 terminal meter, multi-rate meter, two-rate key and token (with or without communication method, with or without off peak supplies).*
- 3.2 Replace removed meters in line with company procedures and work plan with any **TWO** of the following:  
*Multi-rate with communication method, mechanical single-phase meter, electronic single-phase meter, multi-rate (with timeswitch and teleswitch with or without off peak supplies), multi-rate 5 terminal meter, check meter, multi-rate meter, multi-rate key and token (with or without communication method, with or without off peak supplies).*
- 3.3 Carry out appropriate testing procedures on completed installations, in line with company procedures.
- 3.4\* Deal with all problems encountered safely and efficiently, referring matters which cannot be rectified to the appropriate person.
- 3.5 Work throughout the duration of the work in accordance with safe working and environmental practices, company procedures, health and safety regulations and environmental legislation.
- 3.6 Complete all required post activity documentation in line with company policy.
- 3.7 Ensure all tools and equipment are stored in line with company procedures.
- 3.8 Ensure hazardous and non-hazardous waste materials are dealt with and disposed of in accordance with Company and statutory procedures.
- 3.9 Ensure the work area is left in a safe condition compatible with company procedures.

**Learning Outcome 04.** The learner will know and understand how to change single phase meter and associated equipment on multi-phase cut-outs using general knowledge.

*The learner will demonstrate knowledge of;*

- 4.1 The main principles of health and safety and environmental legislation and regulations.
- 4.2 The company reporting lines and authorisation roles and responsibilities.
- 4.3 The company policies and procedures that directly impact on the work to be undertaken.

**Learning Outcome 05.** The learner will know and understand how to change single phase meter and associated equipment on multi-phase cut-outs using work-specific knowledge.  
*The learner will demonstrate knowledge of;*

- 5.1 The company procedures and processes for reporting problems with tools and equipment.
- 5.2 How to read and interpret procedures and information sources used to make sure that tools and equipment are fit for purpose and safe to use.
- 5.3 The processes and procedures to be followed for inspecting and preparing tools and equipment prior to use.
- 5.4 How to read and interpret instructions on how to use tools and equipment safely and the processes and requirements for undertaking routine checks.
- 5.5 What personal protective equipment needs to worn when undertaken work activities.
- 5.6 What materials and substances are dangerous and hazardous to health.
- 5.7 How to maintain safe working and environmental practices throughout the duration of the work.
- 5.8 How to minimise risks to self and others when undertaking work activities.
- 5.9 The procedures and documentation used for reporting problems.
- 5.10 The company work instruction, information and reporting systems and documentation.
- 5.11 How to respond to the different types and categories of emergency situations that might occur.
- 5.12 How to install plant and apparatus using specified principles, methods, processes and procedures.
- 5.13 How to recognise and report inaccurate and incorrect work instructions and documentation.

**LCL-S2015: Prepare, Install and Commission Medium Pressure Natural Gas Smart Meter and Regulator up to 6.0m<sup>3</sup>/hr**

*Unit Assessment Requirements:*

- *Assessments must be carried out as documented in this table*
- *Learners must demonstrate sufficient evidence of competence through experience of satisfactorily undertaking the work activities documented across the full range. This shall be evidenced via the Learners Portfolio and be assessed as meeting the minimum documented requirements.*

**GSM 4.0: Installation of a gas smart meter fed by a medium pressure supply (MOPu > 75 mbar ≤2 bar)**

RANGE	RWE ASSESSMENT	ASSESSMENT OF EXPERIENCE	WORKPLACE ASSESSMENT
Primary Range: <ul style="list-style-type: none"> <li>• Smart Meter ≤6 m<sup>3</sup>/h</li> </ul> Secondary Range: <ul style="list-style-type: none"> <li>• Medium pressure Fed Supply</li> <li>• Regulator incorporating a Slam Shut Valve (SSV) (PRS 28/E)</li> <li>• Regulator incorporating a metering installation excess flow valve (MIEFV) (PRS 29/E)</li> <li>• Surface or built in Meter Box</li> <li>• Semi concealed Meter Box</li> <li>• New installation</li> <li>• Installation exchange</li> </ul>	One Successful Assessment	Evidence of experience undertaking the satisfactory tightness testing and purging is required across the documented ranges.  At least 5 <sup>1</sup> separate installation occasions must occur with the Learner demonstrating experience across the Assessment Criteria on each occasion.  At least 3 <sup>1</sup> of the installation occasions must be from the workplace.	One Successful Assessment

*Table Notes: The documented numbers required to be evidenced include the assessment occasions.*

*Assessment Method: WQSR in the AC & OP/LE in an RWE/WP*

**Learning Outcome 01.** The learner will be able to plan and prepare work activities for decommissioning, installing, exchanging and commissioning smart gas meters and regulators (up to 6.0m<sup>3</sup>/h) on medium pressure fed natural gas systems.

