



ENERGY & UTILITIES
INDEPENDENT
ASSESSMENT SERVICE

EPA Specification Engineering Construction Pipefitter



Contents

Section 1 – Introduction	3
Section 2 – Mapping the standard	11
Section 3 – Service Delivery and Gateway Eligibility	15
Section 4 – Engineering Construction Pipefitter Standard with Amplification and Guidance	23
Section 5 – Assessment	43
Section 5.1 – The Knowledge Test	48
Section 5.2 – The Practical Assessment	51
Section 5.3 – Structured Professional Review	64
Section 6 – Practice Assessments and Guidance	76
Section 7 – Supporting Documents and Guidance	80

L3 EPA Engineering Construction Pipefitter



EPA Specification Section 1 – Introduction

Contacts

This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for endpoint assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:

**Help Desk email: enquiries@euias.co.uk
Help Desk telephone: 0121 713 8310**

About the Energy and Utilities Independent Assessment Service (EUIAS)

The EUIAS is an independent End-point Assessment organisation (EPAO) approved by the Education and Skills Funding Agency (ESFA) (number EPA0009) to offer and carry out the end-point assessments (EPA) for the Level 3 Engineering Construction Pipefitter Apprenticeship Standard (ST0162). This specification relates to assessment plan ST0162/AP02.

The EUIAS was established in 2014 and is part of Energy & Utility Skills Limited. The EUIAS delivers rigorous and robust apprenticeship end-point assessment services for the energy and utilities sector, and for technical and safety-critical sectors. In May 2016, The EUIAS became the first end-point assessment provider to have achievers on the English Trailblazer apprenticeship standards.

About End-point Assessment

End-point assessment is the term given to the assessments taken by apprentices at the end of their apprenticeship, and which must be passed in order for the apprentice to be awarded a certificate of achievement. Apprentices must be trained by training providers approved by the ESFA and their end-point assessments must be carried out by an EPAO approved by the ESFA. The assessment is designed, delivered, assessed and quality assured by the EPAO, with further external quality assurance provided by an external quality assurance (EQA) provider.

The EPA typically consists of three assessment components each of which must be passed in order to achieve an overall pass. For the Engineering Construction Pipefitter standard, the assessments are a knowledge test, a Practical Assessment and a structured professional review.

End-point assessment is based on two documents that have been written by an employer group – the Standard and the Assessment Plan, both of which can be found on the website of the Institute for Apprenticeships and Technical Education, www.instituteforapprenticeships.org.

The EPAO designs the assessments to cover the standard, while complying with the assessment plan. It is important for training providers supporting apprenticeships:

- to ensure their training programmes cover all the elements required by the standard
- to have access to suitable premises, plant, machinery and equipment for the Practical Assessment

How to Use this EPA Specification for Engineering Construction Pipefitter

Welcome to the EUIAS EPA Specification for the Engineering Construction Pipefitter (ECP) Apprenticeship Standard.

The EUIAS internally quality assures all end-point assessments in accordance with its IQA process and IfATE requirements. This standard is externally quality assured by ECITB on behalf of the IfATE.

This Specification is available from the EUIAS website (www.euias.co.uk) as a complete document, and also in its individual sections to allow customers to download what they require.

Important: the web site will always contain the latest version of this document so please check back to ensure you are using the latest version.

This Specification outlines what you need to know about the end-point assessments for this standard and provides details of the on-programme delivery requirements. It provides advice and guidance for trainers on how to prepare apprentices for the end-point assessment.

The Specification provides end-to-end details of the how the EUIAS works with customers, from initial engagement to the completion of end-point assessment.

Audience:

Section 2 will be of interest mainly to the external quality assurance body to ensure the assessment methods cover the standard.

Section 3 will be of interest mainly to administrators and those responsible for planning and scheduling end-point assessments.

Section 4 will be of interest to those ensuring that apprentices have covered all the required elements of the standard during their apprenticeship, and to apprentices themselves.

Sections 5 and 6 will be of interest to those who support apprentices in preparing for the end-point assessments, and to apprentices themselves.

At a glance

Apprenticeship standard: Engineering Construction Pipefitter

Assessment Plan: ST0162/AP02

Level: 3

On-programme duration: Typically, 36 months

Grading: Fail/pass/merit/distinction

End-point Assessment methods:

- Knowledge Test
- Practical Assessment
- Structured Professional Review*

* This standard has been designed to align with the requirements of the Engineering Council's Professional Standards as detailed in the UKSPEC at Engineering Technician (Eng Tech) level. For the Structured Professional Review apprentices draw together and present their evidence, referencing the five UKSPEC areas of competence. Further details are provided in the Structured Professional Review section (Section 5.3) of this specification.

