Part of the Enginuity Group

Qualification Manual

Level 3 Diploma in

Gas Utilisation

Qualification Codes: 600/0577/4
600/0574/9
600/1661/9
600/0576/2
600/0575/0

This Qualification Manual relates to the following:

EAL Level 3 Diploma in Gas Utilisation: Core Skills and Knowledge
(EUSGU001)
Qualification number: 600/0577/4

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers and Leisure
(EUSGU005)
Qualification number: 600/0574/9

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Water Heating and Wet Central Heating
(EUSGU010)
Qualification number: 600/1661/9

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers, Leisure and Domestic Space Heating
(EUSGU013)
Qualification number: 600/0576/2

EAL Level 3 Diploma for Gas Emergency First Call Operative
(EUSGU020)
Qualification number: 600/0575/0

Important note:
The assessment strategy has been updated by EU Skills, after wider consultation with Industry.

The Performance packs have been updated and merged, were appropriate, to reflect the latest assessment strategy and **must** be used by all new entrants after September 2021

Entrants registered prior to September 2021 can be transferred onto this assessment strategy, **BUT** all evidence gained against the previous assessment strategy must be transferred over and a GAP fill activity carried out.

Evidence will only be accepted if contained within a complete document.

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1.0 About EAL

Since 1964 EAL (Excellence Achievement and Learning) has been the specialist awarding organisation for the industry and related sectors. Our commitment to partnering industry together with the focus on our core sectors gives us an unrivalled understanding of the skills employers need. This results in qualifications that carry weight and respect with employers which deliver real career benefits for learners.

We support the delivery network with an unparalleled level of service to ensure that learners are well prepared for the roles they plan to take on. Through its programme of continuous improvement, EAL strives to meet the demand from employers for high performing, high quality products.

1.1 Equal opportunities and diversity

EAL expects its centres to enable Learner's to have equal access to training and assessment for qualifications in line with the Equality Act 2010 and protected characteristics. Further details can be located in the EAL Equal Opportunities and Diversity Policy:

http://www.eal.org.uk/centre-support/centre-support/policies-and-important-documents

1.2 Customer service and feedback

Customer service is a fundamental part of EAL's commitment to you. EAL aims to ensure that all customers receive a high quality efficient service. We are always interested in feedback and if you have any comments or feedback on our qualifications, products or services, please contact the customer services team:

EAL Customer Services
Tel: +44 (0)1923 652 400
Email: customercare@eal.org.uk

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2.0 Introduction to the Qualification

What is this qualification?

These qualifications in gas utilisation cover the knowledge and the skills necessary to carry out a variety of applicable job roles in domestic and small commercial premises.
The qualification is based on National Occupational Standards (NOS) which describe the skills, knowledge and understanding required to undertake a particular job or task to a nationally recognised level of competence.

Who is this qualification for?

These qualifications are predominantly for learners who want to be gas engineers working in the gas industry in UK, Isle of Man and Guernsey. The qualification may also be suitable for learners who are interested in gas utilisation and/or are considering a career change. The qualification has been specifically designed as a competence component in the Apprenticeship framework.

It is suitable for learners aged:

- 16-18
- 19+

What does this qualification cover?

These qualifications cover a wide range of skills, knowledge and competencies including: Core skills and knowledge, installation and maintenance of cookers, tumble dryers, leisure, domestic space heating, water heating, wet central heating which will provide them with the competence to work in the Gas Utilisation sector, the structure is listed in section 3.

Typical Job roles include:

Gas Installation Engineer
Gas Maintenance Engineer
Gas Installation and Maintenance Engineer
First Call Operative

2.1 Accreditation & Industry Support for this Qualification

These qualifications are:

- Regulated qualification at level 3
- Endorsed by employers as facilitating progression to an apprenticeship and/or one or more of the industry recognised qualifications at level 3*

*Letters of endorsement from employers and other organisations can be viewed on the EAL website.

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2.2 Achievement of the Qualification

The qualification is gained when all the necessary units have been achieved. The centre will then be able to apply for the learner's Diploma. The learner will also receive a Certificate of Unit Credit, listing all the units they have achieved. However if they don't manage to complete the full qualification learners can still claim a Certificate of Unit Credit for the units achieved therefore, they still have proof of their ability and could complete the qualification at a later date.

Units can also be taken individually (stand alone). This manual must be used in conjunction with the delivery and assessment of any individual units to ensure that assessment requirements and methodologies are consistently applied.

2.3 What are the Progression Opportunities?

The qualifications also provide progression into the following:

- EAL Level 3 Diplomas in Gas Utilisation
- EAL Level 3 NVQ Diploma in Plumbing and Heating
- EAL Level 3 NVQ Diploma in Heating

Further information can be obtained from the EAL Website or alternatively contact:

EAL Customer Services
Tel: +44 (0)1923 652400
Email: customercare@eal.org.uk

2.4 Qualification Support Materials

The following materials are available for these qualifications:

- **Delivery packs**: which contain the qualification units, all relevant tutor guidance relating to the delivery and assessment and marking schemes for internally assessed practical and theory assessments
- **Learner assessment packs:** which contain the qualification units, the internally assessed practical and theory assessments, assessment checklists and all associated guidance for learners
- **#Matters of Gas Safety Workbooks (MoGS):** which contain knowledge and practical assessments that must be completed by the learner under appropriately controlled conditions
- ***Practice question paper/s:** for the externally set and marked on-screen test, with feedback to learners on their performance.

These documents are not available from our on line services portal and must be requested from your current EQA and these will be sent out electronically, this is to ensure centres are registered and future updates can be sent out to the correct individuals at a centre.

***The practice papers are available to schedule online as per externally set and marked examinations.

All other materials can be accessed by EAL registered Centres from the EAL Website **www.eal.org.uk**

2.5 IGEM/IG/1 Recognition of Training

The requirements around gas training that lead to Gas Safe Registration have changed to reflect the concerns raised from Industry with the view that training quality is varied across all entry routes:

- Framework Qualifications
- Managed Learning Programmes/ACS
- Apprenticeship Standards (Trailblazers)

It was also noted how the training content differs across these routes and the areas of concern included:

- Durations
- Portfolio content
- Work experience
- Range of competence

With these issues raised and the work being completed around the Lofstedt report on cutting red tape, EU Skills and IGEM formed a working panel to look to produce a new training document which would regulate training and produced the IGEM/IG/1 Standards of Training in Gas Work document which was first published in April 2014.

As an EAL centre you will fall under our recognition and will need to meet our latest requirements around training and use the latest documentation for training which compromises of the following:

Domestic appliance installation and maintenance

- Delivery and Learners packs for all gas related aspects – these should form the basis of your scheme of work and lesson plans and must cover our requirements at the very least, but you can enhance them as you see fit.

First Call Operative

- Delivery and learners packs have been developed for the core knowledge (DSG3 1.1, 1.2, 1.3, 1.4, 1.5) that is generic across all pathways – these should form the basis of your scheme of work and lesson plans and must cover our requirements at the very least, but you can enhance them as you see fit.
- For units DSG3 3.21, DSG3 3.22, DSG3 3.12, DSG3 3.13, DSG3 3.15, DSG3 3.16, DSG3 3.17 Centres will need to have their training materials approved by EAL and have a signed SLA in place prior to any learners being registered on the FCO pathway.
- Training packs agreed for delivery will form the basis of the X200, which will be developed by EAL.

Generic documents

- Bespoke Assessment Planning and Tracking documents (formerly the X200) for the qualifications you offer, which now include training specific sections and include training feedback and evaluation forms
- IQA documentation – EAL provide templates, but if you use your centre specific materials please ensure all our requirements are met, these also include specific training standardisation meetings.
- SLA agreement agreeing to follow these new requirements, this will sit under your current SLA's you currently have in place.

These updated materials will be found in the relevant qualification materials under Delivery Packs.

This will mean as a centre offering gas related qualifications you will need a signed Service Level Agreement for training in place and your training will be quality assured at the appropriate time by your EQA and may also be included in our recognition audits by the relevant body.

3.0 Rule of Combination (Qualification Structure)

EAL Level 3 Diploma in Gas Utilisation: Core Skills and Knowledge (EUSGU001)

This is a knowledge only qualification designed to provide underpinning knowledge for the gas industry. These units may be completed as a stand alone qualification; or may be completed as an introductory part of a larger qualification. However, taken as a stand alone qualification, will not be sufficient for eligibility for entry to the Gas Safe Register, via any assessment only route (eg. ACS).

This qualification has 410 Guided Learning Hours (GLH), and 57 Credits. It has a Total Qualification Time (TQT) of 570 hours which is the notional time required by the learner to complete the qualification.