*The learner will be able to;*

- 1.1 Identify and agree the customer's job requirements.
- 1.2 Compare the customer's job requirements with statutory and national standards identifying any conflicting issues.
- 1.3 Survey the work site for any features that could affect the installation.
- 1.4 Check all required materials, tools and equipment are available, fit for purpose and adequately stored when not in use.
- 1.5 Complete site-specific risk assessments in line with health and safety regulations and national standards.
- 1.6 Select, inspect and wear appropriate personal protective equipment (PPE).
- 1.7 Apply correct measures to protect the work site and the building fabric against possible damage being caused during the job.
- 1.8 Check adequate services are available and the gas supply, existing main equipotential bonding and ventilation meets national standards' requirements for meter installation.
- 1.9 Check the siting of the gas meter, regulator, relief vent pipe, meter housing and other associated components meets national standards' requirements for location, siting and clearances.
- 1.10 Identify whether the installation is a primary or secondary meter.
- 1.11 Identify whether the upstream supply is low or medium pressure and, if medium pressure, which pressure tier.
- 1.12 Check the siting of the emergency control valve (ECV) and meter inlet valve (MIV) is accessible, correctly labelled and operates correctly.
- 1.13 Check existing installation for unsafe situations, and where necessary apply industry unsafe situations procedures correctly.
- 1.14 Test for the presence of voltage at the meter with a suitable voltage sensing device.
- 1.15\* Explain the actions to be taken where defects or deficiencies are identified during pre-installation surveys.

**Learning Outcome 02.** The learner will be able to de-commission smart gas meters and regulators (up to 6.0m<sup>3</sup>/h) on medium pressure fed natural gas systems.

*The learner will be able to;*

- 2.1 Check the existing installation permits safe de-commissioning.
- 2.2 Select and use correct tools and equipment for de-commissioning activities.
- 2.3 Carry out tightness testing in accordance with current national standards prior to commencing work.
- 2.4 Use designated safe isolation methods, tests and procedures to de-commission the meter installation.
- 2.5 Take precautionary actions to ensure that temporarily de-commissioned gas meters, regulators, equipotential bonding, gas installations and associated components do not present a safety hazard.
- 2.6 Disconnect and remove gas meters, regulators, relief vent pipes, and other associated components ensuring the installation is safe.
- 2.7\* Mark any live gas pipes, after permanent removal of a meter, with a notice to indicate the pipe contains gas.

**Learning Outcome 03.** The learner will be able to install and exchange smart gas meters and regulators (up to 6.0m<sup>3</sup>/h) on medium pressure fed natural gas systems.

*The learner will be able to;*

- 3.1 Carry out planned preparatory work to meet the meter installation and exchange requirements.
- 3.2 Select and use correct tools and equipment for the meter installation and exchange activities.
- 3.3 Check existing installation, new gas meter, regulator, relief vent pipe and other associated components for any damage.
- 3.4 Check seals are intact, packaging is removed and gas ways are clear.
- 3.5 Assemble and position the gas meter, regulator, relief vent pipe and other associated components and confirm it meets national standards.
- 3.6 Carry out tightness testing and purging procedures in accordance with national standards.
- 3.7 Check for adequate main equipotential bonding to the gas installation.

- 3.8 Explain the actions to be taken if main equipotential bonding is inadequate.
- 3.9\* Apply all necessary labels to the meter installation.
- 3.10 Label and disconnect or seal off from the gas supply with appropriate fitting, gas equipment where they are not to be commissioned immediately.
- 3.11 Explain where non return valves may be used in conjunction with a meter installation.

**Learning Outcome 04.** The learner will be able to commission smart gas meters and regulators (up to 6.0m<sup>3</sup>/h) on medium pressure fed natural gas systems.

*The learner will be able to;*

- 4.1 Check meter installation has been installed in accordance with national standards.
- 4.2 Select and use correct tools and equipment for the meter installation commissioning activities.
- 4.3 Check the installations operating pressure at the meter and / or regulator outlet is in accordance with national standards.
- 4.4 Check the safe operation of all meter and regulator controls including emergency control valve, meter inlet valve, over pressure shut off, under pressure shut off, excess flow valve and other safety devices in accordance with national standards.
- 4.5 Relight any existing appliances.
- 4.6 Instruct the customer in the use of the gas meter, regulator and other associated components, providing them with all instructions.
- 4.7 Complete all necessary documentation including confirming the safe commissioning of the gas meter, regulator and other associated components.
- 4.8 Safely handle, collect and dispose of all waste, including components that may be hazardous to health or the environment in line with national standards.
- 4.9 Work in accordance with relevant health, safety, environmental and national standards throughout the entire job.

**Learning Outcome 05.** The learner will be able to liaise with other persons and resolve problems relating to decommissioning, installing, exchanging and commissioning smart gas meters and regulators (up to 6.0m<sup>3</sup>/h) on medium pressure fed natural gas systems.

