ENERGY & UTILITY SKILLS

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EUIAS Level 3 End-point Assessment for Power Industry Overhead Linesperson
(Distribution; Transmission)

Specification

QAN 610/4881/1
ST1330 V1.1

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Specification for

EUIAS Level 3 End-point Assessment for Power Industry Overhead Linesperson

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Updates to this Specification

Since the first publication of the EUIAS Power Industry Overhead Linesperson (Distribution; Transmission) (PIOL) Specification, the following updates have been made.

Version	Date first published	Section updated	Page(s)
V1.1	November 2024	Standard updated (V1.1) to include statement '*The apprentice may choose to end the assessment method early.'* For 3 assessment methods	5, 18, 32, 35, 76, 80, 81, 88
V1.0	October 2024	First published	All

Section 1: At a glance EPA summary

Qualification name	EUIAS Level 3 End-point Assessment for Power Industry Overhead Linesperson
Ofqual qualification number	460/4881/1
Standard reference	ST1330
Assessment plan	V1.1
Standard title	Power Industry Overhead Linesperson
Pathways	Distribution Transmission
Level	3
Gateway pre-requisites submitted to EUIAS	Apprentice has: • achieved English and mathematics qualifications in line with the apprenticeship funding rules • passed Emergency first aid 1 day course • compiled and submitted an EPA portfolio, which will be the focus of the interview based on an EPA portfolio
On-programme duration	Typically 30 months
Gateway readiness	Apprentice has met all Gateway pre-requisites. Employer completes, signs and submits Gateway Eligibility Form (GER) form to EUIAS. See Appendix B, PIOL Supporting Documents 'Gateway Eligibility Form.'

End-point assessment duration	Typically 6 months after Gateway
End-point assessment methods and their order	Both the: • multiple-choice test; and • interview based on an EPA portfolio **must be completed and passed** before starting the: • trade test practical assessment with questions; and • trade test technical interview
End-point assessment methods and component grading	Multiple-choice test: Fail or Pass Interview based on an EPA portfolio: Fail; Pass; or Distinction Trade test practical assessment with questions: Fail; Pass; or Distinction Trade test technical interview: Fail or Pass
Overall Grading	Fail; Pass; or Distinction
Certification	EUIAS request Apprenticeship completion certificates from the ESFA
Glossary of Terms	Appendix A, PIOL Supporting Documents

Objective

The purpose of the Power Industry Overhead Linesperson (PIOL) end-point assessment (EPA) is to confirm that an apprentice is fully capable of doing their job before they receive their apprenticeship certificate. It also helps to demonstrate that what an apprentice has learned can be applied in the real world.

Once the apprentice has completed the PIOL end-point assessment requirements successfully and has been certified they could take on the following job roles:

- Overhead lines craftsperson
- Overhead linesperson

Professional recognition

The apprenticeship aligns with The Institution of Engineering and Technology (IET) for Engineering Technician (EngTech). The experience gained and responsibility held by the apprentice on completion of the apprenticeship will either wholly or partially satisfy the requirements for registration at this level. Please contact the professional body for more details.

Gateway readiness

Gateway takes place before the EPA can start. The employer and training provider will review their apprentice's knowledge, skills and behaviours to see if they have met the minimum requirements of the apprenticeship set out in the apprenticeship standard and are ready to take the assessment. Only apprentices who complete gateway successfully can start the EPA. Gateway pre-requisites are listed in the summary table above. The Gateway Eligibility Form must be completed see PIOL Supporting Documents Appendix B.

Recognition of prior learning (RPL)

EUIAS does not recognise any apprentice prior learning (RPL) or prior achievement (RPA) for the purpose of amending the assessment requirements of any end-point assessments.

Please refer to the EUIAS RPL and RPA policy at www.euias.co.uk/end-point-assessment/policies-and-fees

In order for EUIAS to award an end-point assessment qualification, the apprentice must successfully complete all required assessment components with EUIAS. This means that:

- each of the EPA components must be completed in full with EUIAS
- where an apprentice transfers to EUIAS from another EPAO they have to undertake the entire EPA with EUIAS

- components of the EPA cannot be certificated in isolation
- evidence produced for the portfolio must be related to the time the apprentice is on their apprenticeship programme to demonstrate current practice

This does not affect the Gateway requirements which must be met in order for an apprentice to be eligible for end-point assessment.

This does not affect any reasonable adjustments that may be granted.

Section 2: End-point Assessment Components

Component 1: Multiple-choice test

Overview

The multiple-choice test is a computer-based test which consists of 40 multiple-choice questions. Paper-based tests are available on request.

Apprentices have 60 minutes to complete the test. The multiple-choice questions will have four possible answers of which one will be correct.

The Pass mark is 28 correct answers.

For this paper:

- a (scientific) calculator is required
- access to the internet or intranet is NOT allowed
- apprentices cannot refer to reference books or materials whilst taking the test

Apprentices must take the test in a quiet space, free from distractions and influence, in the presence of an EUIAS approved invigilator.

Multiple-choice test coverage

The multiple-choice consists of 40 core knowledge questions.
The table below lists each of the knowledge elements, assessed in the multiple-choice. Amplification and Guidance can be found in the table below.

Number of Questions	Knowledge	Amplification and Guidance (where required)
3 - 5	**K1:** Power network industry appreciation: generation of electricity, Transmission Network Operator, Distribution Network Operator (DNO), Independent Distribution Network Operator (IDNO), Independent Connections Provider (ICP), supplier, generators -role and boundary of operation.	Power network industry appreciation: 1. Generation of electricity including methods and sources of energy The role and boundary of operation of: 2. Transmission Network Operator (TNO) 3. Distribution Network Operator (DNO) 4. Independent Distribution Network Operator (IDNO) 5. Independent Connections Provider (ICP) 6. Supplier 7. Generators
1 - 2	**K2:** The office of gas and electricity markets (Ofgem) - their role and powers.	The office of gas and electricity markets (Ofgem): 1. Their role and responsibilities 2. Their powers such as licensing, enforcement and price controls

Number of Questions	Knowledge	Amplification and Guidance (where required)
1 - 3	**K3:** Power industry regulations: Electricity at Work Regulations, and The Electricity Safety, Quality and Continuity Regulations (ESQCR). Their purpose and basic requirements.	The purpose and basic requirements of: 1. Electricity at Work Regulations 2. The Electricity Safety, Quality and Continuity Regulations (ESQCR)
3 - 5	**K6:** Business operation considerations: how activities may impact customers, financial constraints (budgets), penalties and rewards, ethical business practices.	Business operation considerations: 1. How activities, such as implementing energy efficiency and maintenance programmes; price setting; and customer engagement, may impact customers 2. Financial constraints (budgets) such as regulatory compliance requirements; integration of renewable energy sources 3. Penalties and rewards such as under RIIO (Revenue = Incentives + Innovation + Outputs); performance targets 4. Ethical business practices such as fair treatment of employees and customers, environmental responsibility
8 - 10	**K9:** Health and safety regulations, standards, and guidance – their purpose and basic requirements: asbestos	The purpose and basic requirements of:

Number of Questions	Knowledge	Amplification and Guidance (where required)
	awareness, Construction Design Management (CDM), Health and Safety at Work Act, confined spaces awareness, Control of Substances Hazardous to Health (COSHH), Lifting Operations and Lifting Equipment Regulations (LOLER), lone working, Management of Health and Safety at Work, Provision and Use of Work Equipment Regulations (PUWER), Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR), and warning signs and symbols.	1. asbestos awareness such as where they may come into contact; safe work practices, control measures, and protective equipment needed 2. The Construction (Design and Management) Regulations 2015 (CDM) 3. Health and Safety at Work Act 1974 (HASWA) 4. confined spaces awareness such as definition and identification, hazards and risks, safety procedures, emergency procedures, equipment and tools, regulations and compliance 5. Control of Substances Hazardous to Health 2002 (COSHH) 6. Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) 7. lone working 8. Management of Health and Safety at Work Regulations 1999 9. Provision and Use of Work Equipment Regulations 1998 (PUWER) 10. Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)

Number of Questions	Knowledge	Amplification and Guidance (where required)
		11. warning signs and symbols by type, colour and recognising their pictograms
1 – 3	**K16**: The Environmental Protection Act - its purpose and basic requirements. Environmental management systems standard.	1. The Environmental Protection Act 1990 – its purpose and basic requirements including coverage and obligations of the ACT, related legislation (Environment Act, Hazardous Waste Regulations) 2. Environmental management systems standard: ISO 14001:2015
1 – 2	**K19:** Access to private land, streets and wayleaves.	1. Access to private land, streets and wayleaves.
5 - 7	**K27:** Mathematical theory in power engineering. Round numbers, scientific notation, percentages and ratios. Areas, perimeters, volumes and surface areas of simple shapes. Scales, tables, graphs and charts. Pythagoras' Theorem and sin, cos, and tan in right-angled triangles. Substitution of numerical values into	Mathematical theory in power engineering: 1. Round numbers, scientific notation, percentages and ratios 2. Areas, perimeters, volumes and surface areas of simple shapes 3. Scales, tables, graphs and charts 4. Pythagoras' Theorem and sin, cos, and tan in right-angled triangles 5. Substitution of numerical values into simple engineering formulae

Number of Questions	Knowledge	Amplification and Guidance (where required)
	simple engineering formulae. The sequence of arithmetic operations.	6. The sequence of arithmetic operations Examples of the focus of questions that may be asked: 7. Calculating loads, currents, and voltages 8. Angles and distances for the layout and alignment of power lines 9. Using electrical formulas: Ohm's Law, power calculations, and other electrical principles 10. Conversion of units, such as from metric to imperial 11. Calculating reliability and efficiency/performance of power lines
6 - 8	**K28:** Mechanical theory in power engineering. Mass, force and weight. Parameters of mechanical systems. The components of hydraulic and pneumatic systems. Statics and forces. Energy, work and power. The parameters of material tensile strengths. The parameters of mechanical advantage. The lever principle and theorem of movement.	1. Mechanical theory in power engineering 2. Mass, force and weight 3. Parameters of mechanical systems 4. The components of hydraulic and pneumatic systems 5. Statics and forces 6. Energy, work and power 7. The parameters of material tensile strengths 8. The parameters of mechanical advantage 9. The lever principle and theorem of movement

Number of Questions	Knowledge	Amplification and Guidance (where required)
3 - 5	**K29:** Electrical theory in power engineering. Circuit technology. Magnetism and electromagnetism. Transformers.	1. Electrical theory in power engineering: Ohm's Law; Kirchhoff's Current Law; Kirchhoff's Voltage Law; power factors; three-phase power 2. Circuit technology such as distribution panels and associated equipment; switchgear; protective relays; smart grids 3. Magnetism and electromagnetism such as magnetic fields and forces; electric fields and forces; Faraday's Law 4. Transformers such as core materials and types; primary and secondary windings

Multiple-choice test roles and responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by EUIAS. Must not invigilate an assessment, solely, if they have delivered the assessed content to the apprentice. Invigilate and supervise the apprentice during tests and in breaks during assessment methods to prevent malpractice in line with the EUIAS' invigilation procedures.
Employer/Training Provider	Ensure that the multiple-choice test is scheduled with EUIAS for a date and time which allow the apprentice to be well prepared. Follow EUIAS guidance in setting up and confirming IT provision for the on-screen test.
EUIAS	Arrange for the multiple-choice test to take place, in consultation with the employer/training provider. Mark multiple-choice test answers accurately according to the mark scheme and procedures.

Component 2: Interview based on an EPA portfolio

Overview

This interview is based on the apprentice's EPA portfolio developed from the EPA Portfolio Template's tasks and focuses on holistic evidence covering the KSBs. The interview allows for testing of responses where there are a range of potential answers.

The EPA portfolio, compiled throughout the apprenticeship and completed by Gateway, must be submitted to EUIAS. The EPA Portfolio Template will be issued to employers/training providers by their EUIAS Service Delivery Coordinator.

Step-by-Step guide

The table below provides a step-by-step guide on how the interview based on an EPA portfolio will be carried out:

Assessors	1 independent assessor approved by EUIAS will conduct the interview.
Technical Interview (based on an EPA portfolio) structure	**Types of questions:** • The assessor will ask at least 8 questions for apprentices following the distribution pathway • The assessor will ask at least 6 questions for apprentices following the transmission pathway • Standardised open questions will be asked based on the evidence contained in the EPA portfolio • Additional follow up questions are allowed, to seek clarification **Locations:** Employer's premises or a suitable venue, for example a training provider's premises. **Time:** • The interview must last 70 minutes for apprentices following the distribution pathway • The interview must last 60 minutes for apprentices following the transmission pathway

	The apprentice may choose to end the interview based on an EPA portfolio early. The apprentice must be confident they have demonstrated competence against the assessment requirements for the interview based on an EPA portfolio The independent assessor must ensure the apprentice is fully aware of all assessment requirements. The independent assessor cannot suggest or choose to end the interview based on an EPA portfolio early, unless in an emergency. The independent assessor is responsible for ensuring the apprentice understands the implications of ending an assessment early if they choose to do so. The independent assessor may suggest the assessment continues. The independent assessor must document the apprentice's request to end the assessment early. **The Interview will be:** • conducted by 1 independent assessor • face to face or remote, as agreed • recorded in writing using the interview record template provided by EUIAS • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under examination conditions The apprentice will have access to their EPA portfolio throughout the interview. **EPA Portfolio:** • The apprentice's Manager/Mentor will typically support the development of the EPA portfolio in accordance with company policy and procedures • Although questioning will cover ALL the elements of the standard (listed below in this section of the Specification), they will prioritise areas according to what they see in the portfolio • For further guidance on the EPA portfolio refer to Section 5 Practical Guidance on EPA Portfolio

What topics will be covered?	**For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage below pages [19-30].**
When will the EPA portfolio be referred to?	The EPA portfolio: • will be reviewed by the independent assessor before the interview • can be referred to by the apprentice to illustrate their answers Note: the EPA portfolio is not directly assessed.
Grading	Fail, Pass or Distinction

Interview based on an EPA portfolio knowledge, skills and behaviours (KSBs) coverage

The Interview based on an EPA portfolio covers:

Task 1: Communication and working with others (core)	Amplification and guidance (where required)
Written communication	
K22: Written communication techniques.	The apprentice should be able to use their portfolio to: • provide examples of their personally written documentation, in a clear legible manner e.g. safety documentation
S23: Produce or amend documents for example, handover notes, procedures, reports.	The apprentice should be able to use their portfolio to: • Provide evidence of technical documents they produced or amended in the course of their work activities e.g. overhead line plans they have amended to record pole positions, risk assessments which required additional information at a later stage
Information and digital technology	
K24: Information and digital technology. Computers and mobile devices. Software: email, word processing, databases, productivity and collaboration software, and work and asset	The apprentice should be able to: • Describe the different forms of digital information they encounter in their job role and the company processes for dealing with the different types of information e.g. work instructions, risk assessments, overhead line plans

