



End-Point Assessment Gas Network Craftsperson Pressure Management Practical Tasks

Assessment Specification

This assessment specification has been developed as part of the gas network craftsperson - pressure management standard. The specification details the apprentice's required skills, knowledge and behaviour on all the key aspects of the gas network craftsperson - pressure management activity.

This end-point assessment should allow the apprentice to demonstrate the competence required to follow work instructions and specifications in order to complete:

- The installation of a below 7 bar single stream regulator system including all auxiliary controls and pipework
- Testing and commissioning of the installed single stream regulator system
- Completing functional checks on both below 7bar and above 7bar twin stream regulator installations
- The fault diagnosis and repair of a pressure control system including component exchange

The assessment specification is the minimum core technical standard of these requirements, but this does not preclude employers from enhancing the skills and knowledge of the learner through additional or company specific assessment.

Successful completion of this unit should provide evidence that the apprentice has the required knowledge, understanding and performance skills.

What does this specification look like?

To achieve this unit the apprentice must demonstrate their achievement of all assessment outcomes. This unit will be evidenced through practical assessment, typically being delivered under simulated conditions, in a realistic workplace environment. Evidence of the apprentice's achievement must be included in their work log or their portfolio.

What does the assessment include?

Gas network craftsperson – pressure management apprentices will be expected to build and repair a single stream regulator system including:

- Installing steel and stainless steel pipework and components:
 - Making screwed joints
 - Making flanged joints
 - Making compression joints
- Testing and commissioning of installed apparatus
- Fault diagnosis
- Safe isolation of components whilst maintaining supply
- Testing and commissioning of replacement components

Gas network craftspeople – pressure management apprentices will also be expected to successfully complete the functional checks on a twin stream regulator to include:

- Inlet valves
- Filters
- Slam shuts
- Monitor regulators
- Active regulators
- Creep reliefs
- Non return valves
- Outlet valves

Realistic Working Environments (RWE) Centre Requirements

Centres are responsible for ensuring that the RWE assessment is suitably controlled to ensure that assessment decisions are valid and reliable, and that work submitted for assessment by the apprentice is prepared and produced by them independently, without assistance from others, and free of plagiarism.

The practical assessments must be designed following the guidance and requirements given in this document. The assessor checklist must be adhered to and cannot be altered without prior written consent from EUIAS.

It is envisaged that in the interest of safety that the system is supplied with air and not fuel gas.

Centres may deliver any number of assessments together in combined assessment of their own design, but this must be in with the prior agreement with EUIAS.

Where the combined option is used the performance and knowledge criteria of each unit assessment must be satisfied and the respective assessor checklists must be completed.

The necessary operational procedures should be made available to the apprentice throughout the assessment process.

Practical Assessment Centre Requirements

The assessment requirements are in the following areas:

- PMIEPA Installation and commissioning of a single stream regulator system
- PMREPA Fault diagnosis and repair of a regulator system
- PMA7EPA Functional checks on a twin stream regulator – above 7 bar
- PMB7EPA Functional checks on a twin stream regulator – below 7 bar

The assessments must be assessed by a technically competent assessor who is independent of the apprentice. Please refer to the gas network craftsman scheme handbook for further details.

Installation and commissioning of a single stream regulator system

The assessment area must be designed to allow the apprentice to demonstrate the skills as prescribed in the performance criteria. Evidence for the practical aspects must be observed in the realistic working environment. The pressure control equipment used in the assessment should be a minimum of 50mm in diameter; smaller diameter relief valves and auxiliary pipework may be used as appropriate. The connected pipework used in the assessment must be of a diameter equal to or above 100mm. The equipment supplied for the task should include controls that are non-serviceable, allowing the apprentice to choose the appropriate equipment for the task. Auxiliary pipework, impulse lines and fittings must be of a type approved for the purpose. A technical drawing of the proposed task must be made available to the apprentice.

