

Building Services Engineering Skills (BSE Skills)

Assessment Strategy

Sector

Building Services Engineering

Qualification Title(s)

Scottish Vocational Qualification (SVQ) in
Plumbing and Heating at SCQF level 7

Developed by

BSE Skills

Approved by ACG

10 June 2020

Version

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Assessment Strategy for the SVQ in Plumbing & Heating at SCQF level 7

Introduction

The purpose of an Assessment Strategy is to provide awarding bodies with a consistent approach to assessment that complies with SQA Accreditation's regulatory requirements.

The key areas this Assessment Strategy will cover are:

- how external quality control of assessment will be achieved
- which aspects must always be assessed through performance in the workplace
- the extent to which a realistic work environment (RWE) and simulated working conditions may be used to assess competence
- the occupational expertise requirements for Assessors and Verifiers

Awarding Bodies must use the Assessment Strategy as the basis for developing and defining the evidence requirements and assessment methods their providers will use. This includes specifying how the qualification will be internally and externally quality assured.

This strategy sets out specifications for the assessment and quality control of the SVQ in Plumbing & Heating at SCQF level 7. It has been produced by BSE Skills in consultation with employers from the Plumbing & Heating industry, providers, stakeholders and Awarding Bodies.

This strategy relates to the following qualification:

- SVQ in Plumbing & Heating at SCQF level 7

Any additional "Occupational Competence Qualifications/Units" developed for the industries and occupations in the Building Services Engineering sector must be compliant with this Assessment Strategy. Additions include amendments and revisions to the qualification units developed/amended after the publication of this strategy.

1. External Quality Control of Assessment

The standard external verification model will apply to this qualification. Awarding Bodies are responsible for the competence of those involved in external verification activities and must require them to monitor centre performance in accordance with regulatory requirements, sampling all aspects of qualification delivery.

External verification will include both assuring the quality of the centre that is responsible for making the assessment and sampling from the judgments made on a number of candidates to ensure they are of consistent quality. Awarding Bodies will work to ensure that:

- the level of sampling undertaken in external verification is sufficient to guarantee consistent standards between centres
- external verification takes place using scrutiny of documents and observation of the assessment and verification practices in assessment centres subject to the need for confidentiality
- external verification is planned proportionally and linked to centre performance
- External Verifiers are required to take part in regular standardisation activities.

BSE Skills will work with all stakeholders to evaluate the effectiveness of the qualification structures and this assessment strategy.

2. Assessment

Given the nature of the potentially hazardous work undertaken by operatives in the Building Services Engineering sector, the methodology(s) of assessment that ensures the candidate is occupationally competent will be determined by the industry for which the qualification and relevant associated unit(s) is designed.

Unit and qualification assessment requirements will set out the scope of evidence required in terms of components, equipment, enclosures, services, statutory and non-statutory regulations and industry standards and systems.

2.1 Workplace Assessment

Workplace assessment will be extremely rare and only under circumstances considered exceptional by the relevant approved centre and Awarding Body. This is due to a number of reasons including:

- The industry is dominated by SMEs and micro-businesses with significant resource implications for employers having their own in-house Assessor
- The practicality of coordinating safe assessment opportunities, people and access onto a working site
- The safety critical nature of many of the activities undertaken by the candidate and the attendant need for appropriate supervision at all times
- The need for safety critical assessment to be carried out in a controlled environment requiring a specific set up of equipment, tools and supervision

Instead, candidates will gather evidence of their workplace experience (confirmed by the Expert Witness) and this will be shared with the approved centres and considered by qualified and experienced staff. Evidence that is sourced from the working environment must be naturally occurring and can be generated by:

- Direct observation of performance in the workplace by a qualified Assessor
- Testimony from an expert witness subject to the activity being assessed.
- Candidate's reflective account of performance.
- Work plans and work based products e.g. diagrams, drawings, specifications, customer testimony, authorised & authenticated photographs/ images and audio-visual records of work completed.
- Evidence from prior achievements that demonstrably match the requirements.