Task 1: Communication and working with others (core)	Amplification and guidance (where required)
management systems. General Data Protection Regulation (GDPR). Cyber security.	• Identify the different types of digital devices they work with in their job role and the Company processes they follow to ensure the information is kept secure within the business
S24: Use digital and information technology. Follow cyber security requirements.	The apprentice should be able to use their portfolio to: • Provide examples of work projects where they have used different types of digital information and technology in their job role and how they have complied with the requirements of GDPR
Teamwork	
K25: Team working principles.	The apprentice should be able to: • Describe the benefits of team working and explain how they can support the development of an effective team spirit to improve working relationships e.g. clear goals and objectives, effective communication, cooperation, collaboration and trust
K26: The principles of equality, diversity, and inclusion in the workplace	The apprentice should be able to: • Describe how the Company promotes the principles of equality, diversity, and inclusion in the workplace, which may include equal

Task 1: Communication and working with others (core)	Amplification and guidance (where required)
	opportunities, non-discrimination, inclusive policies and practices, diverse representation and training and education • Describe some of the positive benefits on the workforce of applying the principles of equality, diversity, and inclusion in the workplace
S21: Apply team working principles.	The apprentice should be able to use their portfolio to: • Provide evidence of how they have worked successfully in a team and describe the principles they used to develop their working relationships with others
B6: Team-focus to meet work goals and support inclusivity. For example, support others, show respect to people from different trades, disciplines, backgrounds, and expertise.	The apprentice should be able to use their portfolio to: • Provide examples of how, during their different work activities, they have used a team focus approach to work with others to achieve their team goals

Task 2: Sustainability (core)	Amplification and guidance (where required)
Sustainability	
K17: The power industry's net zero strategy. Principles of sustainability and the circular economy. Impact of sites of special scientific interest, and flora and fauna on work. Potential effects on the environment of companies and individuals not complying with good environmental practices.	Using their portfolio, the apprentice should be able to discuss the topic and provide examples of: • The actions and measures which their Company puts in place to help reduce its carbon footprint and deliver outputs which mitigate the effect on climate change, reduce environmental pollution, and build a more sustainable energy future • Where they have had to consider the impact of their work on the environment of the work site and take additional measures e.g. sites of special scientific interest, protected species (newts, bats) • How they have taken measures to reduce their own environmental impact at work e.g. recycling waste, use of electric vehicles
S11: Apply sustainability principles for example, minimising waste.	Using their portfolio, the apprentice should be able to: • Provide examples of how they have used a sustainable approach in the overhead line activities they have carried out e.g. safe storage and disposal of waste products, recycling of waste conductor

Task 2: Sustainability (core)	Amplification and guidance (where required)
	• Describe some of the actions the industry is taking to improving its sustainability e.g. renewable energy sources, use of electric vehicles, energy efficiency initiatives • Identify some of the benefits of adopting a sustainable approach for the business and the environment
B2: Consider the environment and sustainability when using resources and carrying out tasks.	Using their portfolio, the apprentice should be able to: • Provide examples of overhead line activities they have conducted where they have considered the environment in the way they have carried out the work e.g. waste management • Describe how they can reduce the effect on the environment in the way they work and the resources they use e.g. types of plant, equipment, transport, materials they use and their safe disposal

Task 3: CPD and improvement activities (core)	Amplification and guidance (where required)
Continued professional development	
S25: Carry out and record planned and unplanned learning and development activities.	The apprentice should be able to use their portfolio to: • Provide examples of activities they have carried out which have contributed to their professional development and provided valuable learning points e.g. courses they have attended, activities they have undertaken
B7: Committed to continued professional development to maintain and enhance competence.	The apprentice should be able to: • Describe how they have reflected on the activities undertaken and used the experience to enhance their skills, knowledge or understanding to improve their overall performance • Describe any future plans they have to continue their professional development and how they feel the planned event/s will enhance their development
Contribute to improvement activities	
S19: Identify areas for improvement. For example, in relation to quality, cost, time, safety, and environmental impact.	The apprentice should be able to use their portfolio to: • Provide examples of overhead line projects they have worked on where they have put forward ideas or proposed solutions which have

Task 3: CPD and improvement activities (core)	Amplification and guidance (where required)
	led to an improved work performance e.g. better use of resources/materials, hazard identification, problem solving

Task 4: Working on the highway, location and avoidance of utilities and customer service (distribution)	Amplification and guidance (where required)
Plant or vehicle checks	
K15: Plant and vehicle check requirements.	The apprentice should be able to: • Identify the items to examine when conducting checks on their vehicle e.g. tyre condition, fluid levels etc • Identify the items to examine when inspecting plant they use e.g. hydraulic compressors, plant trailers, conductor winches • Describe the signs/information they look for when examining their vehicle and items of plant before use e.g. inspection log, safety notices

Task 4: Working on the highway, location and avoidance of utilities and customer service (distribution)	Amplification and guidance (where required)
S5: Conduct plant or vehicle checks.	The apprentice should be able to use their portfolio to: • Provide evidence of vehicle and/or plant checks they have carried out e.g. copies of check lists, inspection records
New Roads and Street Works Act	
K46: New Roads and Street Works Act (NRSWA): signing, lighting, and guarding. Avoidance of services. Safe excavation.	The apprentice should be able to: • Describe the requirements of the NRSWA Act and how they affect the way overhead line activities are conducted on or near roadways • Identify the precautions to take when setting up signing, lighting or guarding in the roadway • Describe the considerations to take when setting up a NRSWA installation which affects the general public/pedestrians • Describe the requirements for conducting safe excavation techniques on or near the roadway

Task 4: Working on the highway, location and avoidance of utilities and customer service (distribution)	Amplification and guidance (where required)
Location and avoidance of utilities	
K33: Methods for locating and avoiding utilities. Avoiding danger from underground services and overhead exposed conductors. The health and safety executive guidance and requirements: HSG 47 (Avoiding danger from underground services) and GS6 (Avoiding danger from overhead power lines).	The apprentice should be able to: • Describe the Company process and equipment used for the location and avoidance of underground utilities • Describe the basic requirements and precautions of HSG 47 • Describe the method for identifying overhead exposed conductors and the Company procedure to follow when identified • Describe the basic requirements and precautions of GS6
K40: Other utility apparatus that may be present on structures: utility plans.	The apprentice should be able to: • Describe the type of other utility apparatus which can be found on overhead line structures and how to identify the utility type
S27: Carry out visual inspection to identify evidence of overhead services and buried utilities. Use locating equipment.	The apprentice should be able to use their portfolio to: • Provide evidence to identify work locations where they identified overhead line service or mains conductors which they needed to note on their risk assessment or take action to work safely

Task 4: Working on the highway, location and avoidance of utilities and customer service (distribution)	Amplification and guidance (where required)
	• Provide evidence to identify work locations where they have used cable avoidance tools to mark the position of services/substructures and identify/locate buried utilities
S28: Mark the position of services and sub-structures on the work site.	The apprentice should be able to use their portfolio to: • Provide evidence to where they have had to mark or identify the position of services and sub-structures on the work site
Customer Service	
K43: Customer service requirements and techniques.	The apprentice should be able to: • Describe their requirements when interacting with customers and members of the public e.g. polite, respectful, means of identification • Describe how they should deal with irate customers to diffuse a situation and meet the needs of the customer • Describe how they would adapt their communication style when dealing with vulnerable customers e.g. providing technical information