All units below are mandatory and must be completed:

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/1.1	Understanding health and safety in gas utilisation	3	11	70	M/502/8461
QDSG3/1.2	Understanding scientific principles in gas utilisation	3	4	30	A/502/8463
QDSG3/1.3	Understanding combustion and properties of gas	3	15	110	M/502/8475
QDSG3/1.4	Understanding buildings, services and structures	3	12	90	A/502/8480
QDSG3/1.5	Understanding gas safety	3	15	110	Y/502/8485

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers and Leisure
(EUSGU005)

The qualification will be obtained by the learner once they have completed the mandatory units.

This qualification has 769 Guided Learning Hours (GLH), and 123 Credits. It has a Total Qualification Time (TQT) of 1230 hours which is the notional time required by the learner to complete the qualification.

Completion of this Qualification Combination will enable Gas Registration in the following categories: CCN 1, CKR 1, LAU 1, LEI 1, CPA 1, MET1/2, CoNGLP1 PD

Performance Units should be undertaken after the relevant knowledge units

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/1.1	Understanding health and safety in gas utilisation	3	11	70	M/502/8461
QDSG3/1.2	Understanding scientific principles in gas utilisation	3	4	30	A/502/8463
QDSG3/1.3	Understanding combustion and properties of gas	3	15	110	M/502/8475
QDSG3/1.4	Understanding buildings, services and structures	3	12	90	A/502/8480
QDSG3/1.5	Understanding gas safety	3	15	110	Y/502/8485

To be undertaken after units above:

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/2.3	Specific core installation & maintenance	3	21	120	H/502/8487
QDSG3/3.1	Install domestic gas cookers, tumble dryers and leisure appliances	3	10	54	Y/502/8292
QDSG3/3.2	Maintain domestic gas cookers, tumble dryers and leisure appliances	3	13	54	L/502/8452
QDSG3/3.5	Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in domestic and small commercial premises	3	19	115	T/502/8381
QDSG2/3.6	Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations	2	3	16	K/502/8376

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Water Heating and Wet Central Heating
(EUSGU010)

The qualification will be obtained by the learner once they have completed the mandatory units.

This qualification has 1526 Guided Learning Hours (GLH), and 222 Credits. It has a Total Qualification Time (TQT) of 2220 hours which is the notional time required by the learner to complete the qualification.

Completion of this Qualification Combination will enable Gas Registration in the following categories: CCN 1, CENWAT 1, CPA 1, MET1/2, CoNGLP1 PD

Performance Units should be undertaken after the relevant knowledge units

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/1.1	Understanding health and safety in gas utilisation	3	11	70	M/502/8461
QDSG3/1.2	Understanding scientific principles in gas utilisation	3	4	30	A/502/8463
QDSG3/1.3	Understanding combustion and properties of gas	3	15	110	M/502/8475
QDSG3/1.4	Understanding buildings, services and structures	3	12	90	A/502/8480
QDSG3/1.5	Understanding gas safety	3	15	110	Y/502/8485

To be undertaken after units above:

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/2.3	Specific core installation & maintenance	3	21	120	H/502/8487
QDSG3/3.3	Install domestic gas water heaters and wet central heating appliances	3	18	134	Y/502/8454
QDSG3/3.4	Maintain gas water heating and wet central heating appliances	3	16	75	T/502/8459
QDSG3/3.5	Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in domestic and small commercial premises	3	19	115	T/502/8381
QDSG2/3.6	Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations	2	3	16	K/502/8376

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/3.21	Water compulsory core unit	3	13	90	J/502/8465
QDMES2/02	Understand and apply domestic cold water system installation and maintenance techniques	2	8	62	H/602/2697
QDMES2/03	Understand and apply domestic hot water system installation and maintenance techniques	2	8	62	F/602/2884
QDMES2/04	Understand and apply domestic central heating system installation and maintenance techniques	2	10	82	Y/602/2888
QDMES3/05	Understand and apply domestic cold water system installation, commissioning, service and maintenance techniques	3	9	76	K/502/8930
QDMES3/06	Understand and apply domestic hot water system installation, commissioning, service and maintenance techniques	3	9	76	K/502/9155
QDMES3/07	Understand and apply domestic central heating system installation, commissioning, service and maintenance techniques	3	12	98	M/502/9156
QDHTG2/02	Install and maintain domestic heating systems	2	4	4	R/602/2971
QDHTG3/04	Install, commission, service and maintain domestic heating systems	3	3	4	A/502/8933
QMES3/02	Understand and carry out electrical work on domestic plumbing and heating systems and components	3	12	102	T/502/9157

EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers, Leisure and Domestic Space Heating
(EUSGU013)

The qualification will be obtained by the learner once they have completed the mandatory units.

This qualification has 945 Guided Learning Hours (GLH), and 153 Credits. It has a Total Qualification Time (TQT) of 1530 hours which is the notional time required by the learner to complete the qualification.

Completion of this Qualification Combination will enable Gas Registration in the following categories: CCN 1, CKR 1, LAU 1, LEI 1, HTR 1, CPA 1, MET1/2, CoNGLP1 PD

Performance Units should be undertaken after the relevant knowledge units

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/1.1	Understanding health and safety in gas utilisation	3	11	70	M/502/8461
QDSG3/1.2	Understanding scientific principles in gas utilisation	3	4	30	A/502/8463
QDSG3/1.3	Understanding combustion and properties of gas	3	15	110	M/502/8475
QDSG3/1.4	Understanding buildings, services and structures	3	12	90	A/502/8480
QDSG3/1.5	Understanding gas safety	3	15	110	Y/502/8485

To be undertaken after units above:

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/2.3	Specific core installation & maintenance	3	21	120	H/502/8487
QDSG3/3.1	Install domestic gas cookers, tumble dryers and leisure appliances	3	10	54	Y/502/8292
QDSG3/3.2	Maintain domestic gas cookers, tumble dryers and leisure appliances	3	13	54	L/502/8452
QDSG3/3.5	Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in domestic and small commercial premises	3	19	115	T/502/8381
QDSG2/3.6	Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations	2	3	16	K/502/8376
QDSG3/3.7	Install domestic gas space heating appliances	3	15	88	D/502/8374
QDSG3/3.8	Maintain domestic gas space heating appliances	3	15	88	R/502/8372

EAL Level 3 Diploma for Gas Emergency First Call Operative (EUSGU020)

The qualification will be obtained by the learner once they have completed the mandatory units.

This qualification has 1316 Guided Learning Hours (GLH), and 260 Credits. It has a Total Qualification Time (TQT) of 2600 hours which is the notional time required by the learner to complete the qualification.

Completion of this Qualification Combination will enable Gas Registration in the following categories: CESP 1, MET 1/2, MET4, TPCP1A, REGT1, REGT2, CoNGLP1 PD

Performance Units should be undertaken after the relevant knowledge units

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/1.1	Understanding health and safety in gas utilisation	3	11	70	M/502/8461
QDSG3/1.2	Understanding scientific principles in gas utilisation	3	4	30	A/502/8463
QDSG3/1.3	Understanding combustion and properties of gas	3	15	110	M/502/8475
QDSG3/1.4	Understanding buildings, services and structures	3	12	90	A/502/8480
QDSG3/1.5	Understanding gas safety	3	15	110	Y/502/8485

To be undertaken after units above:

Unit	Unit title	Level	Credit	GLH	Ofqual Code
QDSG3/2.1	Specific core metering	3	23	60	D/502/8486
QDSG3/2.2	Specific core emergency	3	45	200	K/502/8488
QDSG3/3.5	Install, commission and de-commission gas pipework up to 35mm 1¼ diameter in domestic and small commercial premises	3	19	115	T/502/8381
QDSG2/3.6	Tightness test, purge, commission and de-commission gas pipework up to 35mm 1¼ diameter in small natural gas installations	2	3	16	K/502/8376
QDSG2/3.12	Install Gas Meters and Regulators 2.5 to 16.0m^3/hr	2	12	50	A/502/8303
QDSG3/3.13	Install gas meters and regulators 2.5 to 1076m^3/hr	3	25	108	L/502/8371
QDSG3/3.15	Dealing with reported upstream gas emergencies	3	32	149	Y/502/8373
QDSG3/3.16	Dealing with reported downstream gas emergencies	3	32	150	T/502/8378
QDSG3/3.17	Strength Testing, gas tightness testing and direct purging –IGE/UP/1A	3	12	58	M/502/8380

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4.0 Centre and Qualification Approval

Centres wishing to run the qualification will need to comply with the Qualification Manual and EAL's centre recognition criteria for this qualification upon accreditation and launch. Centres must also put in place the appropriate physical and human resources and administration systems to effectively run the qualification. Please refer to Section 5 for the requirements of centre staff involved in the delivery of the qualification.

For existing EAL Centres to put the qualification on your centre remit:

- To add this Qualification to your Centre Qualification remit create and complete a Qualification Approval Application form in Smarter Touch and submit to EAL.