Generating evidence of workplace competence to meet assessment requirements will need initial discussions and planning between the candidate and Assessor.

Competence should be demonstrated over a period of time and on more than one occasion before learners should be put forward for a Final Competence Assessment (FCA).

2.2 Realistic Work Environment (RWE) and Simulation

Simulation should be undertaken when the candidate is unable to provide sufficient evidence of workplace performance to complete the unit and/or where there is a potential risk to the candidate or others. Evidence of competence in such situations is viewed as essential to ensure best practice and confidence in the candidate's ability to act appropriately.

The use of simulation to provide performance evidence (and support assessment) should be agreed in advance by the Assessor and candidate at the assessment planning stage. Those involved in the assessment process must be satisfied that the use of simulation does not compromise the rigour and integrity of assessment.

The following states situations where simulation is either permissible or mandatory:

Permissible: Simulation can take place in those circumstances where the opportunities to collect naturally occurring evidence are limited or absent, and the learner lacks evidence for completion of the unit.

Mandatory: Simulation must take place in a RWE, as specified/approved by the relevant sectoral body, for those identified key safety-critical aspects of the SVQ in Plumbing and Heating at SCQF level 7 and the relevant associated units.

Competence in these safety critical aspects must be assessed via simulated conditions in a safe and controlled environment prepared specifically for the work shown:

- activities relating to limited scope electrical work
- as relevant, the installation, connection and servicing/maintenance of fuel systems and equipment
- as relevant, the installation, connection and servicing/maintenance of hot/cold water systems and equipment, unvented water
- backflow prevention

- any other aspect of the Final Competence Assessment (FCA)

Where simulation is used, it must be in an RWE and an independent assessment structure. The RWE should include the following features:

- It should reflect the workplace conditions and environment and include facilities, equipment and materials used in the workplace for the activities being assessed.
- It should reflect the relationships, constraints and pressures met in the workplace
- The information available to the candidate on the nature of the activity must be consistent with the policies and practices typical of the workplace setting
- It must replicate usual activities in real workplace settings.

2.3 Integrated Assessment

Integrated Assessment is the assessment of an activity which overlaps with the contents of different components of the qualification. This can be a practical and cost-effective way of assessing the candidate. Centres are encouraged to plan for and implement Integrated Assessment.

3. Occupational Expertise of Quality Assurers

The following may be involved in the assessment and verification process:

- Assessors
- Expert Witnesses
- Internal Verifiers
- External Verifiers

The assessment centre will be responsible for maintaining up-to-date information on Assessors, Internal Verifiers and Expert Witnesses. Details of the relationship between the candidate and the above must be declared and recorded.

It is recognised that alternative forms of recording assessment evidence will evolve using information and communications technologies including e-portfolios. Regardless of the form of recording used, the guiding principle must be that information about practice must comply with legal requirements and best sector practice in relation to confidentiality (including GDPR). This information must also be traceable for internal and external verification purposes. Additionally, Assessors and Internal Verifiers must ensure they are satisfied the evidence presented is **valid, authentic, reliable, current and sufficient** (VARCS) and meets the requirements set out in this strategy.

3.1 Assessor

The Assessor is the key to the assessment process. All Assessors must:

- be occupationally qualified and competent. This means that each Assessor must, according to current sector practice, be competent in the functions covered by the units they are assessing. They will have gained their occupational competence working within

the sector. They are not required to occupy a position in the organisation more senior than that of the candidate they are assessing e.g. when assessing a mature candidate or Adult Apprentice. However, centres must be alert to the risks that all such arrangements could present and ensure that sufficient quality controls are in place through the internal quality assurance process to ensure there is no possibility of collusion between candidates and Assessors.