Task 4: Working on the highway, location and avoidance of utilities and customer service (distribution)	Amplification and guidance (where required)
S45: Apply customer service techniques.	The apprentice should be able to use their portfolio to: • Provide evidence of work projects where they have had to interact with customers to provide technical information e.g. details of outage • Provide evidence of work projects where they have had to deal with queries from customers in a respectful manner

Task 4: Locating and avoiding of utilities (transmission)	Amplification and guidance (where required)
Plant or vehicle checks	
K15: Plant and vehicle check requirements.	The apprentice should be able to: • Identify the items to examine when conducting checks on their vehicle e.g. tyre condition, fluid levels etc • Identify the items to examine when inspecting plant they use e.g. hydraulic compressors, plant trailers, conductor winches • Describe the signs/information they look for when examining their vehicle and items of plant before use e.g. inspection log, safety notices

Task 4: Locating and avoiding of utilities (transmission)	Amplification and guidance (where required)
S5: Conduct plant or vehicle checks.	The apprentice should be able to use their portfolio to: • Provide evidence of vehicle and/or plant checks they have carried out e.g. copies of check lists, inspection records
Locating and avoiding utilities	
K49: Methods for locating and avoiding utilities. Avoiding danger from underground services and overhead exposed conductors. The health and safety executive guidance and requirements: HSG 47 (Avoiding danger from underground services) and GS6 (Avoiding danger from overhead power lines).	The apprentice should be able to: • Describe the Company process and equipment used for the location and avoidance of underground utilities. • Describe the basic requirements and precautions of HSG 47 • Describe the method for identifying overhead exposed conductors and the Company procedure to follow when identified • Describe the basic requirements and precautions of GS6

Interview based on an EPA portfolio roles and responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by EUIAS. On behalf of EUIAS, where necessary: • ensure the apprentice understands the implications of ending an assessment early document the apprentice's request to end any assessment early
Employer/Training Provider	The interview must be scheduled with EUIAS for a date and time which allow the apprentice to be well prepared. Ensure the apprentice has access to their portfolio before and on the day of the technical interview.
EUIAS	Arrange for the interview to take place, in consultation with the employer/training provider and independent assessor.

Component 3: Trade test practical assessment with questions

Overview

Apprentices who have successfully completed and passed:

- the multiple-choice test
- the interview based on an EPA portfolio

will move onto completing the trade test practical with questions and trade test technical interview.

An employer assessor will conduct and assess the trade test practical assessment with questions. The employer assessor observes the apprentice completing a task or series of tasks set by their employer and asks questions. The employer must use a simulated environment for the trade test practical assessment with questions. The assessment environment must closely relate to the apprentice's natural working environment. The assessment must be designed to meet the requirements of the PIOL Standard – Level 3.

Photographic records of each apprentice's outputs must be taken and retained as evidence, along with records of assessment documentation and any relevant supplementary questioning and the answers given during the test. The employer assessor conducting the assessment:

- must remain in visual contact with the apprentice throughout the trade test assessment
- will ask knowledge questions where competence is not confirmed through observation of natural performance and a record made of the event where relevant.

The test will be awarded a fail, pass or distinction.

The trade test will be based on the trade test requirements and criteria set out in the PIOL Assessment Plan.

The employer must produce the following materials to support the trade test practical assessment with questions:

- employer assessor assessment materials which include:
  - training materials
  - administration materials
  - guidance materials
  - grading guidance
  - question bank
- EPA guidance for the apprentice and their manager

The employer must be aware that the EPA materials are subject to quality assurance procedures including standardisation and moderation by EUIAS.

Trade test mapping summaries for each pathway are provided in PIOL Supporting Documents:

- Appendix C, 'Trade Test Practical Assessment Requirements and Mapping Form'

Each employer/provider must submit their trade test(s) to EUIAS in advance of the testing process for standardisation and approval.

Step-by-step guide

The table below provides a step-by-step guide on how the trade test practical assessment with questions will be carried out:

Assessors	1 employer assessor, approved by EUIAS. As a minimum the employer assessor will have recent relevant experience of the occupation or sector to at least occupational level 3 gained in the last 3 years or significant experience of the occupation or sector.
Practical structure	The trade test practical with questions must take 30-37.5 hours. The trade test practical may take place in parts but must be completed over no more than 21 working days. A working day is typically considered to be 7.5 hours long. The reason for this split is the apprentice will need to complete several tasks, which may require work on different apparatus. The apprentice may choose to end the trade test practical assessment early. The apprentice must be confident they have demonstrated competence against the assessment requirements for the assessment method. The employer assessor must ensure the apprentice is fully aware of all assessment requirements. The employer assessor cannot suggest or choose to end the assessment methods early, unless in an emergency. The employer assessor is responsible for ensuring the apprentice understands the implications of ending an assessment early if they choose to do so. The employer assessor may suggest the assessment continues. The employer assessor must document the apprentice's request to end the assessment early. The ratio of employer assessors to apprentices will comply with the employer's trade test assessment specification. The employer assessor must explain to the apprentice the format and timescales of the trade test practical assessment with

	questions tasks before they start. This does not count towards the assessment time. The employer assessor will ask standardised open questions from the employer's question bank (or create their own questions in line with EUIAS training). Follow up questions may be asked as appropriate, to confirm their understanding of the rationale for actions taken and the choices made to complete the tasks. There may be breaks during the trade test practical assessment to allow the apprentice to move from one location to another and for meal/comfort breaks. During these breaks, the clock will be stopped and then restarted to ensure that the assessment duration is not reduced. The employer must manage invigilation of the apprentice during the assessment, to maintain security of the EPA, in line with their malpractice policy.
Where will the assessment take place?	The trade test practical with questions must be conducted in a simulated environment selected by the employer which reflects the apprentice's natural work environment.
What are the tasks that will be covered?	The apprentice will undertake the following activities: **Core** • prepare for power overhead lines activities • organise and supervise a working party including receiving and clearing a safety document, and briefing a working party • maintain work site health, safety, and environmental compliance including completing a risk assessment • work at height including fitting and operating a rescue device • identify apparatus to be worked on • select, prepare, use and store tools and equipment • communicate with others

	• complete work records **Distribution** • work on or in proximity to live apparatus (simulated) • distribution lifting operations • install distribution support structures and their support mechanisms • install fixed and temporary earthing and cut outs • install distribution conductors • install and dismantle pole mounted plant and apparatus • conduct electrical testing • problem solving and fault-finding • make and break live connections **Transmission** • working in proximity to live apparatus (simulated) • transmission lifting operations • install temporary earthing • install access equipment • install and test transmission conductors • test compression joints
Who sets the task(s)?	The employer must develop a purpose-built assessment specification and question bank. The employer sets the task(s) based on their trade test assessment specification and guidance provided in this Specification. The employer must ensure that the EPA materials are subject to quality assurance procedures including standardisation and moderation by EUIAS. The employer must produce the following materials to support the trade test practical assessment with questions: • employer assessor assessment materials which include: ○ training materials

	○ administration materials ○ guidance materials ○ grading guidance ○ question bank • EPA guidance for the apprentice and their manager The assessment specification and question bank must be reviewed at least once a year to ensure they remain fit-for-purpose.
What resources can the apprentice use?	Equipment and resources needed for the trade test practical assessment with questions must be: • provided by the employer • a suitable premises • the plant, machinery, equipment and PPE required for the job • in good and safe working condition Relevant work instructions/manuals must be available in hard copy or electronically.
How many questions will the apprentice be asked?	The employer assessor: • will ask at least 10 standardised open questions to assess the related underpinning knowledge • may ask follow-up questions in order to seek clarification
What will the questions focus on?	The purpose of the questioning is to assess the apprentice's level of competence against the grading descriptors.
Grading	Fail, Pass or Distinction. If an apprentice fails a task or tasks in the trade test practical with questions, the apprentice must re-sit or re-take the assessment method in full and not just re-sit or re-take a failed task or tasks.