For non EAL Centres to gain centre approval to run the qualification:

- Please contact the EAL Customer Services Department who will be delighted to hear from you:
  Tel: +44 (0)1923 652400
  Email: customercare@eal.org.uk

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5.0 Profiles and Requirements

The staff involved in the delivery of this qualification at the Centre must meet ALL of the requirements in this section.

5.1 Staff Responsible for Registering and Certificating Learners

Centres are required to appoint a suitable member of staff who can take responsibility for registering learners onto the qualification, submitting entries for externally set assessments to EAL, and taking receipt of external assessment procedures. They may also be responsible for applying to EAL for learner certificates. The role may be undertaken by the same person who undertakes quality assurance (see Section 5.4).

5.2 Teaching Staff

Teaching staff must have knowledge and understanding of:

- The occupations covered by this qualification.
- The qualification structure and content.
- The learning outcomes and assessment criteria they are delivering.

It is a recommendation that teaching staff will:

- Have 2 years' experience in teaching/training

or

- Be working towards an appropriate teaching/training qualification (e.g. Cert Ed or Learning and Development trainer units)

or

- Hold an appropriate teaching/training qualification (e.g. Cert Ed or Learning and Development trainer units)

5.3 Principal Assessors

The Centre MUST provide EAL with the names of any Principle Assessors (this is the same individual that was the Assessor in the previous Assessment Strategy) who will undertake assessment, so that these can be approved prior to them carrying out an assessment role.

Assessor requirements for Gas units (QDSG)

Where Principal Assessors undertake assessments in the workplace, and are not supported by a suitable gas operative, then they or their employer must be a member of an appropriate Gas Registration Body in accordance with the Gas Safety (Installation and Use) Regulations. In these circumstances they should also hold suitable insurance for this activity.

In addition to the qualifications listed below, the Principal Assessor must be able to provide appropriate documented evidence that demonstrates they have a minimum of 5 years proven occupational experience in the activities they will be assessing. Particular attention should be paid to providing evidence of occupational experience in the gas safety critical areas being assessed.

Principal Assessors must be technically qualified in domestic gas installation / maintenance and should hold one of the following qualifications:

- C&G / SQA - S/NVQ in Domestic Natural Gas (Level 3);

or

- C&G - 662 Certificate for Service Engineers (Gas);

or

- C&G - 598-2 Certificate in Gas Installation Studies;

or

- C&G - 660 Certificate in Gas Fitting - Final

This list is not considered exhaustive and other 'Mechanical Engineering Services' (MES) or 'Building Engineering Services' (BES) qualifications at Level 3/SCQF Level 6 or equivalent may be considered acceptable. Centres must submit requests to confirm the acceptability of other qualifications to their External Quality Assurer for a decision regarding the acceptability of other qualifications. The External Quality Assurer must keep a record of any such decisions.

Assessors for all SummitSkills units (QDHTG/QDMES/QMES):

Must have verifiable relevant industry experience and current knowledge of industry working practices and techniques relevant to the occupational working area. This verifiable evidence must be at or above the level being assessed and include one or more of the following:

- A relevant qualification (See Appendix 2)
- Registration with the appropriate industry registration body at the relevant occupational level and grade.

For particular units the verifiable evidence may need to be above the level of the unit being assessed. Where this is the case the requirement will be detailed within the unit.

This occupational competence must include up-to-date knowledge of each industry (for which the assessment is taking place), its settings, legislative and regulatory requirements, codes of practice and guidance.

The occupational competence of assessors must be updated on a regular basis and will be periodically reconfirmed by EAL as part of the quality assurance arrangements.

ALL Assessors must:

- Be vocationally and occupationally competent in the areas they are assessing
- Have knowledge and understanding of the assessment criteria they are assessing
- Have knowledge and understanding of the qualification structure, content and assessment components
- Understand the assessment process

Centre Based Assessors must hold:

- Level Three Award "Assessing Vocationally Related Achievement"

or

- Level Three Certificate "Assessing Vocationally Related Achievement"

or

- A1* or D32 /D33 with an Upgrade to A1 as a minimum

or

- SQA Accredited Learning and Development Unit L&D 9DI – Assess workplace competence using direct and indirect methods (replaces Units A1)*

Workplace Assessors must hold:

- Level Three Award "Assessing Competence in the Work Environment"

or

- Level Three Certificate "Assessing Vocationally Related Achievement"

or

- SQA Accredited Learning and Development Unit L&D 9D Assess workplace competence using direct methods

or

- A2 or D32 with an upgrade to A2 as a minimum *

* The Teaching Qualification for Secondary Education (TQSE) or the Teaching Qualification for Further Education (TQFE) (which is recognised in Scotland) these awards are acceptable providing they are the versions that are recognised as equivalents to the A1 award plus appropriate CPD.

Assessors holding D units must have evidence of Continuing Professional Development (CPD) to demonstrate compliance with the A units.

Note: 'Candidate Assessors' who are working towards their Assessor qualifications and who do not have the requisite 2 years' experience must be supervised by a Qualified Assessor. Learner Assessors must have a clear action plan for achieving the Assessor qualification(s). Assessor approval will be withdrawn if a relevant qualification has not been attained within 18 months.

Evidence of CPD will be sought by the External Quality Assurer for all Assessors approved to assess for the centre.

Further Requirement for Assessors of QMES3/02: 'Understand and carry out electrical work on domestic plumbing and heating systems and components'

Assessors of this unit **must** have auditable evidence of CPD to the learning outcomes of the unit.

A suitable form of CPD will be for the assessors to undertake the unit themselves, and be subject to assessment as required by the unit.

Where the centre assessors do not have the necessary access to CPD, please contact the EAL External Quality Assurer, who will be able to guide you.

The EAL L2 Certificate for Domestic Electrical Installers will not be considered an automatic proxy against this unit (QMES3/02) due to the difference in the unit level and assessment requirements. The qualification can however provide some of the necessary training.

1. A learner who completes this unit is not competent to inspect and test a complete electrical installation. The competencies identified in the unit and demonstrated by the learner are only applicable to electrically operated mechanical services components and controls up to 230V single phase supply.

2. Individuals responsible for the delivery and/or assessment of this unit must provide auditable evidence that, as a minimum, they have the competencies that equate with the Learning Outcomes and Assessment Criteria of the unit.

These requirements **MUST** be followed due to the safety critical nature of the unit.

5.4 Expert Observer (Only applicable for Gas units)

The Centre MUST provide EAL with the names of any Expert Observers who will undertake assessment, so that these can be approved prior to them carrying out an assessment role.

Where Expert Observers undertake assessments in the workplace, then they or their employer must be a member of an appropriate Gas Registration Body in accordance with the Gas Safety (Installation and Use) Regulations. In these circumstances they should also hold suitable insurance for this activity.

In addition to the qualifications listed below, the Expert Observer must be able to provide appropriate documented evidence that demonstrates they have a minimum of 2 years post qualification proven occupational experience in the activities they will be assessing. Particular attention should be paid to providing evidence of occupational experience in the gas safety critical areas being assessed.

Expert Observers must be technically qualified and should hold one of the following qualifications:

- C&G / SQA - S/NVQ in Domestic Natural Gas (Level 3);

or

- C&G - 662 Certificate for Service Engineers (Gas);

or

- C&G - 598-2 Certificate in Gas Installation Studies;

or

- C&G - 660 Certificate in Gas Fitting - Final

This list is not considered exhaustive and other 'Mechanical Engineering Services' (MES) or 'Building Engineering Services' (BES) qualifications at Level 3/SCQF Level 6 or equivalent may be considered acceptable, with the appropriate and current ACS categories being assessed. Centres must submit requests to confirm the acceptability of other qualifications to their External Quality Assurer for a decision regarding the acceptability of other qualifications. The External Quality Assurer must keep a record of any such decisions.

Expert Observers must:

- Be vocationally and occupationally competent in the areas they are assessing
- Have knowledge and understanding of the assessment criteria they are assessing
- Have knowledge and understanding of the qualification structure, content and assessment components
- Understand the assessment process

This Expert Observer must complete relevant training provided by the centre and this must include the requirements of assessment and the completion of related direct observation documentation.
The training must be documented and recorded within quality assurance documentation and be subject to annual review by EAL.

Expert Observers will be subject to the same internal quality assurance process as Principal Assessors and will initially be subject to *enhanced quality assurance.

5.5 Quality Assurance Staff

This relates to staff undertaking internal verification of assessment. The Centre MUST provide EAL with the names of any Internal Quality Assurers who will undertake internal quality assurance, so that these can be approved prior to them carrying out this role.

