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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

2.0 Introduction to the qualification

What is this qualification?

The qualification is based on the Plumbing and Domestic Heating Technician Standard which describe the skills, knowledge and understanding to undertake a particular job or task to a nationally recognised level of competence. This qualification requires occupational evidence.

Who is this qualification for?

- Individuals who are employed in the plumbing and domestic heating industry
- Learners employed on the industry recognised apprenticeship standard
- Individuals employed as:
 - Domestic Heating Engineer
 - Domestic Heating Installer
 - Plumbing and Domestic Heating Installer
 - Plumbing and Domestic Heating Engineer

What does this qualification cover?

The skills and knowledge needed to plan, select, install, service, commission and maintain all aspects of plumbing and heating system, also covered are customer service skills and being tidy and respectful as these are important qualities while working in customers' homes as well as on building sites; with an optional pathways in Natural Gas, environmental technologies, oil and solid fuel.

The units and associated assessments, which are listed in [Section 3.0](#) and in [Section 6.0](#) of this manual.

2.1 Accreditation and industry support for this qualification

The qualification is:

- Accredited by Ofqual at level 3
- Is supported by Industry and forms part of their Apprenticeship Standard
- Has been developed in conjunction with industry and training providers.

2.2 Achievement of the qualification

This qualification is gained when all the necessary units have been achieved. The centre will then be able to apply for the learner's Certificate. The learner will also receive a Certificate of Unit Credit, listing all the units they have achieved.

Before a learner undertakes an optional pathway they must first complete all the mandatory units.

2.3 What are the progression opportunities?

The qualifications also provide progression into the following:

- EAL BSE qualifications

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
- **Controlled knowledge assessments:** which contain knowledge assessments that must be completed by the learner under appropriately controlled conditions
- **#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

<https://sap.eal.org.uk/irj/portal> - Online services

3.0 Rule of Combination (Qualification Structure)

EAL Level 3 Diploma in Plumbing and Domestic Heating

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

Before a learner undertakes an optional pathway they must first complete all the mandatory units, which will be delivered and assessed across the 4 phases, details on the outline structure can be found below (see [Section 6](#) for further information about assessment).

Achievement of the qualification will require at least 1467 Guided Learning Hours (GLH) and has 1825 hours Total Qualification Time.

Mandatory units: These units must be achieved:

Unit	Unit title	GLH	Ofqual code
PDH3-001	Health and safety systems	88	Y/617/4394
PDH3-002	Common processes and techniques	88	D/617/4395
PDH3-003	Scientific principles	70	H/617/4396
PDH3-004	Planning and supervision	54	K/617/4397
PDH3-005	Cold water systems	138	M/617/4398
PDH3-006	Hot water systems	138	T/617/4399
PDH3-007	Central heating systems	180	D/617/4400
PDH3-008	Rainwater systems	30	H/617/4401
PDH3-009	Sanitation systems	106	K/617/4402
PDH3-010	Environmental technology systems	15	M/617/4403
PDH3-011	Domestic fuel systems	30	T/617/4404
PDH3-012	Electrical work and the control of plumbing and domestic heating systems	70	A/617/4405
PDH3-013	Install, commission, service and maintain domestic plumbing and heating systems	60	F/617/4406

Phase One: Health and Safety:

The learner must achieve this phase before attempting any further phase assessment requirements.

Unit	Unit title	Ofqual code
PDH3-001	Health and safety systems	Y/617/4394

Phase One: Core units:

This phase is made up of a selection of learning outcomes and assessment criteria from the following units

The learner must achieve this phase before attempting any phase two assessment requirements.

Unit	Unit title	Ofqual code
PDH3-002	Common Processes and Techniques	D/617/4395
PDH3-003	Scientific principles	H/617/4396
PDH3-004	Planning and Supervision	K/617/4397
PDH3-005	Cold Water Systems	M/617/4398
PDH3-006	Hot Water Systems	T/617/4399
PDH3-007	Central Heating Systems	D/617/4400
PDH3-008	Rainwater Systems	H/617/4401
PDH3-009	Sanitation Systems	K/617/4402

Phase Two: Core units:

This phase is made up of a selection of learning outcomes and assessment criteria from the following units

The learner must achieve this phase before attempting any phase three assessment requirements.

Unit	Unit title	Ofqual code
PDH3-003	Scientific principles	H/617/4396
PDH3-005	Cold Water Systems	M/617/4398
PDH3-006	Hot Water Systems	T/617/4399
PDH3-007	Central Heating Systems	D/617/4400
PDH3-008	Rainwater Systems	H/617/4401
PDH3-009	Sanitation Systems	K/617/4402

Phase Three: Core units:

This phase is made up of a selection of learning outcomes and assessment criteria from the following units

The learner must achieve this phase before attempting any phase four assessment requirements.

