



**QQI**

Quality and Qualifications Ireland  
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

## Component Specification NFQ Level 6

### Non-Domestic Gas and Pipework Safety 6N20521

#### 1. Component Details

<b>Title</b>	Non-Domestic Gas and Pipework Safety
<b>Teideal as Gaeilge</b>	Sábháilteacht Gáis agus Píboibre Tráchtála
<b>Award Type</b>	Minor
<b>Code</b>	6N20521
<b>Level</b>	6
<b>Credit Value</b>	10
<b>Purpose</b>	The purpose of this award is to equip the learner with the knowledge, skill and competence to safely carry out non-domestic gas and pipeworks in accordance with applicable standards, legislation and guidelines, whilst working on their own initiative or in a supervisory capacity.
<b>Learning Outcomes</b>	Learners will be able to:  <ol style="list-style-type: none"><li>1 Assess the key provisions of current, relevant legislation, standards, and guidelines appropriate to non-domestic gas systems</li><li>2 Explain gas combustion in terms of requirements, flammability, measurement, natural and mechanical ventilation and flue systems/chimneys and associated hazards</li><li>3 Describe the installation process for non-domestic gas systems to include specification, selection, construction, commissioning, de-commissioning, inspection and testing of pressure regulating and control devices, meters, pipework, appliances and equipment</li></ol>

- 4 Describe the process for testing and purging non-domestic gas pipework systems to include selection of equipment, pipe and meter sizing, inspection, calculation of test times strength and soundness testing and purging of the installation
- 5 Describe liquefied petroleum gas storage, with respect to the siting and connection of storage cylinders in use, pressure control devices and manifolds
- 6 Outline the process for the maintenance and repair of non-domestic gas appliances including the completion of relevant paperwork
- 7 Explain the electrical requirements associated with non-domestic gas installations including basic electrical theory, component installation, connectivity, test equipment and testing methodology
- 8 Carry out safely and in accordance with current national wiring rules, minor electrical works related to non-domestic gas installations and appliances
- 9 Perform a range of calculations associated with non-domestic gas installations including combustion, carbon monoxide and carbon dioxide ratios, and ventilation and air supply requirements
- 10 Assess the suitability of new or existing chimneys and flue systems for a non-domestic gas installation
- 11 Perform a safety assessment on a non-domestic gas installation to include, strength and soundness testing, purging, visible inspection, air supply, flue or chimney effectiveness, appliance and equipment location and production of a safety report
- 12 Decommission a non-domestic gas installation taking all required steps for disconnection, removal and disposal of gas and electrical components in accordance with relevant legislation and manufacturer's instructions.

## Assessment

### General Information

All assessment should be planned in accordance with the programme assessment strategy developed as part of the programme submission for validation. See **Policies and Criteria for Validation of Programmes**. Assessment should be undertaken consistently and reflect current assessment guidelines. See [www.qqi.ie](http://www.qqi.ie).

All FET assessment is criterion referenced. Successful achievement of the award is based on learners attaining the required standards of knowledge, skill or competence consistent with the **minimum intended programme learning outcomes**.

The techniques set out below are considered the optimum approach to assessment for this component. In exceptional circumstances providers may identify alternative assessment techniques through the provider's application for programme validation which are reliable and valid but which are more appropriate to their context.

Assessment of a number of components may be integrated across programmes for delivery, provided that the learning outcomes of each minor award are assessed.

Group or team work may form part of the assessment, provided each learner's achievement is separately assessed.

All providers are required to submit an assessment plan as part of their application for programme validation. Assessment Plans will include information relating to scheduling and integration of assessment. See current FET validation guidelines at [www.qqi.ie](http://www.qqi.ie).

## Assessment Techniques

In order to demonstrate that they have reached the standards of knowledge, skill and competence identified in all the learning outcomes, learners are required to complete the assessment(s) below.

The assessor is responsible for devising assessment instruments (e.g. project and assignment briefs, examination papers), assessment criteria and mark sheets, consistent with the techniques identified below and QQI's assessment requirements.