Internal quality assurance staff requirements for Gas units (QDSG)

Internal Quality Assurers (IQAs) shall be technically qualified in domestic gas installation / maintenance and hold one of the following qualifications:

- C&G / SQA - S/NVQ in Domestic Natural Gas (Level 3);

or

- C&G - 662 Certificate for Service Engineers (Gas);

or

- C&G - 598-2 Certificate in Gas Installation Studies;

or

- C&G - 660 Certificate in Gas Fitting - Final

This list is not considered exhaustive and other 'Mechanical Engineering Services' (MES) or 'Building Engineering Services' (BES) qualifications at Level 3 or equivalent may be considered acceptable. Centres must submit requests to confirm the acceptability of other qualifications to their EQA for a decision regarding the acceptability of other qualifications. The EQA must keep a record of any such decisions.

In addition to the above the IQA must hold a current certificate of gas safety competence in the areas of gas work they will be internally verifying that is not more than 5 years old (either current ACS Certificates of Gas Safety Competence or a 6012 Domestic Natural Gas S/NVQ are acceptable).

Internal quality assurance staff requirements for Plumbing based units (QDHTG/QDMES/QMES)

Must have a minimum of occupational experience evidenced by having a building services engineering sector related qualification or proven sector competence/experience plus access to relevant "occupational expertise" to enable them to conduct their role as internal verifier appropriately. This evidence and access to "occupational expertise" is quality assured by EAL.

Internal quality assurance staff for all units must:

- Be familiar with the occupation(s) covered by this qualification
- Have knowledge and understanding of the qualification structure and content
- Understand the assessment process and the role of quality assurance

Internal quality assurance staff must also hold the following:

- Level Three Certificate "Assessing Vocationally Related Achievement"

or

- A1 or D32/D33 with an upgrade to A1 as a minimum

or

- Learning and Development Unit L&D 9DI – Assess workplace competence using direct and indirect methods

And

- Level Four Award " Internal Quality assurance of assessment processes and practice"

or

- Level Four Certificate "leading the Internal Quality assurance of assessment processes and practice"

or

- V1 or D34 with an upgrade to V1 as a minimum*

*The Teaching Qualification for Secondary Education (TQSE) or the Teaching Qualification for Further Education (TQFE) (which is recognised in Scotland) these awards are acceptable providing they are the versions that are recognised as equivalents to the A1 award plus appropriate CPD.
Internal Quality Assurers holding D units must have evidence of CPD to demonstrate compliance with the A and V units

or

- SQA Accredited Learning and Development Unit L&D 11 "Internally monitor and maintain the quality of workplace assessment"

It is recommended that 'Candidate Internal Quality Assurers have a clear action plan for achieving the IQA qualification(s).

IQA approval will be withdrawn if the qualification / units have not been attained within 18 months.

Where quality assurance staff themselves do not hold a suitable technical qualifications they must have access to technical expertise from qualified personnel, who hold the relevant qualifications, to support them where the verification requires technical support and interpretation.

Continuing professional development of internal quality assurance staff
The occupational experience of quality assurance staff must be updated on a regular basis and be periodically confirmed via continuing professional development (CPD) via the Assessment Centre. This will be quality assured by EAL.

It is the responsibility of each internal quality assurance staff member to identify and make use of opportunities for CPD, such as industry conferences, access to trade journals, and Professional Body/ Trade Association events, at least on an annual basis to enhance and upgrade their professional development and technical knowledge. It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such technical knowledge and industry intelligence to all relevant colleagues.

5.6 Direct observations (Gas Units only)

Direct observations must be carried out by a Principal Assessor or Expert Observer

Where direct observation is carried out by the expert observer, the observation documentation must be counter signed by the principal assessor and subject to *enhanced quality assurance.

Note:
*Enhanced quality assurance could include, additional IQA observations, detailed feedback, regular review, increased sampling and detailed action planning.

5.7 Expert Witness

Witness Testimony evidence can only be accepted if the testimony is completed by a technically and occupationally competent witness and will normally be in the form of a completed and signed Work Experience Log with other supporting evidence (e.g. company or employer job sheets, photographic evidence).

The evidence provided by Witness Testimony and other non-observed sources must be substantiated by an Assessor (e.g. by confirming the suitability of the witness and by professional discussion). Once the evidence has been substantiated and suitably documented, then it can be referenced appropriately by the Assessor.

Where "Expert Witnesses" are used in the assessment process they must be:

- Sector competent individuals who can attest to the learner's performance in the workplace.
- It is not necessary for expert witnesses to hold an assessor qualification, as a qualified assessor must assess the performance evidence provided by an expert witness.
- Evidence from expert witnesses must meet the tests of validity, reliability, authenticity and sufficiency.
- Expert witnesses will need to demonstrate:
  - they have relevant current knowledge of industry working practices and techniques,
  - that they have no conflict of interest in the outcome of their evidence.

The EAL External Quality Assurer will be able to give further advice on the use of witness testimony.

5.8 Mentor

The primary responsibilities of a mentor are to offer support and guidance to learners throughout the Programme and confirm suitability for assessment.
The mentor should be occupationally competent and have suitable industry experience

5.9 Learners with Particular Requirements

There are no formal entry requirements for this qualification; however centres should ensure that the learners have the potential to achieve this qualification. Learners must have the minimum levels of literacy and numeracy to complete the learning outcomes and the external assessment.

Centres should make learners with particular requirements aware of the content of the qualification and they should be given every opportunity to successfully complete the qualification. EAL will consider any reasonable suggestions for, and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required.

Age Restrictions

Learners must be at least 16 years of age.

5.10 Staff invigilating external assessments

This relates to staff that are conducting and controlling exam sessions only; assessor requirements are given in 5.3.

These personnel must:

- Have experience in conducting and controlling exam sessions

or

- Be supervised, conducting this function, by and individual experienced in conducting and controlling exam sessions
- Have knowledge, understanding and compliance to EAL examination procedures 'Procedures for Conducting the Exam Component within EAL Qualifications' (EAF 1), see website.

Note; A tutor/assessor who has prepared the learners for the subject of the exam must not be the sole Supervisor at any time during an exam of that subject(s).

5.11 Physical Resources

Safe working is a key issue and all practical activities conducted within the centre must be subject to up to date risk assessments. All learners must be properly supervised and wear the correct personal protective equipment. Arrangements for first aid and emergency action in case of accident must be in place.

Where practical based assignments are used within knowledge units, the required resources will be clearly detailed within the documentation.

Revisions or amendments to EAL drawings are permissible subject to the written agreement of the EAL External Quality Assurer.

5.12 Conflict of Interests

Assessors involved in providing direct training to a learner, either as part of a group or on a 'one to one' basis should not carry out assessment for any of those trained aspects.
Alternatively, centres must agree effective quality control measures (includes enhanced IQA and data monitoring) with EAL to ensure that any potential conflicts of interest do not have an adverse effect on assessment outcomes. Any potential conflict of interest must be documented and available for scrutiny in line with EAL's conflict of interests policy

6.0 Assessment

The following table indicates the assessment components that are included in the qualification and for each component:

- Who is responsible for setting and marking the component.
- How the component is quality assured.

Assessment component	Set by	Marked by	Method of quality assurance	
			Internal	External
On-screen examination[1]	EAL	EAL	Examination invigilation	Verification and continuous monitoring via EQA visits
Centre marked practical/ theory assessments[2]	EAL	Centre	On-going standardisation within the Centre	Verification and continuous monitoring via EQA visits

1. Refer to Section 6.1 External Assessment.
2. Refer to Section 6.2 Internal (EAL Set and Centre Marked) Assessments.

General Gas Guidance

The Domestic Natural Gas qualifications are assessed through a combination of workplace assessment, simulation assessment and knowledge assessment.

The Diploma in Gas Utilisation: Core Skills and Knowledge (EUSGU001) (Level 3; SCQF Level 6) is now an integral part, and a prerequisite of, all the Gas Utilisation qualifications. As such the following options are available to Learners:

- EUSGU001 may be completed as a stand-alone qualification* (see note 3 below)
- EUSGU001 may be completed as an introductory part of a larger qualification

*** Important Notes**

1. The assessment requirements set out in this document must be met in full.

2. In accordance with good practice and Ofqual requirements regarding Conflict of Interest in Assessment (Condition A4 in General Conditions of Regulation – Ofqual 2011) Assessors involved in providing direct training to a Learner, either as part of a group or on a 'one to one' basis should not carry out assessments for any of those trained aspects. Alternatively Awarding Organisations may put in place effective quality control measures to ensure that any potential conflicts of interest do not have an adverse effect on assessment outcomes.

3. The EUSGU001 Diploma, taken as a stand-alone qualification is not sufficient for eligibility for entry to the Gas Safe Register, via any assessment only route (eg. ACS). Learners must complete a minimum of one of the range of Diplomas (EUSGU002-EUSGU024) to meet the requirements for Gas Safe Registration.

4. Gas Safe Register competence criteria are incorporated in all assessments. It is essential that the Awarding Organisations/Awarding Bodies update their Assessors and Assessment Materials to ensure that any changes to these criteria are reflected in the performance of the learner from the date they become effective. (for example: if the IGE/UP/1B Testing procedure changed six months prior to the learner completing the qualification, all assessments including testing from the change date, must be completed against the changed procedure standard).