Unit	Unit title	Ofqual code
PDH3-005	Cold Water Systems	M/617/4398
PDH3-006	Hot Water Systems	T/617/4399
PDH3-007	Central Heating Systems	D/617/4400
PDH3-008	Rainwater Systems	H/617/4401
PDH3-009	Sanitation Systems	K/617/4402
PDH3-010	Environmental technology systems	M/617/4403
PDH3-011	Domestic fuel systems	T/617/4404
PDH3-012	Electrical work and the control of plumbing and domestic heating systems	A/617/4405
PDH3-013	Install, commission, service and maintain domestic plumbing and heating systems	F/617/4406

Phase Four: Pathways:

Mandatory for **all** Pathways:

Unit	Unit title	Ofqual code
PDH3-004	Planning and Supervision	K/617/4397

Pathway Option: (GAS) Natural Gas:

Unit	Unit title	GLH	Ofqual code
PDH3-014	Specific Domestic Core Safety for Natural Gas.	190	J/617/4407
PDH3-015	Install and maintain gas water heating and wet central heating appliances	260	L/617/4408

Pathway Option: (ENV) Environmental Technologies:

Unit	Unit title	GLH	Ofqual code
PDH3-016	Air Source Heat Pump Systems	160	R/617/4409
PDH3-017	Rainwater harvesting and greywater reuse systems	130	J/617/4410
PDH3-018	Solar Thermal Hot Water Systems	160	L/617/4411

Pathway Option: (OIL) Oil

Unit	Unit title	GLH	Ofqual code
PDH3-019	Core principles of oil fuel systems for dwellings (safety and efficiency)	170	R/617/4412
PDH3-020	Install, commission, maintain and service oil systems and appliances in the work place	230	Y/617/4413

Pathway Option: (SOL) Solid Fuel

Unit	Unit title	GLH	Ofqual code
PDH3-021	Safety principles (solid mineral fuel and biomass combustion)	170	D/617/4414
PDH3-022	Plan, install, commission, service and maintain solid mineral fuel and biomass combustion appliances	230	H/617/4415

Content of the units

Each unit that forms part of the qualification relates to a defined area of skills and/or knowledge and contains the following information:

- **A unit title** – this provides a concise description of unit content
- **Guided learning hours (GLH)** – this is the number of hours of teacher-supervised or directed study time that is normally required to teach the content of the unit
- **Unit aim** – this sets out the broad purpose and objective of the unit
- **Unit assessment information** – this sets out the assessment methods for the unit and/or other specific requirements that need to be adhered to in assessing the unit
- **Learning outcomes** – these specify what a learner is expected to know, understand or be able to do as a result of the process of learning
- **Assessment criteria** – these specify the standard a learner is expected to meet to demonstrate that the learning outcomes of the unit have been achieved, and will be used as the basis for any assessments that the learner undertakes.

4.0 Centre and qualification approval

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

For existing EAL centres to put the qualifications on your centre remit:

- To add these qualifications 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 qualifications:

- 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

5.0 Profiles and requirements

The staff involved in the delivery of these qualifications 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 these qualifications, submitting entries for externally set assessments to EAL, and taking receipt of external assessment procedures (if appropriate). 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 occupation/s covered by this qualification
- The qualification structure and content
- The learning outcomes and assessment criteria they are delivering.

It is a recommendation that the trainer/instructor will:

- Have 2 years' experience in teaching/training
or
- Be working towards an appropriate teaching/training qualification
or
- Hold an appropriate teaching/training qualification (e.g. Cert Ed or Learning and Development trainer units).

5.3 Assessors

Assessors for all units 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. Candidate 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.

Industry experience

Assessors must have verifiable evidence of industry experience and current knowledge of the industry, including its settings, working practices and techniques, legislative and regulatory requirements, Codes of Practice and guidance that are relevant to the occupational area. The verifiable evidence must be at or above the level being assessed and include one or more of the following:

- A relevant qualification ([See Appendix 3](#))
- 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.

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.

Assessor continuing professional development

The occupational competence of assessors must be updated on a regular basis and be periodically confirmed via continuing professional development (CPD) via the Assessment Centre. Evidence of CPD will be sought by the External Quality Assurer (EQA) for all approved Assessors at the Centre.

It is the responsibility of each assessor 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.

Further Requirement for Assessors of PDH3-012: 'Electrical Work and the Control of Plumbing and Domestic Heating Systems'

The person responsible for assessing Unit PDH3-012 must be competent in the technical areas of the unit. This means that assessors must have an NVQ in the technical area and/or relevant up-to-date CPD. An assessor without this evidence of competence must engage a qualified electrician to directly observe all the critical safety aspects of the assessment.

Assessor occupational competence requirements for the Natural Gas Pathway

The direct observations must be carried out by the Principal Assessor or Expert Observer and their roles and responsibilities are as follows:

Principal Assessor

- Occupationally competent in the sector/qualification being assessed.
- Assessor qualified and registered with the centre.
- Principal Assessors must be fully conversant with the assessments and subject to annual review by an IQA.

Expert Observer

- Occupationally competent, suitably experienced, trained and registered with the centre.
- Training must include the requirements of assessment and the completion of related direct observation documentation.
- Training must be documented and recorded within quality assurance documentation and be subject to annual review by an IQA
- Expert Observers will be subject to the same internal quality assurance process as Assessors (see note* relating to enhanced quality assurance).
- Expert Observers must demonstrate proof of gas safe registration

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

Notes:

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

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 five 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.