Programme validation will require providers to map each learning outcome to its associated assessment technique. All learning outcomes **must** be assessed and achieved in accordance with the **minimum intended module learning outcomes** set out in the validated programme.

Examination - Theory	70%
Skills Demonstration	30%

## Description

### Examination - Theory

*An examination provides a means of assessing a learner's ability to recall and apply knowledge, skills and understanding within a set period of time and under clearly specified conditions.*

*A theory-based examination assesses the ability to recall, apply and understand specific theory and knowledge.*

The examination based on learning outcomes 1 to 7 consists of multiple choice questions, all of which must be passed to achieve the award.

### **Skills Demonstration**

*A skills demonstration is used to assess a wide range of practical based learning outcomes including practical skills and knowledge. A skills demonstration will require the learner to complete a task or series of tasks that demonstrate a range of skills.*

The skills demonstration will comprise six (6) tasks based on learning outcomes 8 to 12. The assessment will be terminated in the event of failure in any of the following tasks.

1. Assess chimney suitability
2. Perform a safety assessment of a non-domestic gas appliance / equipment
3. Demonstrate electrical safety check methodology
4. Test allocated pipework
5. Purge allocated pipework
6. Decommission an existing non-domestic gas pipework

Each task in this assessment must be passed in order to achieve the overall award.

### **Recognition of Prior Learning (RPL)**

To support the development and implementation of RPL with regard to access, granting credit/exemptions and achievement of awards/parts of awards, providers should refer to **QQI's Statutory Guidelines for Quality Assurance**, the **Policies and Criteria for Validation of Programmes** and the **Principles and Operational Guidelines for the Recognition of Prior Learning in Further and Higher Education and Training** available at [www.qqi.ie](http://www.qqi.ie)

### **Grading**

Pass	50% - 64%
Merit	65% - 79%
Distinction	80% - 100%

### **Specific Validation Requirements**

The provider must have all of the following in place to offer a programme leading to this award:

1. A room, space or cubicle simulating a commercial environment including electrical supply (single and 3-phase)
2. Gas supply to a commercial meter point
3. Non domestic gas pipework/purging and flaring equipment
4. A liquefied petroleum gas cylinder, changeover device, regulator and manifold
5. Non domestic flue systems
6. Copies of appropriate legislation and standards, and certification associated with non-domestic gas works
7. Only programmes having a minimum of 10 days training, including assessment, with 6.25 contact hours per day may be validated for the purpose of making this award

### **Supporting Documentation**

1. Electricity Regulation Act, 1999, as amended, Energy (Miscellaneous Provisions) Act, 2006, as amended, Energy Act 2016.
2. Electricity Regulation Act 1999 (Gas Works) Regulations 2009 and Electricity Regulation Act 1999 (Liquefied Petroleum Gas Works) Regulations 2011
3. Irish Standard I.S. 820, Non-domestic gas installations
4. CER Guidance Notes to Liquefied Petroleum Gas Works Regulations S.I. 299 of 2011, CER/11/110
5. Extension of Registered Gas Installer Scheme to include Non-Domestic Gas Works Decision Paper, CER/15/244
6. Safety, Health and Welfare at Work Act 2005, as amended
7. Building Control Regulations
8. I.S. EN 161 Automatic shut-off valves for gas burners and gas appliances I.S. EN 203-1 Gas heated catering equipment. General safety rules
9. I.S. EN 656 Gas fired central heating boilers. Type b boilers of nominal heat input exceeding 70kw but not exceeding 300kw
10. I.S. EN 676 Automatic forced draught burners for gaseous fuels
11. RGII registration information

### **Access**

To access programmes leading to this award the learner should have reached the standards of knowledge, skill and competence associated with the preceding level of the National Framework of Qualifications. This may have been achieved through a formal qualification or through relevant life and work experience.

Providers should ensure their programme includes suitable procedures and criteria for the recognition of prior learning for the purposes of access and, where appropriate, for advanced entry to the programme and for exemptions.

The following awards or equivalent will satisfy the access requirements for entry to a programme leading to this award.