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Important requirements for practical assessments of gas units

Practical Assessments: Learners undertaking assessment which involves a gas aspect must achieve a 100% pass rate. In the case of failure, it is appropriate for the learner to undertake re-training prior to re-assessment. The learner attempt of the practical should be recorded on the EAL documentation.

The learner must pass **ALL** assessments to achieve the qualification.

A breakdown showing the assessment requirements for each unit is shown in the table below:

EAL code	Unit title	On-screen exam	Centre marked practical/theory assessment
QDSG3/1.1	Understanding health and safety in gas utilisation	YES	NO
QDSG3/1.2	Understanding scientific principles in gas utilisation	YES	NO
QDSG3/1.3	Understanding combustion and properties of gas	YES	MOGs Workbook
QDSG3/1.4	Understanding buildings, services and structures	YES	MOGs Workbook
QDSG3/1.5	Understanding gas safety	YES	MOGs Workbook
QDSG3/2.1	Specific core metering	YES	YES MOGs/RWE Workbooks
QDSG3/2.2	Specific core emergency	YES	YES MOGs/RWE Workbooks
QDSG3/2.3	Specific core installation and maintenance	YES	YES MOGs/RWE Workbooks
QDSG3/3.5	Install, commission and de-commission gas pipework up to 35mm (1 ¼) diameter in domestic and small commercial premises	NO	MOGs/RWE Workbook
QDSG2/3.6	Tightness test, purge, commission and de-commission gas pipework up to 35mm (1 ¼) diameter in small natural gas installations	NO	MOGs/RWE Workbook

Assessment - continued:

EAL code	Unit title	On-screen exam	Centre marked practical/theory assessment
QDSG3/3.1	Install domestic gas cookers, tumble dryers and leisure appliances	NO	MOGs/RWE Workbooks
QDSG3/3.2	Maintain Domestic Gas Cookers, Tumble Dryers and Leisure Appliances	NO	MOGs/RWE Workbooks
QDSG3/3.3	Install Domestic Gas Water Heaters and Wet Central Heating Appliances	NO	MOGs/RWE Workbooks
QDSG3/3.4	Maintain Gas Water Heating and Wet Central Heating Appliances	NO	MOGs/RWE Workbooks
QDSG3/3.7	Install domestic gas space heating appliances	NO	MOGs/RWE Workbooks
QDSG3/3.8	Maintain Domestic Gas Space Heating Appliances	NO	MOGs/RWE Workbooks
QDSG2/3.12	Install Gas Meters and Regulators 2.5 to 16.0m3/hr	No	MOGs/RWE Workbooks
QDSG3/3.13	Install gas meters and regulators 2.5 to 1076m³/hr	No	MOGs/RWE Workbooks
QDSG3/3.15	Dealing with reported upstream gas emergencies	No	MOGs/RWE Workbooks
QDSG3/3.16	Dealing with reported downstream gas emergencies	No	MOGs/RWE Workbooks
QDSG3/3.17	Strength Testing, gas tightness testing and direct purging –IGE/ UP/1A	No	MOGs/RWE Workbooks
	Plumbing based units		
QDSG3/3.21	Water compulsory core unit	Yes	NO
QDMES2/02	Understand and apply domestic cold water system installation and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES2/02	Understand and apply domestic cold water system installation and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES2/03	Understand and apply domestic hot water system installation and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES2/04	Understand and apply domestic central heating system installation and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES3/05	Understand and apply domestic cold water system installation, commissioning, service and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES3/06	Understand and apply domestic hot water system installation, commissioning, service and maintenance techniques	Yes	Learner's Simulated Practical Record
QDMES3/07	Understand and apply domestic central heating system installation, commissioning, service and maintenance techniques	Yes	Learner's Simulated Practical Record
QMES3/02	Understand and carry out electrical work on domestic plumbing and heating systems and components	Yes	Learner's Simulated Practical Record
	Plumbing based performance units		
QDHTG2/02	Install and maintain domestic heating systems	Performance evidence required for this unit.	
QDHTG3/04	Install, commission, service and maintain domestic heating systems	Performance evidence required for this unit.	

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6.1 External assessment

External assessment comprises an externally set and marked on-screen multiple-choice examination, which has been designed to assess the knowledge and understanding in the core mandatory unit.

A specification for the examination, indicating the number of questions to be set for each learning outcome is provided in Appendix 1.

Key Points

- The external examination is available on demand
- The examination must be undertaken by the learner under controlled examination conditions, in accordance with EAL's Procedures for Conducting the Exam Component within EAL Qualifications' (EAF 1)
- The EAL co-ordinator within the Centre will assume responsibility for liaison and correspondence regarding the external assessment component
- Centres will be sampled and spot checks will be carried out by EAL to ensure examinations are delivered in accordance with EAL published procedures.

Re-taking externally set and marked examinations
Learners who fail to achieve a pass in the externally set and marked examination will be permitted to re-take this examination after feedback and appropriate tuition has taken place.

The re-sits for externally set and marked examinations will be subject to the current published charges.

Practice papers
A practice paper is available to learners, which can be accessed via the EAL website (see Section 2.4). The practice paper is not part of the formal assessment arrangements and marks from this paper will therefore NOT count towards the qualification.

6.2 Internal assessment

Internal assessment includes practical and/or theory assessments, which have been designed to assess the knowledge, understanding and skills of learners for individual units. The internal assessment for each unit is set by EAL and marked by members of the delivery team at the Centre. All assessment decisions are then subject to internal standardisation and external quality assurance.

Internal assessments involve collecting and evaluating evidence that demonstrates achievement of the learning outcomes in each unit. The internal Matters of Gas Safety assessments are accompanied by marking criteria, checklists and other materials to ensure that the delivery team is consistent in their approach to internal assessments across learners. The internal assessments and the accompanying marking/assessment criteria can be found in the individual units within the Matters of Gas Safety Workbooks and Learner Packs. Centres are responsible for ensuring that internal assessments are suitably controlled to ensure that assessment decisions are valid and reliable, and that work submitted for assessment by learners is prepared and produced by them independently, without assistance from others, and free of plagiarism.

Where the assessment takes the form of written/short answer or multiple choice question papers, these should be treated as controlled assessments therefore imposing the necessary restrictions on the learner, as necessary. Guidance sheets have also been created to hand out to the learners, to ensure they are aware how to complete the multiple choice and short answer questions papers.

All learning outcomes of the qualification must be assessed. In order to help meet this requirement it is advised that learners should produce a logbook/portfolio where they can file and make reference to evidence that shows their achievements against the learning outcomes. Centres should also maintain an assessment and feedback record for each learner, which details the evidence evaluated against the learning outcome and the feedback given to the learner. These records must be available to the External Quality Assurer.

Re-taking internal assessments
Learners who fail to achieve a pass in the internally marked controlled assessments will be permitted to re-take after feedback and appropriate tuition has taken place.

Standardisation of internal assessments
Members of the internal quality assurance team at the Centre have an important role to play in ensuring that internal assessment is standardised. In particular, they should work with tutor/assessors to ensure that the correct procedures are being followed at all times, and to ensure that assessment decisions taken by different assessors are consistent, fair and reliable. Key activities will include:

- Meeting with tutor/assessors (individually and collectively) throughout the course to discuss quality assurance and standardisation issues and provide support and guidance where needed.
- Observing tutor/assessors and giving them feedback to help improve their assessment technique.
- Sampling learner evidence across different learner cohorts to ensure that appropriate standards have been met.
- Arranging cross-marking of learner work to compare results and agree benchmarks.

6.3 Additional assessment requirements

Generic Core Knowledge Units
All knowledge criteria must be evidenced by learners. EAL has used a variety of assessment methods which will demonstrate that learners have successfully met the unit criteria. These can include closed book written questions, open book written questions, recorded oral questions, projects and assignments.

Specific Gas Performance Units
Learners must be able to practice on all specified unit components within the tables listed

Realistic Working Environment (RWE) assessments must be included in the portfolio of evidence leading to completion of the units in line with the requirements set out for each unit. This must be supplemented by evidence gathered directly from the workplace as required for each unit and a work experience portfolio, signed off as accurate and authentic by a suitably qualified and Gas Safe Registered engineer.

Learners **MUST** demonstrate competence in the workplace during the performance of genuine work activities, by carrying out the tasks and duties that would be reasonably expected of them as a competent operative. Learners will be expected to have demonstrated competence in the assessed tasks over a period of time under normal working conditions to generate a sufficiency of evidence.

The gas industry is highly regulated regarding safety requirements and this is reflected in these qualifications. Certain Gas Safety related assessments must only be carried out under simulated conditions. Gas Safety critical activities within the Units will normally be assessed in a simulated RWE and where necessary these requirements are shown in the units.