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.

Qualifications

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

- Level 3 Diploma in Gas Utilisation
- SQA S/NVQ in Domestic Natural Gas (Level 3) or
- City & Guilds 662 Certificate for Service Engineers (Gas) or
- City & Guilds 598-2 Certificate in Gas Installation Studies or
- City & Guilds 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. The External Quality Assurer must keep a record of any such decisions.

In addition to the above qualifications, all principal assessors must hold a current certificate of gas safety competence in the areas of gas work they will be assessing that is not more than five years old (either current ACS Certificates of Gas Safety Competence or an aligned qualification are acceptable). For elective units, principal assessors must hold a relevant qualification and/or evidence of current competency in the areas they will be assessing.

5.4 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 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.

Internal Quality Assurers must demonstrate occupational competence – that is, provide verifiable evidence of one of the following:

- a level 3 NVQ in plumbing
- a related building services engineering qualification with proven technical expertise
- a related building services engineering qualification with access to plumbing technical expertise to support IQA activities.

Internal quality assurance staff requirements for Gas Units (PDH3-014, 015)

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

- Level 3 Diploma in Gas Utilisation

or

- 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).

Principle Assessors and Internal Quality Assurer's cannot be involved in the training of Candidates they are assessing or internally quality assuring.

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.

5.5 Expert Witnesses

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.

Where either Expert Observers, Expert Witnesses and Mentors are the same person the centre must identify, record and mitigate any conflicts of interest and risk to impartiality

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

5.6 Pathway Direct Observations (Environmental Technologies, Oil, Solid Fuel)

Direct observation evidence from the workplace may be gathered by a trained, but not necessarily qualified assessor to form a portfolio that is then assessed as diverse evidence, by a qualified assessor.

The evidence provided by the "Workplace Assessor" 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 "Workplace Assessors" 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 workplace assessors to hold an assessor qualification, as a qualified assessor must assess the performance evidence provided by a workplace assessors.
- Evidence from workplace assessors must meet the tests of validity, reliability, authenticity and sufficiency.
- Workplace assessors will need to demonstrate they have:
 - qualification/s in the technical area,
 - verifiable CV indicating experience in the technical area,
 - current registration with an appropriate professional body to demonstrate competence to act as an assessor for the specific occupational pathway,
 - had training and mentoring in the assessment methods they will be using,
 - relevant current knowledge of industry working practices and techniques,
 - no conflict of interest in the outcome of their evidence.

Evidence of training and mentoring for the Workplace Assessor must be kept and made available to the EAL External Quality Assurer.

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

5.7 Learners with Particular Requirements

There are no formal entry requirements for this qualification; although Centres should ensure that the learners have the potential to achieve the units selected within this qualification. Learners must have the minimum levels of literacy and numeracy to comply with the health and safety aspects of the scheme, the completion of the learning outcomes and the assessments.

EAL expects its centres to enable individuals to have equal access to training and assessment for qualifications irrespective of their sex, marital status, age, religion, colour, race, nationality, ethnic origin or disability. In essence centres must deliver our qualifications and units in accordance with relevant Equalities Legislation.

Centres are required to have in place a policy to ensure that such discrimination does not occur either directly, indirectly or as a result of pressure from other bodies. This policy should apply to all satellites and there should be arrangements in place to monitor its application and effectiveness.

Centres should make learners with particular requirements aware of the practical and theoretical content of the qualification and they should be given every opportunity to complete the qualification. EAL will consider any reasonable requests for and from, those with disabilities that would help them to achieve the learning outcomes without compromising the standards required. Aids or appliances, which are designed to alleviate disability, may be used during assessment, providing they do not compromise the standard required. Any requests will be considered in line with EAL's Reasonable Adjustments Policy.

5.8 Age restrictions

Learners must be at least 16 years old.

5.9 Staff invigilating assessments under controlled conditions

Members of staff with responsibility for invigilating on-screen tests must know, understand and comply with the [Procedures for Conducting the Exam Component within EAL Qualifications' \(EAF 1\)](#), which are published by EAL. These members of staff must also:

- Have experience in conducting and controlling exam sessions
- **Or**
- Be supervised by an individual experienced in conducting and controlling exam sessions

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

5.10 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, where appropriate. Arrangements for first aid and emergency action in case of accident must be in place.

For practical assessments, the required resources or guidance will be detailed within the associated documentation provided by EAL.