Advanced Craft Certificate Plumbing

Advanced Craft Certificate Pipefitting

Advanced Craft Certificate Refrigeration and Air Conditioning

Advanced Craft Certificate Electrical

Level 6 Special Purpose Domestic Gas Safety (DGS) award  
6S2947

Level 6 Supplemental Domestic Gas Safety award 6U20556

Level 6 Supplemental Domestic Gas Safety award 6U16018

## Transfer

Successful completion of this component award enables the learner to transfer to programmes leading to other certificates where this component is a mandatory or an elective requirement.

## 2. FET Award Standards

QQI award standards are determined within the National Framework of Qualifications (NFQ), <http://www.nfq-qqi.com>. QQI determines standards for the education and training awards that it makes itself and that are made by providers to whom it has delegated authority to make an award. Providers offering programmes leading to QQI awards **must** have their programme(s) validated in accordance with current validation policy (see [www.qqi.ie](http://www.qqi.ie)).

Award standards are designed to be consistent with the NFQ's award classes i.e. major, special purpose, supplemental and minor awards. They are expressed in terms of **learning outcomes** i.e. concise statements of what the learner is expected to know or be able to do in order to achieve a particular award. Learning outcomes for FET awards are contained within the associated specifications:

AWARD CLASS	STANDARDS	AWARDS
Major Award	Certificate Specification	Certificate (Levels 1 to 5) Advanced Certificate (Level 6)
Supplemental Award	Supplemental Specification	Supplemental Certificate (Level 3 to 6)
Special Purpose	Specific Purpose Specification	Specific Purpose Certificate (Levels 3 to 6)
Minor Award	Component Specification	Component Certificate (Levels 1 to 6)

Award standards are thresholds, they describe standards of knowledge, skill or competence to be acquired, and where appropriate, demonstrated, by a learner before an award may be made.

Award standards will be reviewed from time to time as necessary. Minor changes may be made by the QQI executive outside the review cycle where necessary. Changes to standards are published on QQI's website. Providers with validated programmes and providers with delegated authority to make awards are responsible for monitoring relevant standards and making necessary responses to changes.

## 3. FET Credit



Every FET certificate and component specification includes an FET credit value (Table 1). FET credit is quantified in multiples of 5 FET credits (up to 50 hours of learner effort). Learner effort is based on the time taken by typical learners at the level of the award to achieve the learning outcomes for the award. It includes all learning time involved including: guided learning hours, self-directed learning and assessment.

**Table 1: FET Credit Values**

NFQ Level	Major Awards Credit Values	Default Credit Values Minor Awards	Other Permitted Minor Award Credit Values	Special Purpose and Supplemental Award Credit Value Ranges
1	20	5	10	
2	30	5	10	
3	60	10	5,20	>5 and <60
4	90	10	5,15,20	>5 and <90
5	120	15	5,10,30	>5 and <120
6	120	15	5,10,30	>5 and <120

### Guide to Level

Learning outcomes at this level include a comprehensive range of skills which may be vocationally-specific and/or of a general supervisory nature, and require detailed theoretical understanding. The outcomes also provide for a particular focus on learning skills. The outcomes relate to working in a generally autonomous way to assume design and/or management and/or administrative responsibilities. Occupations at this level would include higher craft, junior technician and supervisor.

Strand	Sub-strand	Nature of learning
Knowledge	Breadth	Specialised knowledge of a broad area
	Kind	Some theoretical concepts and abstract thinking, with significant underpinning theory
Know How & Skill	Range	Demonstrate a comprehensive range of specialised skills and tools
	Selectivity	Formulate responses to well defined abstract problems
Competence	Context	Act in a range of varied and specific contexts involving creative and non-routine activities; transfer and apply theoretical concepts and/or technical or creative skills to a range of contexts
	Role	Exercise substantial personal autonomy and often take responsibility for the work of others and/or for the allocation of resources; form and function within, multiple and complex heterogeneous groups.
	Learning to Learn	Learn to evaluate own learning and identify needs within a structured learning environment; assist others in identifying learning needs
	Insight	Express an internalised, personal world view, reflecting engagement with others.