Important note:
The assessment strategy has been updated by EU Skills and wider consultation with Industry.

The Performance packs have been updated and merged, were appropriate, to reflect the latest assessment strategy and **must** be used by all new entrants after September 2021

Entrants registered prior to September 2021 can be transferred onto this assessment strategy, **BUT** all evidence gained against the previous assessment strategy must be transferred over and a GAP fill activity carried out.

Evidence will only be accepted if contained within a complete document.

SummitSkills Performance Units
The environment, in which the evidence and the quantity of evidence for **Performance Units** must be assessed, is detailed in each EAL Learner Pack. This can be applicable to all or some of the learning outcomes.

Evidence that is sourced from the real working environment for **Performance Units** must be naturally occurring and can be generated by:

- Direct observation of performance in the workplace by a qualified assessor and/or testimony from an expert witness subject to the activity being assessed. (This will be the primary source of evidence).
- Learner's reflective account of performance.
- Work plans and work based products e.g. diagrams, drawings, specifications, customer testimony, authorised and authenticated photographs/images and audiovisual records of work completed.
- Evidence from prior achievements that demonstrably match the requirements of the Performance Unit.
- Witness testimony

Meeting the assessment requirements of **Performance Units** will need initial discussions and assessment

planning between the learner and assessor, as an essential activity to identify opportunities to assess real working environment evidence, gaps that need to be filled or opportunities to recognise the prior achievement of the learner.

Competence must be demonstrated consistently over a period of time. However SummitSkills the sector skills council, does not wish to stipulate what that period of time might be as this is a decision for the Assessor. Based on their own professional judgement Assessors must be capable of identifying when competence has been demonstrated by the learner.

Simulation and Simulated Conditions for SummitSkill Units

Where simulation is permissible:
Simulation can take place in those rare circumstances where the opportunities to collect naturally occurring evidence are limited or absent and the learner lacks evidence for completion of the unit. However, this scenario is anticipated to be rare in relation to the qualifications and the units to which this strategy applies given the inherent flexibility of the evidence-gathering process. Where simulation does take place it must be in a realistic working environment.

Simulation and simulated conditions is defined as an environment in which simulated activities take place involving the replication of a real working environment. The criteria for which must be to supply fit-for-purpose tools, equipment, full-size components, realistic deadlines and other commercial requirements.

A real working environment is defined as an environment in which real work activities take place under real working conditions in keeping with real commercial situations.

The performance units are designed to allow the assessment centre the opportunity to assess the learner in either the workplace or in simulated conditions. Where simulated conditions are used a practical assignment is detailed within the performance unit.

Matters of Gas Safety
EAL will ensure that all units and the associated "matters of gas safety criteria" are referenced to those issued by Energy & Utility Skills. The "matters of gas safety criteria" are updated on a six monthly cycle and any changes must be implemented in line with the industry requirements agreed with Gas Safe Register.

Important note

These Matters of Gas Safety (MOGs) workbooks are kept in line with the current requirements issued by EU Skills, allowing these qualifications to remain ACS aligned, and the requirements are updated every 6 months to reflect any changes within industry, these changes do not always impact on the requirements for this qualification staying ACS aligned, therefore EAL will only issue new workbooks with the changes affecting alignment with ACS and any changes will be communicated to centres allowing for them to be incorporated in current and future delivery.
For example: if the IGE/UP/1B Testing procedure changed six months prior to the learner completing the qualification, all assessments including testing from the change date, must be completed against the changed procedure standard

Centres **must** ensure they are using the current Matters of Gas Safety Workbooks.

These documents are not available from our on line services portal and must be requested from your current EQA and these will be sent out electronically, this is to ensure centres are registered and future updates can be sent out to the correct individuals at a centre.

Realistic Working Environment (RWE) Gas Assessments

RWE simulated assessment may only be used as specified and, if necessary, with the prior approval of the External Quality Assurer (see previous section). Any approval given by the External Quality Assurer **MUST** be recorded and filed in the centre's Quality Manual and in the 'Learner's Portfolio' for audit purposes.

These assessments will normally be installation and maintenance activities conducted in a workshop area. These areas are considered to be a 'managed' environment because there is a degree of control over the conditions under which the activity is undertaken. The simulation activities and areas will normally include:

- real time pressures;
- a range of appliances, applicable to the assessment types;
- a variety of flue types, e.g. Type 'B', Type 'C', natural & fanned draught with a range of construction methods;
- a range of potential hazards that could realistically be found in a domestic dwelling, e.g. combustible surfaces, opening windows, doors, fans, curtains etc. (Note: these hazards may be simulated);
- a range of installation conditions, e.g. surface installation, under floor installation, through wall installation etc.
- a range of building material types, e.g. brick walls, block walls, plaster board and timber walls.

The RWE must take account of health and safety requirements for risk assessments, gas safety related issues and against other activities where generating evidence is limited.

Recognition of Prior Learning (RPL)
Recognition of Prior Learning (RPL) evidence is an acceptable source of evidence for these qualifications. All evidence shall be sufficient, valid, reliable, authentic and current (within the last three years).

For evidence of gas safety competence the following constraints shall apply:

- Certificates covering the competence criteria for Gas Safe Registration are acceptable as RPL evidence. However, as these do not attest to competence in the other essential aspects of gas installation and maintenance, all unit requirements must be satisfied in full to achieve the qualification. All evidence of current gas safety competence must be demonstrated throughout the qualification being undertaken.

All RPL evidence must be approved by the centre's RPL Advisor. The RPL Advisor shall hold D36 or equivalent.

ACS acceptance as part of a regulated qualification
ACS evidence can be accepted against RWE assessments and relevant knowledge and understanding criteria contained in the Matters of Gas Safety criteria. The requirements are as follows:

a) ACS obtained prior to registration.

   Where ACS is obtained prior to registration all assessments of experience and workplace assessment requirements tabulated in this document must still be adhered to.

b) ACS obtained whilst undertaking the qualification.

   Where ACS is obtained whilst undertaking a qualification, all the assessment of experience and work place evidence requirements tabulated within this document must be achieved prior to the completion of the ACS.

Note: The relevant ACS assessments, must have at least 36 months remaining until the individual assessments expire at the time of claiming the full regulated qualification.

All RPL evidence must be approved by the centre's RPL Advisor. The RPL Advisor shall hold D36 or

equivalent. Due consideration needs to be given the risks involved in accepting third party certificated evidence, not least the consideration that the third party certificate may be withdrawn at any time without the knowledge of the centre who have accepted it as evidence.

Gathering Evidence
In order to achieve a qualification, Learners must produce sufficient evidence of competence. Documentation must be provided to ensure that evidence of competence is gathered, organised and recorded in a uniform manner across all centres.

Where appropriate, learners may provide evidence of prior learning (see RPL Section of section 6)

Witness testimony may be used as supporting evidence to cover the range of activities not covered naturally by workplace assessment. This evidence will normally be via a completed document signed by a 'Technically and Occupationally Competent Witness' (the centre's EQA will be able to give further advice on the use of witness testimony).

Note: Witness testimony is **not acceptable** as evidence to meet the "Matters of Gas Safety" criteria, incorporated into each qualification.

The Learner's Portfolio
The learner portfolio documents the evidence which will demonstrate learner progress. It records their assessment achievement, development and work experience leading to the attainment of their chosen qualification.

The 'Learner's Portfolio' could be made up of a combination of the following:

- Summary of the results from knowledge & understanding question papers
- Summary of the results from assessments (RWE/Workplace)
- Assessment sheets
- Copies of all learner specific questions together with a record of the answers given (oral or written)
- Feedback sheets
- Workplace experience evidence
- Witness statements
- Work method statements
- Evidence of prior learning (RPL Evidence)
- Assessor assessment plans - feedback to Learners
- Company or employer job sheets and specifications
- Curriculum Vitae
- Photographic evidence

Witness Testimony
Witness Testimony can **NOT** be accepted as a primary source of evidence for all work activities. Witness Testimony may be used as supporting evidence to cover the range of activities not covered by Workplace Assessment or RWE Assessment.

Witness Testimony evidence can only be accepted if the testimony is completed by a Technically and Occupationally Competent Witness and will normally be in the form of a completed and signed source of evidence with other supporting evidence (e.g. company or employer job sheets, photographic evidence). The centre's External Quality Assurer will be able to give further advice on the use of witness testimony.

The evidence provided by Witness Testimony and other non-observed sources must be substantiated by an Assessor (e.g. by confirming the suitability of the witness and by professional discussion). Once the evidence has been substantiated and suitably documented, then it can be referenced to the appropriate record of achievement by the Assessor.

Written and Oral Questioning

Assessors should use questioning where they consider it is appropriate to fully cover the subject area being assessed and to allow the Learner to evidence their full understanding.