Trade test practical assessment with questions knowledge, skills and behaviours (KSBs) coverage

The Trade test practical assessment with questions covers:

Trade Test Theme: Prepare for power overhead lines activities (Core)	Amplification and Guidance (where required)
K20: Planning, prioritising, organisation, and time management techniques for self and working party.	The apprentice should be able to: • demonstrate how they have planned their overhead line activities which could include check lists for preparation, risk assessments of the work area, overhead line diagrams/drawings, written notes of planned activities • describe how they have prioritised the activities in their preparation to ensure the planned operations run smoothly and meet the required timescales • describe how they have taken into consideration how their work will affect others and the actions they can take to ensure all affected parties are informed and prepared e.g. other employees, members of the public • describe the safety precautions they have planned to allow overhead line activities to commence e.g. safe access/egress, PPE, equipment, person in attendance • describe how the planning requirements for low voltage operations and high voltage operations differ e.g. receipt of safety documents, application of earthing devices

Trade Test Theme: Prepare for power overhead lines activities (Core)	Amplification and Guidance (where required)
S1: Review drawings, instructions, or information to understand the task for example, work instructions, wiring diagrams, design specifications, utility plans, on-line search documents	The apprentice should be able to demonstrate their ability to: • identify and interpret differing types of overhead line plans and line diagrams to identify conductor types and apparatus positions e.g. schematics, composite mains records, transformers, air break isolators • interpret overhead line specification diagrams to identify critical components, measurements and tolerances e.g. construction specifications, earthing requirements • use company online systems to identify overhead line locations, plant and apparatus • interpret work/job instruction sheets to identify the work to be conducted and any restrictions
S2: Prioritise and plan work with consideration for safety, environmental impact, quality, and cost.	The apprentice should be able to demonstrate their ability to: • plan and organise their work to achieve the most effective and efficient outcome in terms of the resources required by themselves and their working party e.g. time, cost, people, materials, plant and equipment • assess the safety requirements for the work to be conducted by themselves and their working party and have a clear plan to implement a safe system of work

Trade Test Theme: Prepare for power overhead lines activities (Core)	Amplification and Guidance (where required)
	• describe the Company's justification for conducting live low voltage activities on the overhead network e.g. approved procedures, safety rules, competent persons, suitable conditions, approved tools and equipment • consider and identify the environmental impact of their planned work and have a clear plan to minimise the impact to an acceptable Company level e.g. land damage by vehicles, waste products • develop a plan of work to conduct their overhead line activities in a logical step by step process which meets the Company specification requirements and allows for checking of the final product
S3: Identify and organise resources to complete tasks for example, consumables.	The apprentice should be able to demonstrate their ability to: • identify the range of resources required to complete their planned overhead line activities • describe the Company processes involved for organising the differing range of resources required e.g. materials, people, plant, equipment • organise the range of resources required to be available at the time of need for the work to be conducted

Trade Test Theme: Prepare for power overhead lines activities (Core)	Amplification and Guidance (where required)
S17: Select, check, and prepare resources.	The apprentice should be able to demonstrate their ability to: • identify the materials required to complete their planned overhead line activities e.g. type and amount of conductor, stay anchors and fittings, conductor preforms/connectors • Identify the range of resources required to complete the planned work within Company requirements e.g. plant, equipment and people to meet safety, time, cost, quality requirements • Check the correct quantity and type of resources are available to successfully complete the planned work • Prepare the required resources to ensure they are present and available to be used at the correct work location e.g. conductor, stays, conductor preforms/connectors

Trade Test Theme: Organise and supervise a working party (Core)	Amplification and Guidance (where required)
S6: Receive and clear a safety document (permit to work). Brief a working party.	The apprentice should be able to demonstrate their ability to:

Trade Test Theme: Organise and supervise a working party (Core)	Amplification and Guidance (where required)
	• interpret the content of the safety document issued to them and identify the safety precautions specified • describe their responsibilities when taking receipt of a safety document for work on the overhead line network • Brief their working party on the content of the safety document and answer and confirm it has been understood • answer any questions in relation to the safety document and confirm their response has been understood • clear the issued safety document on completion of the work confirming all necessary requirements are in place
B3: Take ownership for work and responsibility for its impact on others. For example, self-motivated, disciplined in the approach to work tasks, identify and deal appropriately with distractions to enable tasks to be achieved, work carried out in line with standards.	The apprentice should be able to demonstrate their ability to: • take ownership of the work being conducted by maintaining site safety and monitoring the site conditions and work of others on site • provide guidance to their working party where required and ensure work progresses in a safe and efficient manner • ensure the work is conducted in an efficient manner without distractions and meets the required Company standards and specifications

Trade Test Theme: Maintain work site health, safety and environmental compliance (Core)	Amplification and Guidance (where required)
K7: The hazards associated with work on or near electrical power networks.	The apprentice should be able to: • describe the hazards associated with work on or near electrical overhead line networks and the actions required to identify these hazards
K10: Risk assessments and method statements. Emergency procedures. Personal protective equipment (PPE). Manual handling. Fire safety.	The apprentice should be able to: • explain the purpose and method of conducting an on-site risk assessment and the Company process for recording the findings • describe the purpose and usage of Company Method Statements and the type of information they contained • describe the Company's emergency procedures in the event an incident on site e.g. electric shock, flashover, conductor fail across roadway • describe the Company procedure for the inspection and usage of their personal protective equipment used for overhead line activities e.g. helmet, pole harness, pole strap, safety lanyard, live working gloves, insulated tools • describe the safe application of manual handling techniques e.g. assess the load, TILE - task, individual, lift, environment, two man lift

Trade Test Theme: Maintain work site health, safety and environmental compliance (Core)	Amplification and Guidance (where required)
	• describe the precautions to take to minimise the risk of fire on site and the actions to take in the event of fire
K14: Asset security requirements.	The apprentice should be able to: • describe the range of materials and methods used to secure overhead line assets and restrict unauthorised access • identify the requirements for fitting anti climbing devices and materials to prevent unauthorised access to overhead line apparatus e.g. anti climbing devices measurements from ground, wraps of barbed wire, cable cover guards, danger notices • describe the security requirements for preventing access to a customer's electricity cutout/fuse

Trade Test Theme: Maintain work site health, safety and environmental compliance (Core)	Amplification and Guidance (where required)
K18: Recycling and waste management requirements.	The apprentice should be able to: • describe the Company's process for the control of hazardous and non - hazardous overhead line waste on-site e.g. conductor, stay wire, removed poles etc • describe the Company's process for the recycling of overhead line waste e.g. recovered conductor, conductor fittings/connectors, wood poles
S7: Identify hazards and risks and apply control measures.	The apprentice should be able to demonstrate their ability to: • conduct an on-site risk assessment in a safe and controlled manner, identifying hazards and gauging the risk to implement appropriate control measures • record their findings in a clear and appropriate manner in line with Company procedures and requirements • monitor and maintain site safety conditions and adjust their risk assessment control measures if the site conditions change