- provide current records of their skills and supporting knowledge and understanding in the context of a recent role directly related to the qualification units they are assessing.
- take responsibility for maintaining and improving their knowledge and skills. This should be credible and maintained through clearly demonstrable continuing professional development appropriate to the area of assessed practice. It is expected that learning and development activity will contribute to professional development, inform practice and assist Assessors to meet their roles and responsibilities in an informed, competent and confident manner.
- have knowledge and experience of the regulation, legislation and/or codes of practice applicable to their role and the setting within which they work
- take the lead role in the assessment of observed candidate performance in relation to the units of the qualification.
- hold, or be working towards, an appropriate Assessor qualification as identified by SQA Accreditation (qualification regulator). Achievement of Assessor qualification needs to be within appropriate timescales.

Assessors, who are working towards an appropriate Assessor qualification and have the necessary occupational competence and experience, as identified above, should be supported by an appropriately qualified Assessor who can review and countersign decisions and activities. Assessors holding older Assessor qualifications must be able to demonstrate that they are assessing to the current standards through demonstration of relevant CPD records..

3.2 Expert Witness

The nature of work to be assessed may include situations of a sensitive nature which require confidentiality. In such circumstances Expert Witnesses may be used as a source of performance evidence in the workplace.

Expert Witnesses can be drawn from occupationally competent individuals who can attest to the candidate's performance in the workplace. This may include line managers or other experienced colleagues from inside an organisation or from other agencies.

Expert Witnesses may prove particularly important for those candidates who are indirectly supervised during part of their work role, but who have contact with a range of different professionals in the course of their work activities.

Evidence from Expert Witnesses must meet the requirements of VARCS. Expert Witnesses must be inducted by the centre so they are familiar with those units for which they are to provide Expert Witness evidence. Expert Witnesses must:

- be occupationally competent in the area being assessed. This means that each Expert Witness must, according to current sector practice, be competent in the functions covered by the units to which they are contributing.

- maintain their occupational competence by actively engaging in continuous professional development activities in order to keep up to date with developments relating to the changes taking place in the sector.
- provide current records of their skills and the current supporting knowledge and understanding in the context of a recent role directly related to the qualification unit that they are witnessing.
- be familiar with the qualification unit; and must be able to interpret current working practices and technologies within the area of work.

A qualified Assessor must assess the evidence provided by an Expert Witness including its contribution to overall evidence of competence.

3.3 Internal Verifier

The Internal Verifier (IV) is central to the quality assurance and verification of assessment of performance evidence in the workplace and must:

- be occupationally knowledgeable. This means that each Assessor must, according to current sector practice, be knowledgeable of the functions covered by the units they are verifying. They will have gained their occupational knowledge through working within the sector.
- provide current records of their skills and supporting knowledge and understanding in the context of a recent role directly related to the qualification units they are verifying.
- take responsibility for maintaining and improving their knowledge and skills. This should be credible and maintained through clearly demonstrable continuing professional development appropriate to the area of practice.
- have knowledge and experience of the regulation, legislation and/or codes of practice applicable to their role and the setting within which they work.
- hold, or be working towards, an IV qualification (e.g. the Unit on Internally Monitor and Maintain the Quality of Workplace Assessment or its workplace equivalent) as identified by SQA Accreditation (qualification regulator). Achievement of IV qualification needs to be within appropriate timescales. Internal Verifiers, who are working towards an appropriate IV award and have the necessary occupational knowledge and experience, as identified above, should be supported by an appropriately qualified Internal Verifier. Appropriately qualified Internal Verifiers must review and countersign decisions and activities. Internal Verifiers holding older qualifications must be able to demonstrate that they are verifying to the current standards.
- manage/coordinate the Assessors and the assessment process where candidates have more than one Assessor each assessing different qualification components or parts of those components. This may include the appointment of a named single Assessor with the responsibility for coordinating the assessment of an individual candidate.

It is expected that all IVs will work closely with Assessors to ensure standardised practice and decision-making within the assessment process.

3.4 External Verifier

The External Verifier (EV) is the key link for Awarding Bodies in the quality assurance and verification of the assessment of candidates' performance in the workplace.