6.0 Assessment

The following table indicates the assessment components that are included in these qualifications, 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 examinations ¹	EAL	EAL	Examination invigilation	Moderation of test results and spot checks
Assignments/practical tests ²	EAL	Centre	On-going standardisation within the Centre	Verification and continuous monitoring via EQA visits
Environmental design assessment ³	Centre	Centre	Standardisation, including moderation of learner marks	Approval of design assessment

1 Refer to [Section 6.1](#) External Examinations.

2 Refer to [Section 6.2](#) Internal (EAL Set and Centre Marked) Assessments.

3 Refer to [Section 6.3](#) Internal (Centre Devised and Marked) Assessments.

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

A breakdown showing the assessment requirements for individual units is shown in the table below:

Phased assessment breakdown

Phase	On-Screen Exam	Centre marked Assignment/ Practical	On-site Performance Evidence
One - Health and Safety	Yes (PDH3 HS1)	No	No
One - Core	Yes (PDH3 PT1)	Yes	No
Two - Core	Yes (PDH3 PT2)	Yes	Yes
Three - Core	Yes (PDH3 PT3)	Yes	Yes

Phase 4 Pathways:

Pathway: Gas:

Unit title	On-Screen Exam	Centre marked Assignment/ Practical	On-site Performance Evidence
Specific Domestic Core Safety for Natural Gas.	No	YES MOGs/RWE Workbooks	No
Install and maintain gas water heating and wet central heating appliances	Yes (PDH3-04-Gas-C)	MOGs/RWE Workbook	Yes

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.

Important requirements for practical assessments of gas units

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

Pathway: Environmental:

Unit title	On-Screen Exam	Centre marked Assignment/ Practical	On-site Performance Evidence
Air Source Heat Pump Systems	Yes (PDH3-04-Env-A)	Yes Simulated performance and Centre set, centre marked design assignment	Yes (Evidence is required for at least one technology)
Rainwater harvesting and greywater reuse systems			
Solar Thermal Hot Water Systems			

Pathway: Oil:

Unit title	On-Screen Exam	Centre marked Assignment/ Practical	On-site Performance Evidence
Core principles of oil fuel systems for dwellings (safety and efficiency)	The evidence for these assessments will be satisfied by completing the OFTEC external assessments		No
Install, commission, maintain and service oil systems and appliances in the work place			Yes

Pathway: Solid Fuel:

Unit title	On-Screen Exam	Centre marked Assignment/ Practical	Performance Evidence
Safety principles (solid mineral fuel and biomass combustion)	The evidence for these assessments will be satisfied by completing the HETAS external assessments		No
Plan, install, commission, service and maintain solid mineral fuel and biomass combustion appliances			Yes

6.1 External assessment

An externally set and marked on-screen examination has been designed to assess the knowledge and understanding in each of the units of the qualification.

A specification for each examination, indicating the number of questions to be set for each learning outcome, is provided in [Appendix 2](#).

Key Points

- External examinations are available on demand
- Each 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' \(EAF 1\)](#)
- Results are normally released within 24 hours, subject to external moderation
- 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.
- Sample examination questions are available from EAL (see [Section 2.4](#))

Re-taking externally set and marked examinations

Learners who fail to achieve a Pass in any externally set and marked examination will be permitted to re-take this assessment, as follows:

- **First attempt** post assessment feedback, resit **within** 14 days.
- **Second attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.
- **Third attempt** post assessment feedback, resit **within** 14 days.
- **Fourth attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.

If the fourth attempt results in a fail, learners **must** repeat the training for that phase before retaking the knowledge and/or practical assessment – depending on which assessment element(s) they failed.

Practice papers

One practice paper for each external examination is available to learners, which can be accessed via the EAL website (see [Section 2.4](#)). Practice papers are not part of the formal assessment arrangements and marks from these papers will therefore **NOT** count towards the qualification.

6.2 Internal (EAL Set and Centre Marked) assessment

Internal assessment consists of assignments and/or practical tests, 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 assessments are accompanied by 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 assessment criteria can be found in the individual units within the Delivery Pack.

Centres are responsible for ensuring that internal assessment is 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.

Further guidance on assessment is provided within each unit Delivery Pack.

Re-taking internal assessments

Learners who fail to achieve a Pass in any internal assessments will be permitted to re-take this assessment, as follows:

- **First attempt** post assessment feedback, resit **within** 14 days.
- **Second attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.
- **Third attempt** post assessment feedback, resit **within** 14 days.
- **Fourth attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.

If the fourth attempt results in a fail, learners **must** repeat the training for that phase before retaking the knowledge and/or practical assessment – depending on which assessment element(s) they failed.

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 Centre Set Environmental Design Assessment

Learners must complete a design assessment as part of the environmental pathway.

The purpose of the design assessment is for learners to demonstrate understanding, integration and application of learning across all the environmental technologies covered.

The design assessment is set by the Centre and approved by EAL. It is marked and moderated by the Centre and subject to external quality assurance.

About the design assessment

- Learners are required to complete the design assessment during the phase 4 element of the qualification – this might be during the final term of the programme, or within the last third of the specified number of guided learning hours required to complete the qualification.
- The design assessment, which is set by the Centre and approved by EAL, will comprise a work-related scenario and a series of connected tasks that must be completed.
- The design assessment must be designed to cover a broad range of assessment criteria from a number of environmental technologies that are relevant to the scenario and related tasks.
- The design assessment will, together with the assessments relating to individual units, ensure that all learning outcomes have been fully and appropriately covered.
- The instructions provided with the design assessment must specify the time allowed to complete the tasks, the type of evidence that is expected, and other requirements as appropriate.
- A detailed marking scheme must be developed, held securely in accordance with EAL procedures, and adhered to by all assessors who are involved in marking the design assessment.
- Delivery of the design assessment will be subject to rigorous internal standardisation (including moderation of learner marks), prior to final marks being issued to the learner.