Quality Assurance:

Quality assurance of the end-point assessment is designed in accordance with the Assessment Plan. The main features of EUIAS quality assurance are:

- Assessments carried out by assessors standardised by EUIAS
- Ongoing internal quality assurance
- Moderation and final grading by EUIAS

External quality assurance is provided by ECITB on behalf of the IfATE.

In this guide, you will find:

- Detailed amplification and guidance of the standard and guidance on how to prepare the apprentice for gateway
- Detailed information on which part of the standard is assessed by which assessment method
- A section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out practice assessments
- Suggestions on how to prepare the apprentice for each part of the end-point assessment
- A practice test that you can use with apprentices.

Is this the right standard for you?

The Engineering Construction Pipefitter standard has been designed by the trailblazer group of employers for pipefitters specifically engaged in a variety of settings.

A substantial part of the assessment activity is the Practical Assessment where the apprentice competently demonstrates their skills required to perform their job role by completing a holistic pipefitting task which has to be secured to a rig, provided by EUIAS. The apprentice will secure the resulting pipe assembly to a rig. The rig will be provided by EUIAS. It is important that the setting provides the opportunity to cover all the requirements of the standard. It is essential that the employer and provider check that they have the right site with the right opportunities for the apprentice to cover all the requirements of the assessment. The apprentice will not be assessed on the job that they do but on the requirements of the standard.

Standard overview

The Engineering Construction Pipefitter works within strictly defined processes and procedures to exacting standards. The role includes positioning, assembly, fabrication, maintenance, repair and decommissioning of piping systems within Engineering Construction, on construction sites or at commercial fabrication facilities. This can include working in environments with systems that may carry water, steam, food, pharmaceutical, chemicals gas, hydrocarbons or fuel which may be used in cooling, heating, lubricating and other processes. The Pipefitter works with various pipe materials such as ferrous and non-ferrous metals, plastics and composites. These materials can vary from 15mm to 1200mm in diameter and from 5 mm up to 75 mm in thickness dependent upon the content of the pipes and the operating pressures of the systems. The role requires the knowledge and skills to implement the specified method of jointing required within often complex piping systems. The Pipefitter must be able to work autonomously and as part of a team ensuring compliance with health, safety and environmental, processes and procedures. The Pipefitter must also work with other Engineering Construction occupations such as welders.

The apprentice would be expected in their job role to:

- comply with Health and Safety, Risk and Quality Requirements
- correctly select and safely use tools and equipment for the fabrication, assembly, installation and decommissioning of pipework components and systems
- plan, organise and undertake the fabrication, assembly, installation and decommissioning of pipework components and systems
- read, interpret and apply, engineering drawing information
- shape pipework components using hand and power tools to cut, drill, shape and finish components to the required tolerance, specification and standard
- assemble and install pipework using the appropriate methods, techniques and equipment in accordance with the specification including welded, threaded, bolted and clamp jointing solutions
- ensure the integrity of the joints in accordance with specifications, in line with specified quality procedures and to precise tolerances
- undertake the testing and inspection of the fabricated or installed pipework using appropriate techniques

- work with others and contribute to effective working relationships within the engineering construction environment
- apply techniques for the temporary or permanent removal of an engineering construction piping related system or component
- communicate by keeping others informed about work plans or activities which may affect them and seek assistance from others without causing undue disruption to normal work activities.

On-programme requirements

The employer or training provider should ensure that they have developed and can deliver a programme of training and learning that will enable the apprentice to develop the knowledge, skills and behaviours that will be assessed as part of this standard. The programme must cover all the knowledge, skills and behaviours of the standard.

The planning, organisation and delivery of the on-programme element of the apprenticeship is the responsibility of the employer or training provider and it is their responsibility to ensure they are compliant with all applicable regulations.

The programme of training for the Engineering Construction Pipefitter must be completed before being entering gateway and **must include**:

- **Completion of a Level 3 Diploma in Installing Engineering Construction Plant and Systems**
- **If not already held, English and Maths at Level 2 (or equivalent).**

For all roles it is recommended that throughout the period of learning and development, and at least monthly' the apprentice should meet with their training provider or employer to record their progress against the standard. At these reviews, the employer should:

- set learning and development goals
- track the apprentice's progress
- coordinate 20% of the apprentice's time being spent in off-the-job training.

The employer must satisfy themselves that the apprentice:

- has developed and demonstrated the knowledge, skills and behaviours as specified in the standard
- can successfully demonstrate their ability to work safely and competently as an Engineering Construction Pipefitter.

Once the apprentice is deemed competent, the relevant section(s) of the standard should be signed off by the on-programme assessor and employer.