Trade Test Theme: Maintain work site health, safety and environmental compliance (Core)	Amplification and Guidance (where required)
S8: Apply health and safety procedures in compliance with regulations, standards, and guidance. For example, safe access and egress, demarcate the work area, working at height, confined spaces, COSHH.	The apprentice should be able to demonstrate their ability to: • apply the relevant health and safety procedures throughout the duration of their overhead line activities work which meet the required Company and regulatory requirements • inspect the integrity of the structure to be climbed to assess its condition before gaining access • maintain attached climbing techniques throughout the duration of the work in compliance with Company requirements • erect and secure ladders (where necessary) to gain access/egress to work positions in compliance with Company requirements
S10: Apply measures to leave power work environments in a safe and secure condition for example, anticlimbing guards, danger notices, barriers, lighting.	The apprentice should be able to demonstrate their ability to: • fit and secure a range of overhead line anti climbing materials/devices to prevent unauthorised access to overhead line apparatus e.g. anti climbing brackets, wraps of barbed wire, cable cover guards, danger notices • apply Company methods to fit security devices for preventing access to customer's electricity cutouts/fuses

Trade Test Theme: Maintain work site health, safety and environmental compliance (Core)	Amplification and Guidance (where required)
	• leave their work area in a safe condition on completion of their work e.g. removal of earthing devices, waste material, barriers, reinstatement
S12: Segregate waste for reuse, recycling, and waste transfer.	The apprentice should be able to demonstrate their ability to: • segregate their waste for re use/recycling and transfer in line with Company procedures e.g. excess overhead line conductor and fittings • segregate their waste into hazardous and non-hazardous for transfer and disposal in line with Company procedures e.g. creosoted wood poles, waste strands of conductor, broken porcelain insulators
B1: Prioritise health and safety. For example, risk aware, minimise risks, and proactively work towards preventing accidents.	The apprentice should be able to demonstrate their ability to: • take a proactive approach to identifying hazards and maintaining the safety of themselves and others on site e.g. toolbox talks, regular monitoring and checking of site/adverse weather conditions

Trade Test Theme: Work at height (Core)	Amplification and Guidance (where required)
K12: Working at height awareness. Safe access and egress methods: hierarchy of methods, inspection, operation, and maintenance requirements. Exclusion zone requirements to avoid risk from falling objects.	The apprentice should be able to: • identify the Company's hierarchy of methods for accessing and egressing work positions at height • describe the inspection requirements for the use of ladders, mobile elevated work platforms or other approved types of access/egress equipment used by the Company • describe the requirements and methods used for establishing exclusion zones where there is a risk of falling objects from work being conducted at height
K13: Working at height personal protective equipment: harnesses, fall restraint and arrest equipment. User inspection, operation, and maintenance requirements. Rescue from height equipment and methods.	The apprentice should be able to: • describe the methods used to inspect their personal working at height equipment for safe and effective operation • identify the types of defects or conditions in their personal working at height equipment which must be acted upon and the actions to take if found • describe the Company's procedure for the use of rescue at height equipment and its method of operation

Trade Test Theme: Work at height (Core)	Amplification and Guidance (where required)
S14: Use working at height equipment for example, mobile working platforms, scaffolding, ladders.	The apprentice should be able to demonstrate their ability to: • inspect and erect ladders in line with Company procedures before accessing and egressing work positions at height • inspect and confirm the suitability of a mobile elevated work platform before using to access/egress work positions at height • inspect and confirm the suitability of other types of Company approved working at height equipment before usage e.g. pole platforms/stallages, scaffolding
S15: Select, inspect, and use personal climbing equipment to access and manoeuvre to a work position at height on overhead line plant and apparatus.	The apprentice should be able to demonstrate their ability to: • inspect and use their personal working at height equipment competently in accordance with the Company's attached climbing policy • access work positions at height and manoeuvre competently on the structure in accordance with the Company's attached climbing policy
S16: Fit and operate a rescue device at height.	The apprentice should be able to demonstrate their ability to: • inspect and fit the Company's approved rescue device for work at height • operate the Company's approved rescue device to safely conduct a simulated rescue at height

Trade Test Theme: Identify apparatus (Core)	Amplification and Guidance (where required)
S4: Identify apparatus to be worked on.	The apprentice should be able to demonstrate their ability to: • use overhead line network plans and schematic diagrams to identify the overhead line apparatus to be worked on in line with Company procedures • use the appropriate methods to identify the correct location and apparatus to be worked on in line with Company procedures

Trade Test Theme: Tools and equipment (Core)	Amplification and Guidance (where required)
S13: Select, check, prepare, use or operate, and store personal tools and equipment.	The apprentice should be able to demonstrate their ability to: • select, inspect and use the correct overhead line tools and equipment in a methodical manner in line with the Company procedures and method statements • clean and store their personal tools and equipment in an appropriate manner to maintain their condition for future use

Trade Test Theme: Communicate with others (Core)	Amplification and Guidance (where required)
K21: Communication techniques. Industry terminology. Adapting style to audience.	The apprentice should be able to: • describe the different types of communication methods available to them and the advantages and disadvantages of the differing methods • describe how they could explain a technical issue to a customer in a way that they could understand • describe how they could adapt their communication style to achieve a more effective result for differing recipients e.g. working party, supervisor, customer
S20: Communicate with others to give and receive information for example, colleagues, customers, and stakeholders.	The apprentice should be able to demonstrate their ability to: • communicate effectively with others to give information which can be understood by the recipient/s • listen and react to information from others in a positive and effective manner
B5: Perform in a professional manner for example, polite, courteous, and respectful to customers and members of the public.	The apprentice should be able to demonstrate their ability to: • perform their duties in a polite and professional manner when giving and receiving information to support their work role • act in a polite and courteous manner when dealing with customers and members of the public

Trade Test Theme: Complete work records (Core)	Amplification and Guidance (where required)
K23: Documentation requirements; importance of accurate records.	The apprentice should be able to: • identify the range of documentation and Company systems used to plan and organise work on the overhead line network e.g. job instructions • describe the types and requirements of safety documentation used for work on the overhead line e.g. risk assessments, permit to work, limitation of access
S18: Record information.	The apprentice should be able to demonstrate their ability to: • carry out and record risk assessment information in line with Company procedures • record service installation details, test results and asset details e.g. earthing readings, voltage recordings, test results • record new pole positions for system mapping records

Trade Test Theme: Work on or in proximity to live apparatus (Distribution)	Amplification and Guidance (where required)
K34: Working on live apparatus and working in proximity to live apparatus protocols. Justification for live working.	The apprentice should be able to: • explain the Company justifications for the use of live working techniques on overhead line networks • describe the Company requirements and precautions to take before accessing live low voltage conductors at height e.g. pole condition, PPE, tools, equipment, shrouding, persons in attendance • describe the Company procedures for testing and working on live low voltage overhead conductors e.g. open wire, aerial bundled conductor, service installations
S29: Follow procedures for working on or in proximity to live apparatus.	The apprentice should be able to demonstrate their ability to: • apply the Company procedures when working on or near live overhead line conductors and apparatus e.g. live high voltage networks, live low voltage networks • select, inspect and use the correct test equipment for testing live overhead line conductors and apparatus • select, inspect and use the correct live working tools and equipment for work on live overhead line conductors and apparatus