Developing and approving the design assessment

- When developing design assessments, the Centre must use the template learner and assessor packs provided by EAL and adhere to the EAL published Guidance on Developing Centre-devised Assessments. Design assessments must be submitted to EAL for approval at least 6 weeks before the start of the scheduled assessment period.

Planning and conducting the design Assessment

- Scheduling the design assessment: Arrangements must be made for learners to complete the design assessment during the final phase of their learning programme. Centres may determine the precise timing of the design assessment to suit local needs.
- Time allowed: The time (number of hours) in which the design assessment must be completed should be specified in the instructions provided by the Centre. The 'actual' number of hours spent on the design assessment and the period over which it is completed must be logged by the learner and verified by Centre staff.
- Setting a deadline for completing the design assessment: The Centre must specify a due date when learners must complete the design assessment and submit their evidence for marking. The due date must fall within the designated period (see above) and be communicated clearly to learners. In setting the due date, consideration should be given to ensuring that:
 - Learners have a realistic period of time in which to complete the design assessment, taking into consideration the specified number of hours and any possible limitations on access to equipment, materials etc.
 - Sufficient time will be available for marking and moderation after the due date has passed.

The due date should be communicated to the EQA as soon as this has been agreed so that timing of external quality assurance, including the final EQA visit, can be co-ordinated with the Centre's timetable for marking and internal standardisation.

- **Resources:** Access to resources should be limited to those that are appropriate to the tasks to be completed as part of the synoptic assessment, taking account of any requirement for learners to select appropriate tools and materials, if this is specified in the assessment criteria.
- **Supervision:** The majority of the assessment must be under direct teacher/tutor supervision. It is acceptable for some aspects to be outside direct supervision however, the teacher MUST be able to authenticate the work.
- **Learner collaboration:** Learners must complete and evidence their work individually. Collaboration between learners undertaking any aspect of the design assessment should only be allowed where tasks explicitly state that this is acceptable.
- **Completion and submission:** Any material evidence and other supporting information submitted by learners for the design assessment should:
 - Have a front page showing the qualification name and level, synoptic assessment title, the name of learner and candidate number.
 - Have a page with task headings.
 - Have a contents page.
 - Have numbered pages.
 - Use a footer stating name, learner number and the assignment number.
 - Have a bibliography or references shown.
- **Late submission:** Learners must complete their design assessment and hand in all relevant materials to the Centre by the due date. Any request to extend the submission date must be considered in accordance with EAL's policy for Special Consideration.
- **Feedback:** Feedback should NOT be given to learners on their performance in the design assessment until after the results have been moderated.

Marking the design assessment

Internal assessors should mark the design assessment for each learner using the marking scheme provided. No other sources of information should be used to make judgements about the quality and sufficiency of the evidence.

Marking should be undertaken within 4 weeks of the specified deadline submission date.

Where the marks for individual learners indicate either a borderline pass or a borderline fail (i.e. 5 marks either side of the specified pass mark), these should be highlighted for review as part of the internal moderation process (see below).

All materials should be retained securely and confidentially by the Centre, in accordance with EAL policy.

Internal standardisation of the design assessment

Members of the internal quality assurance team at the Centre should work with tutors/assessors to ensure that the correct procedures relating to the delivery of the design assessment are followed, and ensure assessment decisions taken by different assessors are consistent, fair and reliable.

In addition, once all learners have undertaken and completed the design assessment and marking has been carried out, internal moderation should be undertaken by a nominated member of the quality assurance team. This will involve checking and/or re-marking a sample of learner's work in order to:

- Ensure that assessors have been consistent in their use of the marking scheme.
- Ensure that marks have been allocated fairly and consistently for all learners.
- Check the authenticity of learner evidence.
- If appropriate, agree changes to marks where anomalies have been detected.

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Internal moderation should be based on a sample of at least 25% of learners who have completed the design assessment, and cover all assessors who have been involved in marking. The sample should include any borderline cases that have been identified for review by assessors. If there are fewer than 5 learners who have completed the design assessment then all learners' work should be moderated.

Where inconsistencies or other discrepancies are identified, or where there is a disagreement on the marks allocated for particular learners, the level of sampling should be increased.

The outcomes from internal moderation of design assessment, including any proposed changes to allocated marks, should be recorded and made available to the External Quality Assurer.

Re-taking the design assessment

If, following internal standardisation and/or external verification any learners fail to reach the standard required to pass the design assessment they will be permitted to re-take this assessment, as follows:

- **First attempt** post assessment feedback, resit **within** 14 days.
- **Second attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.
- **Third attempt** post assessment feedback, resit **within** 14 days.
- **Fourth attempt** post assessment feedback and after any appropriate training has taken place, retake **after** 60 days.

If the fourth attempt results in a fail, learners **must** repeat the training for that phase before retaking the knowledge and/or practical assessment – depending on which assessment element(s) they failed.