External Verifiers must:

- be occupationally knowledgeable. They will have gained their occupational knowledge working within the sector.
- have a thorough understanding of the qualifications they will be quality assuring
- hold, or be working towards, the appropriate EV qualification (e.g. the Unit on Externally Monitor and Maintain the Quality of Workplace Assessment or its workplace equivalent) as identified by SQA Accreditation (qualification regulator). External Verifiers holding older qualifications must be able to demonstrate that they are verifying to current standards

External Verifiers who are not yet qualified but have the necessary occupational knowledge and experience, may be supported by a qualified External Verifier who does not necessarily have the occupational expertise or experience.

3.5 Continuing Professional Development

The occupational competence of all those involved in the quality assurance of the qualification and associated units must be updated regularly and be periodically confirmed via continuing professional development (CPD) via the assessment centres and quality assured by the Awarding Body.

It is the responsibility of all those involved the Quality Assurance process (Assessors, Coordinating Assessor, Expert Witness, Internal Verifier and External Verifier) to identify and make use of opportunities for CPD, such as industry conferences, access to trade journals, Professional Body/Trade Association events and other relevant events/consultations, at least twice annually to enhance and upgrade their professional development and technical knowledge. They should also record an entry annually advising that they are working to the current set of Learning and Development standards.

It is imperative that records are kept of all such CPD opportunities/occasions and that they provide evidence of cascading such as technical knowledge and industry intelligence to all relevant colleagues.

4. Further Guidance

This section captures any exceptions to the information provided in previous sections and further helpful guidance identified by employers, providers and stakeholders during the consultation.

Exceptions

- None

Guidance Note 1

The term Final Competence Assessment (FCA) specifically relates to a means of assessment of competence including the safety critical aspects (see **Section 2.2**) for the SVQ in order to confirm that a candidate is competent and safe to work in the industry. It is an independent assessment of the SVQ candidate's occupational competence (skills and knowledge) via an assessment process as required by the industry and approved by the Awarding Body. This final assessment, where applied, is a mandatory requirement for the achievement of the full qualification.

The FCA must be independent from the normal teaching and learning programme of the candidate although the same facilities equipment and materials used in training can be utilised for the formal assessment. There is no requirement for an independent Assessor to carry out final competence assessment, although it would be seen as good practice to use an Assessor who has not been involved in the training of the candidate where time and staff resources within the centre permit this.

The FCA assessment should only be undertaken at a point that suits both centre delivery and the readiness of the candidate. Evidence of such assessments must be gathered under simulated conditions in a RWE and made available for external verification.

Due to the range of the safety critical aspects it is permissible to schedule and carry out assessment throughout the programme. Any such assessment should only be undertaken at a point that suits both centre delivery and the readiness of the candidate. Evidence of such assessments must be gathered under simulated conditions in a RWE and made available for external verification.

Guidance Note 2

Providers should seek to ensure that

- the candidate is familiar with low voltage controls (ModBus, signal wires, sensors etc) associated with modern heating systems.
- the candidate is familiar with smart controls wherever possible and appropriate.
- the requirements of the 'fuel options' Units are incorporated into the general delivery mechanism wherever appropriate.

Guidance Note 3

Providers must ensure that competence in the optional units for gas, oil and solid fuel meets the minimum standards laid down by the appropriate body:

- Gas: Gas Safe
- Oil: Oil Firing Technical Association (known as OFTEC)
- Solid Fuel: Heating Equipment Testing and Approvals Scheme (known as HETAS)

Achievement of all component parts of the qualification must enable the candidate to seek full and separate registration/recognition in accordance with the procedures of the relevant body where this is available and appropriate.

Guidance Note 4

Providers must ensure that competence in the Emergent Technology unit meets the minimum standards laid down by the Microgeneration Certification Scheme (known as MCS) and/or other relevant body.

Achievement of all component parts of the qualification must enable the candidate to attain full and separate registration/recognition in accordance with the procedures of MCS and/or other relevant body where this is available and appropriate.

Guidance Note 5

All gas training must be to the appropriate standard suitable for recognition by the Standard Setting Body for the industry.