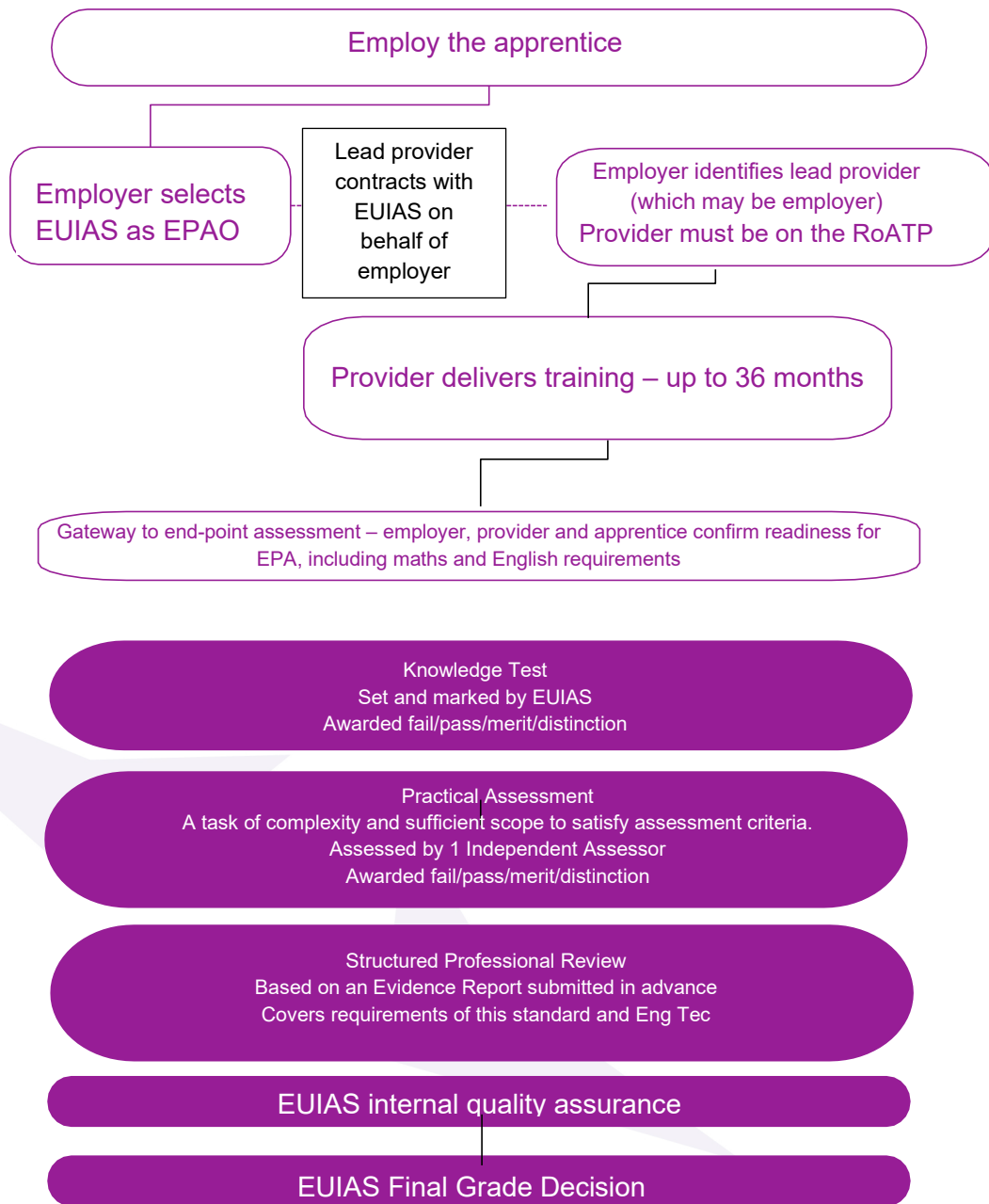
Readiness for end-point assessment

The apprentice must satisfy all requirements of the final gateway before entering end-point assessment:

- Achievement of the Level 3 Diploma in Installing Engineering Construction Plant and Systems -pipefitting pathway. EUIAS requires a copy of the certificate before end-point assessment can take place
- Achievement of Level 2 English and maths. EUIAS requires copies of the certificates before end-point assessment can take place
- The employer, training provider and apprentice must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Eligibility Report
- The apprentice and the employer must engage with the Service Delivery team at EUIAS to agree a schedule for each assessment activity to ensure all components can be completed within a 6-month assessment window. Further information about the gateway process in Section 3
- The employer, training provider and apprentice must be confident in ensuring that all EPA assessment completed documentation is uploaded to the EUIAS system as instructed by the Service Delivery Team

Order of end-point assessments

The successful completion of the Knowledge Test and Practical Assessment must precede the Structured Professional Review. The Knowledge Test and Practical Assessment may take place in any order, although the EUIAS will usually schedule the Knowledge Test first to allow time for any re-takes that may be needed. The final component is the Structured Professional Review. This will take place face to face and the apprentice will be given 2 months to complete the Structured Professional Review Evidence Report. The completed report must be submitted to EUIAS three-weeks before the Structured Professional Review is undertaken by the Independent Assessor



Overview of the EPA process – EPA-related activities in purple