6.4 Aspects to be Assessed Through Performance in the Workplace

Direct evidence produced through normal performance in the workplace is the primary source for meeting the requirements. This includes naturally occurring documentary evidence (hard copy and electronic), direct observation of activities and witness testimony as relevant. Where simulation is allowed this will be indicated on the cover of the qualification unit documents. See 6.4 for further details.

Workplace evidence must be supported by the required evidence of knowledge and understanding. This evidence may be identified by:

- questioning the candidate
- recognised industry education and training programme assessment or professional interview assessment that has been matched to NOS requirements
- performance evidence

A holistic approach towards the collection of evidence should be encouraged. The focus should be on assessing activities generated by the whole work experience rather than focusing on specific tasks. This would show how evidence requirements could be met across the qualification to make the most efficient use of evidence.

Taken as a whole, the evidence must show that the candidate consistently meets all the performance criteria across the scope/range.

There must be workplace evidence against each performance criterion. Where the workplace evidence does not cover the whole scope/range, knowledge evidence must be provided to cover the remaining items of scope/range for each relevant performance criterion.

Knowledge evidence may be established from questioning the candidate, or from industry recognised industry education and training programme assessment, or professional interview assessment, that has been matched to the requirements of the National Occupational Standards. Such assessments should also have their own independent external assessment, moderation or verification.

6.5 How Simulated Working Conditions May be Used to Assess Competence

Simulations (designed situations for producing artificially generated evidence) may only be used where candidates are prevented from gathering direct evidence normally from the workplace because:

- there are hazards
- it is difficult to distinguish individual performance in team situations
- circumstances occur infrequently or long term results are involved
- confidentiality is important
- there are organisational constraints
- Where stipulated in the unit document i.e. Simulated practical and knowledge units.

Where simulation is allowed as an alternative (to direct workplace evidence) as a means of generating evidence; this will be indicated on the cover of qualification unit documents. Where this an acceptable alternative for producing evidence which is considered to be rare/infrequent, but key/critical to demonstrating competence. The following realistic working environment and contexts must be adopted for the simulation:

- appropriate: tools
- equipment and instruments
- materials
- types of contingencies
- standards and quality specifications
- real timescales
- quantities of work
- physical conditions
- relationship with people
- type of interaction
- communication methods and media
- information and data.

Where simulated evidence is allowed in the unit, the circumstances and requirements for the simulation needs to be confirmed by discussions between the learner and the assessor. **This then needs to be agreed by the internal and external quality assurers, in line with the guidelines for assessment in the assessment strategy document.**

6.6 Additional assessment requirements for Gas Units (PDH3-014, 015)

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 Core Knowledge and Performance Units

All knowledge and performance 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, assignments, evidence from practical assessments conducted in a RWE and evidence from practical assessments conducted in the workplace.

Optional Knowledge and Performance Units

All knowledge and performance criteria must be evidenced by learners. EAL will ensure that the "Assessment Strategy Evidence and Assessment Requirement Tables" produced for each unit are followed. A variety of assessment methods can be used to demonstrate that learners have successfully met the unit criteria. These can include closed book written questions, open book written questions, recorded oral questions, projects, assignments, evidence from practical assessments conducted in a RWE and evidence from practical assessments conducted in the workplace.

Important note:

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

The Performance packs have been updated and merged, where 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.

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 comprises 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.

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.

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 yearly 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 12 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 candidate 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) 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 /SCQF 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.

Particular Requirements for Simulation and Simulated Conditions of Performance Units in the Environmental Pathway Only

The **Environmental Pathway Performance** units will be assessed through practical activities in the work place or as appropriate; in simulated conditions. Where simulated conditions are used, particular attention is drawn to the requirement for 'real working conditions' and a real 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.

7.0 External quality control of assessment

There are two major activities in which EAL interacts with the Centre in relation to the External Quality Control of Assessment for the qualifications and these are:

- **Recognition:** When a Centre decides to offer the qualification, the EAL External Quality Assurer (EQA) 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 specifications

PDH3-HS1 Health and Safety		
Number of questions: 20 Time allowed: 30 minutes Closed book		
Each test will cover the knowledge learning outcomes of the unit as follows:		
LO No.	Knowledge learning outcome	Approx coverage
1.	Know Health and safety legislation that applies to the building services industry	10%
2.	Understand hazardous situations working in the building services industry	20%
3.	Apply Personal protection measures	10%
4.	Understand how to respond to accidents	10%
5.	Apply procedures for electrical safety	10%
6.	Understand how to work safely with heat producing equipment	20%
7.	Safely use access equipment	10%
8.	Understand working safely in excavations and confined spaces	10%
Total		100%

PDH3-PT1: Core Units Phase One

Number of questions: 40
Time allowed: 60 mins
Closed book

Each test will cover the knowledge learning outcomes of the unit as follows:

Learning outcome	Knowledge learning outcome	Approximate percentage coverage
Common Processes and Techniques		
1	Use hand and power tools in domestic plumbing and heating work	5%
2	Know types of domestic plumbing and heating pipework and their jointing principles	10%
3	Understand site preparation techniques for plumbing and heating work	8%
4	Use clips and brackets to support domestic plumbing and heating pipework and components	8%
5	Install domestic plumbing and heating pipework	2%
Scientific principles		
1	Understand units of measurement used in the plumbing and heating industry	8%
2	Understand properties of materials	10%
5	Understand mechanical principles in the plumbing and heating industry	5%
Planning and Supervision		
1	Know the role of the construction team within the plumbing and heating industry	2%
2	Understand information sources in the building services industry	2%
3	Know how to communicate with others	2%
4	Understand responsibilities of relevant people in the building services industry	2%
Cold Water Systems		
1	Understand cold water supply route to dwellings	5%
2	Install cold water systems	8%
Hot Water Systems		
1	Install hot water systems	8%
Central Heating Systems		
1	Install central heating systems	8%
Rainwater Systems		
1	Install rainwater and gutter system installation and layout requirements	2%
Sanitation Systems		
1	Install sanitary appliances and pipework systems	5%
Total:		100%

PDH3-PT2: Core Units Phase Two

Number of questions: 50
 Time allowed: 75 mins
 Closed book

Each test will cover the knowledge learning outcomes of the unit as follows:

Learning outcome	Knowledge learning outcome	Approximate percentage coverage
Cold water systems		
2	Install cold water systems	20%
Hot water systems		
1	Install hot water systems	20%
Central heating systems		
1	Install central heating systems	26%
Rainwater systems		
1	Install rainwater systems	10%
Sanitary systems		
1	Install sanitary appliances and pipework systems	10%
Scientific Principles		
2	Understand properties of materials	4%
3	Understand the relationship between energy, heat and power	4%
4	Understand principles of force and pressure and their application in the plumbing and heating industry	2%
6	Understand principles of electricity in the plumbing and heating industry	4%
Total:		100%

PDH3-PT3: Core Units Phase Three		
Number of questions: 20 Time allowed: 30 mins Closed book		
Each test will cover the knowledge learning outcomes of the unit as follows:		
Learning outcome	Knowledge learning outcome	Approximate percentage coverage
Domestic Fuel Systems		
1	Understand factors affecting fuel selection	20%
2	Know combustion processes of fuel supply systems	20%
3	Know principles of chimney/flue systems	20%
Electrical Work		
1	Perform pre installation activity prior to undertaking electrical work on plumbing and domestic heating	20%
Environmental technology systems		
1	Know the basic operating principles of micro-renewable energy and water conservation technologies	10%
2	Understand requirements to install micro-renewable energy and water conservation systems to existing systems	10%
Total:		100%

PDH3-04-Env-A: Environmental Pathway

Number of questions: 25
 Time allowed: 40 mins
 Closed book

Each test will cover the knowledge learning outcomes of the unit as follows:

Learning outcome	Knowledge learning outcome	Approximate percentage coverage
Planning and supervision		
4	Understand responsibilities of relevant people in the building services industry	4%
Air source heat pump systems		
1	Health and safety risks and legislation associated with air source heat pump systems	12%
2	Different types of air source heat pump systems	20%
Rainwater harvesting and greywater reuse systems		
1	Rainwater harvesting and greywater reuse systems	20%
2	Install rainwater harvesting and greywater reuse system components	12%
Solar thermal hot water systems		
1	Health and safety and relevant legislation, regulations and standards.	12%
3	Install solar thermal hot water systems	20%
Total:		100%

PDH3-04-Gas-C: Gas Pathway

Number of questions: 25
 Time allowed: 40 mins
 Closed book

Each test will cover the knowledge learning outcomes of the unit as follows:

Learning outcome	Knowledge learning outcome	Approximate percentage coverage
1	Know the uses of gas water heating and wet central heating appliances in dwellings	12%
2	Know the types of gas water heating and wet central heating appliances and their layout requirements	16%
5	De-commission domestic gas water heaters and wet central heating appliances	4%
6	Install, exchange, and remove gas pipework to industry standards	4%
9	Maintain domestic water heating and wet central heating appliances	20%
11	Commission domestic gas water heaters and wet central heating appliances	44%
Total:		100%

Appendix 2: Total qualification time

In September 2015, Ofqual introduced their new Regulated Qualification Framework (RQF). They did this by publishing new General Conditions of Recognition¹ which require awarding organisations to take a consistent approach to determining the level, and describing the size, of regulated qualifications.

E7.1 of the new General Conditions of Recognition states:

In respect of each qualification which it makes available or proposes to make available, an awarding organisation must assign to that qualification a number of hours for –

- (a) Total Qualification Time, and
- (b) Guided Learning.

In Section J1 of the new General Conditions of Recognition, Ofqual provide the following definitions for Guided Learning and Total Qualification Time as:

Guided Learning - The activity of a Learner in being taught or instructed by – or otherwise participating in education or training under the Immediate Guidance or Supervision² of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

For these purposes the activity of 'participating in education or training' shall be treated as including the activity of being assessed if the assessment takes place under the Immediate Guidance or Supervision of a lecturer, supervisor, tutor or other appropriate provider of education or training.