When using oral questions, Assessors should be mindful of the effect their behaviour can have on the Learner's performance. Questions should be asked in the spirit of gaining information rather than pressurising a Learner by creating the atmosphere of a test.

ALL oral questions must be relevant to the assessment criteria and the Assessor **MUST NOT** coach or lead the Learner towards providing correct answers. The Assessor **MUST NOT** ask the Learner any 'leading' or 'closed' questions. Assessors should take care to ask clear questions.

Questions and the Learner's responses should be recorded on the appropriate assessment documentation.

Feedback
Learners shall be given feedback at appropriate times during the completion of their qualification, as determined suitable by the Assessor, employer, mentor, etc. This would normally be associated with an assessment activity with Assessor involvement and should be given as soon as practical after the completion of the activity.

It is important that a copy of all feedback and oral questioning sessions with Learners are kept for inclusion in the Learner Portfolio.

7.0 External Quality Control of Assessment

There are two major points where an awarding organisation interacts with the centre in relation to the external quality control of assessment for a qualification and these are:

- **Recognition:** When a Centre decides to offer the qualification, the EAL External Quality Assurers (EQAs) ensures that the Centre is suitably equipped and prepared for delivery and assessment.
- **Engagement:** Throughout the ongoing delivery of the qualification EAL, through EQA monitoring and other mechanisms will review the quality and consistency of assessment and internal quality assurance and recommend actions to address issues of concern.

Recognition

In granting approval, EAL, normally through its EQAs, will ensure that the prospective Centre:

- Meets any procedural requirements specified by EAL.
- Has sufficient and appropriate physical and staff resources.
- Meets relevant health and safety and/or equality and access requirements.
- Has a robust plan for the delivery, assessment and QA for the qualifications (including, where appropriate, scope for involving employers).

EAL may decide to visit the Centre to view the evidence provided.

Engagement

EAL, through EQA Engagement and other mechanisms will ensure that:

- A strategy is developed and deployed for the on-going monitoring of the centre – this will be based on an active risk assessment of the Centre, and will include details of the learner, assessor and internal quality assurer's sampling strategy and the rationale behind this.
- The Centre's internal quality assurance processes are effective in learner assessment.
- Outcomes of internal assessment are verified, through sampling, to ensure standards are being maintained.
- Sanctions are applied to a Centre where necessary and that corrective actions are taken by the Centre and monitored by the EQA.
- Reviews of EAL's external auditing arrangements are undertaken.

Appendix 1: Examination Specification

Unit: DSG 1.1 - Understanding health and safety in gas utilisation

Assessment type: Multiple choice
Number of questions: 60

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the health and safety legislation	10%
2	Know the health and safety measures for gas utilisation	13%
3	Know the regulations covering the use and disposal of hazardous substances	14%
4	Know manual handling methodology and lifting techniques	7%
5	Know how to identify and respond to accidents which occur at work	20%
6	Know the requirements for maintaining electrical safety, earthing protection systems and associated dangers	15%
7	Know fire safety	8%
8	Know the safety requirements for working at heights	8%
9	Know how to work safely in confined spaces	5%
	Total	100%

Unit: DSG 1.2 - Understanding scientific principles in gas utilisation

Assessment type: Multiple choice
Number of questions: 20

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the Système Internationale (SI) units and uses within gas utilisation	50%
2	Know the sources of energy and heat transfer	25%
3	Know the combined gas laws	10%
4	Know energy efficiency legislation	15%
	Total	100%

Appendix 1: Examination Specification

Unit: DSG 1.3 - Understanding combustion and properties of gas

Assessment type: Multiple choice
Number of questions: 30

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the natural gas supply network and LPG supplies	16%
2	Know the operation pressure regulators	10%
3	Know the factors affecting pressure loss and the equipment used to measure gas pressure	10%
4	Understand the combustion of gases, and potential risks	27%
5	Know gas burner operation, design, features and types	20%
6	Know the properties and characteristics of NG and LPG	17%
	Total	100%

Unit: DSG 1.4 - Understanding buildings, services and structures

Assessment type: Multiple choice
Number of questions: 55

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the types and characteristics of construction materials	15%
2	Know the construction methods of buildings and how to read and interpret plans	9%
3	Know how to use hand and power tools within gas utilisation	11%
4	Know the installation requirements, methods and materials for gas pipework (NG and LPG)	16%
5	Know the ventilation requirements, types and methods	27%
6	Know the different types and operation of suitable chimney systems for gas appliances	14%
7	Know the methods for checking and testing chimney performance	8%
	Total	100%

Appendix 1: Examination Specification

Unit: DSG 1.5 - Understanding gas safety

Assessment type: Multiple choice
Number of questions: 60

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know industry specific legislation and standards	4%
2	Know gas safety legislation	6%
3	Know the gas emergency actions, responsibilities and procedures relevant to the industry	5%
4	Know the Gas Industry Unsafe Situations Procedure	8%
5	Know the gas operative's responsibilities in accurately completing emergency notices, warning labels and forms	5%
6	Know the correct installation locations and types of Emergency Control and Appliance Isolation Valves	5%
7	Know and understand the requirements for Natural Gas and LPG meter installations up to .035cu mtrs	5%
8	Know the types of gas meter housings and compartments and the requirements for installation and labelling	7%
9	Know the methods and requirements to tightness test and purge small gas installations. (NG and LPG)	18%
10	Know how to check and set gas installation operating pressures at gas meters and LPG regulators	3%
11	Know how to safely assess the potential risks, tightness test and re-light temporarily isolated appliances	3%
12	Know how to check and set appliance burner pressures and compare measured gas rates with published figures	5%
13	Know the principles of operation and methods of testing gas appliance safety controls	8%
14	Know how to safely work in customers' premises and liaise with clients regarding the progress of the job	12%
15	Know where to acquire information and documentation used during their daily work activities	3%
16	Know the regulations in force to protect the environment and control waste	3%
	Total	100%

Appendix 1: Examination Specification

Unit: DSG 2.1 – Specific core emergency

Assessment type: Multiple choice
Number of questions: 30
Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Identify the gas industry legislation that applies to Emergency First Call Operatives (FCO)	12%
2	Know the purpose and operation of typical gas controls	12%
3	Know how the control of pressure and gas flow is achieved	16%
4	Identify meter housings and compartments for industrial and commercial applications	12%
5	Know the installation requirements for industrial and commercial natural gas meter installations	12%
6	Identify industrial and commercial natural gas meter installation	12%
7	Know pipework materials and types of fittings that may be used for gas installations	20%
8	Know the construction and operation of chimneys used for domestic gas appliance	4%
	Total	100%

Unit: DSG 2.2 – Specific core metering

Assessment type: Multiple choice
Number of questions: 20
Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Identify the range and capacities of domestic gas meters	50%
2	Identify the specification for domestic gas meter housings	30%
3	Identify the requirements for emergency control and bypass valves on domestic gas meter installations	10%
4	Know the construction and operation of chimneys used for domestic gas appliances	10%
	Total	100%

Appendix 1: Examination Specification

Unit: DSG 2.3 – Specific core installation and maintenance

Assessment type: Multiple choice
Number of questions: 20

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
3	Know the construction and operation of chimneys used for domestic gas appliances	10%
5	Identify and complete the correct notices, forms and labels used in domestic gas utilisation	25%
6	Demonstrate how to work correctly and safely with electrical systems and components used in domestic gas utilisation	30%
11	Install and commission a small domestic gas installation	10%
12	Calculate the requirements for permanent ventilation in domestic gas utilisation environments	25%
	Total	100%

Unit: DSG 3.21 – Water compulsory core

Assessment type: Multiple choice
Number of questions: 60

Closed Book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the energy conservation legislation that applies to the building services industry	7%
2	Know the applications of energy sources used in the building services industry	16%
3	Know the importance of energy conservation when commissioning building services systems	6%
4	Know the methods of reducing waste and conserving energy while working in the building services industry	7%
5	Know how to safely dispose of materials used in the building services industry	7%
6	Know the methods of conserving and reducing wastage of water within the building services industry	7%
7	Know the principles of plumbing science and how to apply them in the workplace	25%
8	Know plumbing processes and how to apply them in the workplace	25%
	Total	100%

Appendix 1: Examination Specification

Unit: DMES2 02 Understand and apply domestic cold water system installation and maintenance techniques

Assessment type: Multiple choice
Number of questions: 60

Permitted documents

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the cold water supply route to dwellings	8%
2	Know the types of cold water system and their layout requirements	33%
3	Know the site preparation techniques for cold water systems and components	10%
4	Know the installation requirements of cold water systems and components	21%
5	Know the service and maintenance requirements of cold water systems and components	10%
6	Know the decommissioning requirements of cold water systems and components	9%
7	Know the inspection and soundness testing requirements of cold water systems and components	9%
	Total	100%

Normative references for use in this open book examination:

- Water Regulations Guide by Laurie Young & Graham May, published by WRAS, 2000
- BS EN 806 "Specifications for installations inside buildings concerning water for human consumption" which consists of five parts:
  - Part 1: General
  - Part 2: Design
  - Part 3: Pipe sizing — Simplified method
  - Part 4: Installation
  - Part 5: Operation and maintenance
- BS 8558:2011 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages. Complementary guidance to BS EN 806
- BS 8000 part 15 - Workmanship on building sites. Code of practice for hot and cold water services (domestic scale)
- Building Regulations Approved Document A (D in Northern Ireland), freely downloaded at www.planningportal.gov.uk (www.dfpni.gov.uk in Northern Ireland)
- Building Regulations Approved Document G (P in Northern Ireland), freely downloaded at www.planningportal.gov.uk (www.dfpni.gov.uk in Northern Ireland)

Appendix 1: Examination Specification

Unit: DMES2 03 Understand and apply domestic hot water system installation and maintenance techniques

Assessment type: Multiple choice
Number of questions: 60

Permitted documents

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the types of hot water system and their layout requirements	43%
2	Know the site preparation techniques for hot water systems and components	10%
3	Know the installation requirements of hot water systems and components	20%
4	Know the service and maintenance requirements of hot water systems and components	10%
5	Know the decommissioning requirements of hot water systems and components	9%
6	Know the inspection and soundness testing requirements of hot water systems and components	8%
	Total	100%

Normative references for use in this open book examination:

- Water Regulations Guide by Laurie Young & Graham May, published by WRAS, 2000
- BS EN 806 "Specifications for installations inside buildings concerning water for human consumption" which consists of five parts:
  - Part 1: General
  - Part 2: Design
  - Part 3: Pipe sizing — Simplified method
  - Part 4: Installation
  - Part 5: Operation and maintenance
- BS 8558:2011 Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages. Complementary guidance to BS EN 806
- BS 8000 part 15 - Workmanship on building sites. Code of practice for hot and cold water services (domestic scale)
- Building Regulations Approved Document A (D in Northern Ireland), freely downloaded at www.planningportal.gov.uk (www.dfpni.gov.uk in Northern Ireland)
- Building Regulations Approved Document G (P in Northern Ireland), freely downloaded at www.planningportal.gov.uk (www.dfpni.gov.uk in Northern Ireland)
- Domestic Building Services Compliance Guide, freely downloaded at www.planningportal.gov.uk

Appendix 1: Examination Specification

Unit: DMES2 04 Understand and apply domestic central heating system installation and maintenance techniques

Assessment type: Multiple choice
Number of questions: 60

Permitted documents

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the uses of central heating systems in dwellings	5%
2	Know the types of central heating system and their layout requirements	33%
3	Know the site preparation techniques for central heating systems and components	10%
4	Know the installation requirements of central heating systems and components	25%
5	Know the service and maintenance requirements of central heating systems and components	10%
6	Know the decommissioning requirements of central heating systems and components	10%
7	Know the inspection and soundness testing requirements of central heating systems and components	7%
	Total	100%

Normative references for use in this open book examination:

- Water Regulations Guide by Laurie Young & Graham May, published by WRAS, 2000
- Building Regulations Approved Document A (D in Northern Ireland), freely downloaded at www.planningportal.gov.uk (www.dfpni.gov.uk in Northern Ireland)
- CIBSE Domestic Heating Design Guide, published by CIBSE, 2007
- Domestic Building Services Compliance Guide, freely downloaded at www.planningportal.gov.uk

Appendix 1: Examination Specification

Unit: DMES3 05 Understand and Apply Domestic Cold Water System Installation, Commissioning, Service and Maintenance Techniques

Assessment type: Multiple choice
Number of questions: 40

Closed book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the legislation relating to the installation and maintenance of cold water supplied for domestic purposes	8%
2	Know the types of cold water system layout used in multi-storey dwellings	15%
3	Know the types of cold water system layout used with single occupancy dwellings fed by private water supplies	10%
4	Know the requirements for backflow protection in plumbing systems	27%
5	Know the uses of specialist components in cold water systems	12%
6	Know the design techniques for cold water systems	Assignment
7	Know the fault diagnosis and rectification procedures for cold water systems and components	Assignment
8	Know the commissioning requirements of cold water systems and components	28%
	Total	100%

Unit: DMES3 06 - Understand and Apply Domestic Hot Water System Installation, Commissioning, Service and Maintenance Techniques

Assessment type: Multiple choice
Number of questions: 50

Closed book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the types of hot water system and their layout requirements	32%
2	Know the uses of specialist components in hot water systems	10%
3	Know the design techniques for hot water systems	Assignment
4	Know the installation requirements of hot water systems and components	16%
5	Know the fault diagnosis and rectification procedures for hot water systems and components	20%
6	Know the commissioning requirements of hot water systems and components	22%
	Total	100%

Appendix 1: Examination Specification

Unit: DMES3 07 - Understand and Apply Domestic Central Heating System Installation, Commissioning, Service and Maintenance Techniques

Assessment type: Multiple choice
Number of questions: 30

Closed book

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the types of central heating system and their layout requirements	30%
2	Know the design techniques for central heating systems	Assignment
3	Know the installation requirements of central heating systems and components	Assignment
4	Know the fault diagnosis and rectification procedures for central heating systems and components	30%
5	Know the commissioning requirements of central heating systems and components	40%
	Total	100%

Unit: QMES3/ 02 - Understand and Carry out Electrical Work on Domestic Plumbing and Heating Systems and Components

Assessment type: Multiple choice
Number of questions: 55

Permitted documents

The examination will cover the knowledge learning outcomes of the units as follows:

Nº	LO title	Approximate coverage
1	Know the electrical standards that apply to the mechanical services industry	7%
2	Know the principles of electricity supply to buildings	7%
3	Know the layout features of electrical circuits in buildings	25%
4	Know the site preparation techniques for the electrical connection of Mechanical services components	11%
5	Know the inspection and testing requirements of electrically operated mechanical services components	11%
6	Know the procedures for safely diagnosing and rectifying faults in electrically operated mechanical services components	16%
7	Understand the electrical industry safe isolation procedure	7%
8	Understand the installation and connection requirements of electrically operated mechanical services components	16%
	Total	100%

Normative references for use in this open book examination:

- IET On Site Guide

Appendix 2: Occupational Competence for Assessors

Assessors must either be able to demonstrate that they are registered and up-to-date with their registration with an appropriate approved industry registration body or have one or more of a **relevant** occupational qualification (See example list below) to ensure that they can be regarded as occupational competent in terms of assessing or verifying this qualification, and units therein.

NVQs/SVQs at the appropriate level or their equivalents in the Qualifications and Credit Framework:

- Plumbing
- Plumbing (Domestic) (SVQ)
- Heating and Ventilating (Rectification of Systems)
- Heating and Ventilating Installation (Domestic, Ductwork or Industrial & Commercial)

Other certificates in competences that have been aligned, and are supplemental, where relevant, to the above:

- A relevant brazing or pipe-fitting qualification
- Accredited Certification Scheme(ACS)
    - CCN1: General Gas Safety
    - CEN1: Installation of central heating boilers
    - HTR1: Installation of gas fired heaters
    - CKR1: Installation of gas cookers
    - WAT1: Installation of gas water heaters

- BRA/CITB Brazing Assessment
- Level 3 NVQ in Gas Emergency Service Operations
- Level 2 NVQ in Domestic Natural Gas Installation and Maintenance
- Level 3 NVQ in Domestic Natural Gas Installation and Maintenance
- Relevant OFTEC and/or HEATAS qualifications
- Qualifications recognised under DCLG Competent Person Schemes
- Unvented Hot Water external assessment to Building Regulations and/or Building Standards requirements
- Water Supply Regulations (1999)
- Water Byelaws (2000)

Assessors and verifiers who have relevant qualifications pre-NVQ and post-NVQ which are not competence-based must provide verifiable evidence that they are occupationally competent.
This evidence must demonstrate that the assessor/verifier has up-to-date knowledge of the industry/ occupation.

Appendix 3: Learner Registration and Certification

Learners must be registered with EAL on a code which relates to the qualification -this must be completed prior to assessment. Both learner registration and certification can be completed on line at the EAL Website www.eal.org.uk. For paper based registration and certification use forms LRF1 Learner registration form, and CAF1A Certificate application form.

To Register the Learner on the Chosen Qualification Code:

Qualification Title	Code
EAL Level 3 Diploma in Gas Utilisation: Core Skills and Knowledge	600/0577/4
EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers and Leisure	600/0574/9
EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Water Heating and Wet Central Heating	600/1661/9
EAL Level 3 Diploma in Gas Utilisation Installation and Maintenance: Cookers, Tumble Dryers, Leisure and Domestic Space Heating	600/0576/2
EAL Level 3 Diploma for Gas Emergency First Call Operative	600/0575/0