Trade Test Theme: Work on or in proximity to live apparatus (Distribution)	Amplification and Guidance (where required)
S30: Select and use specialist LV live working PPE.	The apprentice should be able to demonstrate their ability to: • apply the Company procedures when working on or near live overhead line conductors and apparatus e.g. live high voltage networks, live low voltage networks • select, inspect and use the correct test equipment for testing live overhead line conductors and apparatus • select, inspect and use the correct live working tools and equipment for work on live overhead line conductors and apparatus

Trade Test Theme: Distribution lifting operations (Distribution)	Amplification and Guidance (where required)
K38: Distribution rigging techniques on conductors and structures capable of carrying up to 132kv.	The apprentice should be able to: • identify the range of equipment used for rigging on overhead line networks and explain its purpose e.g. pull lifts, winches, tirfors, slings, shackles

Trade Test Theme: Distribution lifting operations (Distribution)	Amplification and Guidance (where required)
	• describe the methods used to inspect rigging equipment before use and state the potential faults which can be identified in differing items e.g. slings, shackles, wire ropes • identify the meaning of the acronym SWL which is used on rigging equipment and describe how it affects the use of that equipment • describe how to rig a typical overhead line construction to allow conductors to be tensioned and terminated • describe the types of equipment used to grip the conductor under tension and the methods used to terminate conductors
S26: Select and operate lifting equipment in overhead lines distribution work for example, cranes and winches.	The apprentice should be able to demonstrate their ability to: • inspect lifting equipment before use to confirm it meets the requirements of the work to be conducted e.g. condition, weight limit, • select and set up lifting equipment correctly, making confirmatory checks before commencing lifting operations • establish a safe work area and control the lifting operation throughout the duration of the lift e.g. restricted areas, control of persons on site, banksman in place

Trade Test Theme: Distribution lifting operations (Distribution)	Amplification and Guidance (where required)
	• provide clear visual signals and/or verbal instruction to control the lifting operation

Trade Test Theme: Install distribution support structures and their support mechanisms (Distribution)	Amplification and Guidance (where required)
K35: Distribution support structures and their support mechanisms installation requirements.	The apprentice should be able to: • identify the differences in the range of support structures available and the reason each one is used e.g. intermediary, angel, section, terminal • describe the type of plant and methods available for installing overhead line support structures • explain the meaning of the terms “span” and “sag” and how these affect the positioning of new distribution overhead line supports • identify the different types of support mechanisms available and describe their method of installation • identify where the specific engineering data can be found for the installation of overhead line supports and support mechanisms

Trade Test Theme: Install distribution support structures and their support mechanisms (Distribution)	Amplification and Guidance (where required)
K36: Distribution network excavation methods and requirements.	The apprentice should be able to: • describe the precautions to be taken before carrying out the mechanical excavation/penetration of ground e.g. surveys, plans, examination • describe the requirements for the support of excavated ground which needs to be accessed by a person • describe the precautions to be taken where mechanical excavations are being conducted under a distribution overhead line
S31: Erect overhead lines plant and apparatus for example, poles, support mechanisms, stays.	The apprentice should be able to demonstrate their ability to: • conduct a site-specific risk assessment identifying the hazards and implementing the necessary control measures to allow the excavation of ground for the installation of wood pole supports and stays • provide clear instruction to others to allow the mechanical installation of wood pole support structures in line with Company procedures • conduct checks on installed wood pole structures to confirm the correct planting depth, pole line position, vertical positioning and pole rotation (twist)

Trade Test Theme: Install distribution support structures and their support mechanisms (Distribution)	Amplification and Guidance (where required)
	• install ground support mechanisms (anchors) in the correct position in line with Company procedures • terminate pole stay wire to installed stay anchors and tension to the correct angle in line with Company procedures and specifications

Trade Test Theme: Install fixed and temporary earthing (Distribution)	Amplification and Guidance (where required)
K41: Awareness of domestic and industrial supply earthing. Earthing installation requirements. Earth electrode testing.	The apprentice should be able to: • explain the difference between circuit main earths and drain earths when used on distribution overhead line networks • describe the different earthing requirements for domestic and industrial earthing systems • identify the different types of earthing systems found on overhead line networks and explain their differing characteristics e.g. PME, TNS, TNC-s

Trade Test Theme: Install fixed and temporary earthing (Distribution)	Amplification and Guidance (where required)
	• identify the Company earth loop values for each of the different earthing systems and describe the method for testing these values • identify the earthing requirements for wood pole structures supporting overhead line plant and apparatus e.g. transformers, circuit breakers • describe the different methods of installing earthing electrodes and the method used for connecting the earth electrodes to the network
S32: Install circuit main earths (CMEs) and additional (drain) earths.	The apprentice should be able to demonstrate their ability to: • Inspect and install earthing sets (clusters) for the earthing of overhead line conductors to ground • follow Company's procedures for the application of CME's/Drain Earths for the earthing of overhead line conductors • remove CME's/Drain Earths from overhead line conductors and store earthing devices safely and securely
S33: Install fixed earthing conductors and carry out earth electrode testing.	The apprentice should be able to demonstrate their ability to: • install fixed earthing conductors to earth electrodes in line with Company policies and procedures • use test equipment to record the values of installed fixed earthing conductors as part of an overhead line earthing system

Trade Test Theme: Install distribution conductors (Distribution)	Amplification and Guidance (where required)
K31: The installation and jointing methods of common conductor types; causes and consequences of common faults.	The apprentice should be able to: • identify the name, type and sizes of common distribution overhead line conductors used by the Company • describe the methods and equipment used for the reconductoring of distribution overhead line networks • describe the methods used for tensioning and termination overhead line conductors • describe the methods used to prepare overhead line conductors for making connections • describe the common causes of faults on overhead line distribution networks
K42: Cut out requirements.	The apprentice should be able to: • identify the different types of cutouts used by the Company and their purpose e.g. domestic, industrial • describe the installation and testing requirements for the common types of domestic/industrial cut outs used by the Company

Trade Test Theme: Install distribution conductors (Distribution)	Amplification and Guidance (where required)
S34: Install cut outs.	The apprentice should be able to demonstrate their ability to: • install and test common cut outs used by the Company in line with Company policies and procedures
S35: Install or replace conductors, insulators and ancillary equipment on overhead line plant or apparatus including sagging, tensioning and termination where required.	The apprentice should be able to demonstrate their ability to: • inspect and fit running equipment at height to allow conductors to be installed or replaced e.g. conductoring rollers, blocks • tension and terminate conductors at height to the correct sag, in line with Company overhead line specifications • use materials to secure overhead line conductors to insulators at height e.g. preforms, binding • prepare conductors and use tools and equipment at height to make conductor connections e.g. conductor crimps, straight joints