Total qualification Time - The number of notional hours which represents an estimate of the total amount of time that could reasonably be expected to be required, in order for a Learner to achieve and demonstrate the achievement of the level of attainment necessary for the award of a qualification.

Total Qualification Time is comprised of the following two elements –

- (a) the number of hours which an awarding organisation has assigned to a qualification for Guided Learning, and
- (b) an estimate of the number of hours a Learner will reasonably be likely to spend in preparation, study or any other form of participation in education or training, including assessment, which takes place as directed by – but not under the Immediate Guidance or Supervision of – a lecturer, supervisor, tutor or other appropriate provider of education or training.

Appendix 3: 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.

In addition assessors must demonstrate occupational competence – that is, provide verifiable evidence of all the following:

- a level 3 NVQ plumbing*
- industry experience
- current knowledge of industry practice and techniques relevant to the occupational area in which they assess.
- a thorough knowledge and understanding of the qualification standards and requirements
- current registration with an appropriate professional body or a relevant qualification to demonstrate competence to act as an assessor for a specific occupational pathway.

*Assessors holding a City & Guilds Advanced Craft Certificate must provide CPD evidence sufficient to demonstrate knowledge of current best practice.

*Assessors holding Level 3 NVQ-related qualifications in:

- Domestic Gas (Wet Central Heating),
- Heating and Ventilating Installation (Domestic)
- Domestic Heating

Must provide CPD evidence sufficient to demonstrate competence in related plumbing systems. Equivalent SNVQs will be accepted in all instances.

Appendix 4: Pathway and competent person scheme

Environmental Technologies pathway and competent person scheme

Learners who this pathway, will meet the criteria to register on the MCS competent person scheme for:

- Solar Thermal Nominated Technical Persons
- Heat Pump Nominated Technical Persons.

Natural Gas pathway assessments and the Gas Safe Register

Learners completing the portfolio of on site evidence and latest MOGs assessment workbooks, will meet the criteria on the Gas Safe Register for:

- CCN 1
- CENWAT 1

Oil pathway assessments and competent person scheme

Learners completing the portfolio of on site evidence and associated courses and assessments at an OFTEC Accredited training facility will receive statement of results enabling them to register with the OFTEC competent person scheme for the three scopes:

- OFT10-10 Commission, service, maintenance of single stage pressure jet appliances
- OFT10-105E Installation of oil combustion appliances, heating and vented hot water systems
- OFT10-600a Installation of oil storage tanks and supply systems to fixed combustion appliances

Solid Fuel pathway assessments and competent person scheme

Learners completing the portfolio of on site evidence and associated courses and assessments at an HETAS Accredited training facility will receive statement of results enabling them to register with the HETAS competent person scheme for the following scopes:

- **H003/DS** **HETAS Dry Appliance Installer (includes service and maintenance competency)**
HTU01K Fuel types, storage and selection, principles of combustion, causes of incomplete combustion CO poisoning
HTU02C Appliance types, operating principles and selection
HTU03K Legislation, regulations and industry guidance
HTU04C Flue system and ventilation requirements for solid fuel appliances
HTU05C Flue and chimney system inspection, testing and fault diagnosis
HTU06C Design principles, installation and testing of prefabricated metal wall rigid system chimneys
HTU07C Dry solid fuel appliance sizing, selection, installation, commissioning and decommissioning
HTU08C Wet solid fuel appliance sizing selection, installation, commissioning and decommissioning
HTU09C Dry solid fuel appliance service and maintenance
- **H004** **HETAS Wet Appliance Installer (includes service and maintenance competency)**
 - candidate must possess H003/DS as a pre-requisite
HTU08C Wet solid fuel appliance sizing selection, installation, commissioning and decommissioning
HTU10C Wet solid fuel appliance service and maintenance
- **H005/DE** **HETAS Biomass Installer – candidate must possess H003/DS as a pre-requisite**
HTU11C Biomass appliance selection, installation, commissioning and decommissioning
HTU12C Biomass service and maintenance
- **H006** **HETAS Internal System Chimney – candidate must possess H003/DS as a pre-requisite**
HTU06C Design principles, installation and testing of prefabricated metal wall rigid system chimneys
- **H008** **CPD Unit only – candidate must possess H003/DS as a pre-requisite**
HTU13C Dry pellet stove sizing, selection, installation, commissioning and decommissioning

Note: H001 – Introduction to Solid Fuel and H002 Solid Fuel Regulations and Standards are knowledge courses only and although the units are embedded into the qualifications suite H00 and H002 are not deemed as a competency and alone do not facilitate a route to installer registration on CPS.

Appendix 5: 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, and CAF1A.

To register the learner on the chosen qualification code:

Qualification title	Code
EAL Level 3 Diploma in Plumbing and Domestic Heating	
Pathway Option: (GAS) Natural Gas	603/4028/9 GAS
Pathway Option: (ENV) Environmental Technologies	603/4028/9 ENV
Pathway Option: (OIL) Oil	603/4028/9 OIL
Pathway Option: (SOL) Solid Fuel	603/4028/9 SOL

For further information please contact EAL Customer Services: +44 (0)1923 652 400.