Fault diagnosis and repair of a regulator system

The assessment for fault diagnosis and repair of a regulator system must be designed to allow variability and must include a fault which can be rectified by adjustment and another fault which will require a component to be changed, whilst maintaining supply. On the assessor checklist, the assessor must describe the fault set that required adjustment and the fault set that required component change. The practical assessment rig must therefore be capable of accommodating a number of differing faults to be set by the assessor. The faults set must be recorded on the assessor checklist to demonstrate variability of the task from apprentice to apprentice.

Functional checks on a twin stream regulator above and below 7bar

This assessment must be designed to allow functional checks on the following components:

- Inlet valves
- Filters
- Slam shuts
- Monitor regulators
- Active regulators
- Creep reliefs
- Non-return valves and outlet valves

The assessment centre must have at a sufficient number of twin stream regulator installations in order for the above range to be covered and to be able to demonstrate variability. One of the twin stream installations used must include a fault that can be rectified

by adjustment. The practical assessment rig must therefore be capable of accommodating a number of differing faults to be set by the assessor. The faults set must be recorded on the assessor checklist to demonstrate variability of the task from apprentice to apprentice.

General requirements

Centres may create workbooks that will allow the apprentice to demonstrate their underpinning knowledge on method statements, testing and commissioning requirements etc. The same examples must not have been utilised as part of the apprentices training.

The equipment used for this assessment must be for assessment purposes only and the apprentice must not have had prior access to this.

Apprentice Requirements

To achieve a pass in these assessments the apprentice must complete all of the following:

- Ensure all health and safety requirements are observed throughout the assessment
- Complete a site specific risk assessment
- Select method statements appropriate for the activity
- Use company specific procedures
- Complete any calculations regarding testing, commissioning and decommissioning of the apparatus
- Construct the single stream regulator system including associated pipework
- Make joints using, screwed, flanged and compression techniques
- Pressure test and commission the installed equipment
- Complete functional checks on a twin stream regulator
- Carry out fault diagnosis on a twin stream pressure control system
- Remove and replace a faulty component whilst maintaining supply
- Complete all testing and commissioning requirements following the repair
- Reinststate the repaired system back to operational condition

Assessor Requirements

Apprentices carrying out the practical tasks will be observed by an EUIAS approved technical expert.

The technical expert may question the candidate as they are carrying out the practical tasks. Questions may cover the following areas:

- Practical experience and knowledge gained through work experience

- Technical questioning related to the installation, testing, commissioning and maintenance of operational equipment
- A variety of “what if” scenarios to determine problem solving skills
- Comprehension of basic operations or engineering principles related to plant and equipment
- Ability of candidate to elaborate in their field of expertise
- General attitude and enthusiasm of the candidate

Candidates should be able to demonstrate a depth of understanding of the practical principles of the systems they are working on.

Permissible allowances and reasons for immediate failure

- Apprentices do not have to carry out the task in a prescribed sequence but must cover all of the assessment criteria required, provided health and safety is not compromised. This would not be considered a permissible allowance under assessment “*PMIEPA -Installation and commissioning of a single stream regulator system*” as the correct sequence of installation is an essential criterion of the assessment
- Apprentices should ensure that the tasks are completed safely. It is permissible not to have identified all tools and safety equipment prior to the task starting but the additional requirements must be identified and acted upon appropriately as the task progresses
- Apprentices will fail immediately if they do not select and wear the correct PPE for the task
- Apprentices will fail immediately if they do not follow control measures as set out in the risk assessment
- Apprentices will fail immediately if they put themselves or anyone else at danger – i.e. by failing to safely isolate plant and equipment

Grading

This assessment is graded as Pass or Fail. The assessor will determine successful completion of the practical tasks using the assessor checklist. This will determine Pass or Fail, and where the apprentice has excelled, this may be used as supporting evidence towards a Distinction in the candidate’s portfolio. Such evidence should be recorded in the comments box on the checklist.

Assessment Duration

The following are indicative durations for the completion of each assessment area:

PMIEPA	Installation and commissioning of a single stream regulator system	4 hours
PMREPA	Fault diagnosis and repair of a regulator system	2 hours
PMA7EPA	Functional checks on a twin stream regulator – above 7 bar	1.5 hours
PMB7EPA	Functional checks on a twin stream regulator – below 7 bar	1.5 hours