*The learner will be able to;*

- 5.1 Communicate with customers, line managers or other appropriate person throughout the job.
- 5.2\* Identify any deficiencies, unsafe or 'not to current standards' situations that may exist, and rectify or apply industry unsafe situations procedure.
- 5.3 Identify an unsafe situation and apply industry unsafe situations procedure.
- 5.4\* Resolve problems encountered during the job, referring matters that cannot be resolved to appropriate person(s).

#### **5.0 National Occupational Standard:**

Appropriate Units have a direct relationship with the National Occupational Standards for the areas of work contained in each Unit.

#### **6.0 Target Groups:**

The target groups for the 3 Qualifications within the framework are those learners who are;

1. Preparing for employment, new entrants to the occupation
2. Confirming occupational competence and or obtaining a licence to practice
3. Preparing for further learning or training and/or developing knowledge and or skills in a subject area who are existing workers in the occupation seeking to extend their range of work.

## 7.0 Descriptor Level 2.

### Knowledge descriptor:

- *Has knowledge and understanding of facts, procedures and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems.*
- *Can interpret relevant information and ideas. Is aware of a range of information that is relevant to the area of study or work.*

### Skills Descriptor:

- *Select and use relevant cognitive and practical skills to complete well-defined, generally routine tasks and address straightforward problems.*
- *Identify, gather and use relevant information to inform actions. Identify how effective actions have been.*

## 8.0 Prior knowledge, skills or understanding which the learner is required to have before taking the qualification.

- None

## 9.0 Units which a learner must have completed before the qualification will be awarded and any optional routes.

Learners must have completed all Mandatory units before the qualification will be awarded. See Section 4.0 above.

## 10.0 Other requirements which a learner must have satisfied before the learner will be assessed or before the qualification will be awarded.

Where required in the Unit Specification, the learner must have demonstrated a sufficiency of supervised work practice and gained sufficient experience to enable a successful assessment outcome to be achieved.

## 11.0 The knowledge, skills and understanding which will be assessed as part of the qualification.

The knowledge, skills and understanding which will be assessed as part of the qualification are detailed in the assessment and examination specification for each unit.

## 12.0 The method of any assessment and any associated requirement relating to it.

The method of any assessment and any associated requirement relating to it are detailed in the assessment and examination specification for each unit.

## 13.0 The criteria against which learners' level of attainment will be measured.

The Learning Outcomes and Assessment Criteria against which learners' level of attainment will be measured are detailed in the assessment and examination specification for each unit.

## 14.0 Specimen assessment materials.

Specimen assessment materials required to be provided by the Approved Centre are detailed in the assessment and examination specification for each unit.

## 15.0 Specified levels of attainment.

Learners must satisfy all Assessment Criteria for all Learning Outcomes within each Unit.

## 16.0 Other information



### **Assessment and Examination Terminology**

**AC** – *Approved Centre*; an examination conducted either at the approved centre or a location approved by the centre, using staff approved by the centre to conduct the examination.

**CE** – *Customer Evidence*; evidence provided by a customer in the form of a written witness statement confirming a competent performance by the learner. That evidence may also be provided by an employing supervisor or manager of the learner. Witness statements that relate to a technical competence will only be accepted from a person technically competent in that particular activity to provide the statement.

**IK** – *Inferred Knowledge*; inferred knowledge is assessed as part of a performance assessment by a centre approved assessor. To deem the learner as having sufficient knowledge the learner must satisfactorily pass the performance assessment.

**LE** – *Learner Evidence*; learner generated evidence is for example documented recordings of readings, calculations or the production of a risk assessment or other procedural document.

**OP** – *Observed Performance*; the assessment of a learner's performance by an approved assessor either in the learner's work place or at the approved centre or a location approved by the centre.

**OQ** – *Oral Questions*; oral questions may be asked by an assessor as part of a performance assessment or knowledge examination to confirm the understanding of the criteria by the learner.

**PA** – *Performance Assessment*; a performance assessment conducted either in the learner's work place or at the approved centre or a location approved by the centre.

**RWE** – *Realistic Work Environment*; an area at the approved centre or a location approved by the centre which replicates and has the features of a Work Place. The learner must not be permitted to be familiar with the simulated environment prior to undertaking assessment.

**WP** – *Work Place*; is the naturally occurring environment in which the learner works, typically that would be in a customer's premise where work is being paid for by the customer.

**WQMC** – *Written Question Multi-Choice*; multi-choice questions will be set by the awarding organisation and administered and marked locally at the approved centre by approved markers. Learners will be able to answer multi-choice questions using reference to appropriate industry normative or informative sources.

**WQSR** – *Written Question Short Response*; Short response written questions will be set by the awarding organisation and administered and marked locally at the approved centre by approved markers. Learners will be able to answer short response questions using reference to appropriate industry normative or informative sources