Trade Test Theme: Install and dismantle pole mounted plant and apparatus (Distribution)	Amplification and Guidance (where required)
K39: Pole mounted plant and apparatus: installation, commissioning, and dismantling requirements.	The apprentice should be able to: • identify the common types of overhead line pole mounted plant and apparatus and describe their purpose • identify where technical data can be found to construct pole mounted plant and apparatus to Company specifications • describe the testing procedures to commission a piece of pole mounted overhead line apparatus e.g. transformer • describe the precautions to be taken when dismantling pole mounted overhead line plant and apparatus at height e.g. safe work zones
S36: Install, connect, and commission pole mounted plant and apparatus for example, transformers, pole mounted circuit breakers, and switchgear.	The apprentice should be able to demonstrate their ability to: • work at height to safely install and connect pole mounted plant and apparatus • conduct testing procedures to support the commissioning of pole mounted plant and apparatus
S37: Dismantle pole mounted plant and apparatus for example, transformers, pole mounted circuit breakers, and switchgear.	The apprentice should be able to demonstrate their ability to: • work at height to safely dismantle and lower pole mounted plant and apparatus

Trade Test Theme: Install and dismantle pole mounted plant and apparatus (Distribution)	Amplification and Guidance (where required)
	• safely load and secure pole mounted overhead line apparatus for transport and storage

Trade Test Theme: Conduct electrical testing (Distribution)	Amplification and Guidance (where required)
K45: Low voltage electrical testing requirements and result interpretation.	The apprentice should be able to: • identify the range of electrical tests which are carried out on low voltage overhead line networks and describe their purpose • describe the Company PPE requirements for carrying out live low voltage overhead line test procedures describe the expected readings for the differing electrical test procedures and their range of tolerances e.g. percentage above/below required standard

Trade Test Theme: Conduct electrical testing (Distribution)	Amplification and Guidance (where required)
S38: Conduct pre-energisation tests.	The apprentice should be able to demonstrate their ability to: • inspect and wear the appropriate PPE throughout the testing procedures in line with Company policies and procedures e.g. live working gloves, eye protection, fire retardant clothing • inspect and use the appropriate test equipment to conduct electrical testing procedures in line with Company policy and procedures
S39: Conduct post-energisation (commissioning) checks.	The apprentice should be able to demonstrate their ability to: • inspect and wear the appropriate PPE throughout the testing procedures in line with Company policies and procedures e.g. live working gloves, eye protection, fire retardant clothing • inspect and carry out the appropriate post energisation checks in line with Company policy and procedures
S41: Interpret testing procedure results and action required.	The apprentice should be able to demonstrate their ability to: • interpret the results from the testing procedures and record their findings in line with Company policies and procedures • take the appropriate action if the test results indicate there is an issue with the test results obtained

Trade Test Theme: Problem solving and fault-finding (Distribution)	Amplification and Guidance (where required)
K32: The symptoms and causes of common faults on electrical power circuits, plant and apparatus. Problem solving and fault-finding techniques: non-invasive visual examinations, testing procedures. Root cause analysis.	The apprentice should be able to: • identify the common types of fault which can occur on the overhead line network • explain the common causes of the differing faults and their affect on the network and their symptoms • describe the process for identifying the type of fault and finding its location on the network • explain the difference between invasive and non-invasive fault-finding techniques • describe how to conduct a root cause analysis of a fault on the network and the benefits of conducting one
S43: Recognise fault conditions and identify the root cause.	The apprentice should be able to demonstrate their ability to: • carry out non-invasive visual examinations to identify faults on the overhead line network in line with Company policies and procedures • carry out invasive fault finding techniques and testing procedures to identify faults on the overhead line network in line with Company policies and procedures • interpret the results obtained from fault finding techniques to conduct a root cause analysis of the fault identified and draw conclusions

Trade Test Theme: Problem solving and fault-finding (Distribution)	Amplification and Guidance (where required)
S44: Replace components or resolve issues for example, replace high resistance joints or damaged conductor.	The apprentice should be able to demonstrate their ability to: • prepare to conduct the repair of faulty components in line with Company policy and procedures e.g. PPE, rescue equipment, person in attendance • carry out the repair of faulty components on the overhead line in line with Company policy and procedures • deal with issues to repair faults in line with Company policy and procedures e.g. referral to control

Trade Test Theme: Make and break live connections (Distribution)	Amplification and Guidance (where required)
K44: Low voltage operational switching and testing requirements.	The apprentice should be able to: • identify the range of operations used for low voltage switching on the overhead line network • describe the Company procedures for conducting the differing low voltage switching operations e.g. breaking bows, fuses

Trade Test Theme: Make and break live connections (Distribution)	Amplification and Guidance (where required)
	• describe the testing procedures used for the differing low voltage overhead line switching operations
S40: Perform testing procedures before and after switching operations.	The apprentice should be able to demonstrate their ability to: • prepare to conduct testing procedures on the low voltage overhead line network e.g. inspection, PPE, rescue equipment • carry out testing procedures on the low voltage overhead line network **before** switching operations are carried out • carry out testing procedures on the low voltage overhead line network **after** switching operations are carried out
S42: Operate switchgear and fuses making and breaking live conductor connections.	The apprentice should be able to demonstrate their ability to: • prepare to conduct switching operations on the low voltage overhead line network in line with Company policy and procedures e.g. inspection, PPE, rescue equipment • prepare to conduct switching operations by the insertion/removal of pole mounted fuses on the low voltage overhead line network in line with Company policy and procedures

Trade Test Theme: Make and break live connections (Distribution)	Amplification and Guidance (where required)
	• prepare to conduct switching operations by the making/breaking of conductors on the low voltage overhead line network in line with Company policy and procedures

Trade Test Theme: Work in proximity to live apparatus (Transmission)	Amplification and Guidance (where required)
K48: Working in proximity to live apparatus protocols.	The apprentice should be able to: • describe how to identify and confirm the circuit and apparatus to be worked on in line with Company policy and procedures • describe the Company protocols and precautions to access/egress work areas in proximity to live apparatus • describe the Company procedures for positive identification of the circuit to be worked on e.g. circuit flags, wristlets • describe the protocols to be adhered to when working in proximity to live apparatus

Trade Test Theme: Work in proximity to live apparatus (Transmission)	Amplification and Guidance (where required)
S46: Follow procedures for working on or in proximity to live apparatus.	The apprentice should be able to demonstrate their ability to: • identify and confirm the circuit and apparatus to be worked on in line with Company policy and procedures • prepare and take precautions to access/egress work areas in proximity to live apparatus e.g. climbing route
S48: Check overhead line plant and apparatus is safe to access, install flag and check wristlets if required.	The apprentice should be able to demonstrate their ability to: • check and confirm the plant and apparatus is safe to access in line with Company policy and procedures • use wristlets and fit circuit flags to achieve positive identification of the circuit to be worked on in line with Company policy and procedures

Trade Test Theme: Transmission lifting operations (Transmission)	Amplification and Guidance (where required)
K51: Transmission rigging techniques on conductors and transmission towers.	The apprentice should be able to: • identify the range of equipment used for rigging on transmission towers and explain its purpose e.g. winches, slings, shackles

Trade Test Theme: Transmission lifting operations (Transmission)	Amplification and Guidance (where required)
	• describe the methods used to inspect rigging equipment before use and state the potential faults which can be identified in differing items e.g. slings, shackles, wire ropes • identify the meaning of the acronym SWL which is used on rigging equipment and describe how it affects the use of that equipment • describe how to rig a transmission tower to allow insulators to be replaced e.g. suspension, terminal • describe how to rig a transmission tower to allow conductors to be tensioned and terminated
S47: Select and operate lifting equipment in overhead lines transmission work for example, cranes and winches.	The apprentice should be able to demonstrate their ability to: • inspect lifting and rigging equipment before use to confirm it meets the requirements of the work to be conducted e.g. condition, limit • select and set up lifting equipment correctly, making confirmatory checks before commencing lifting operations • establish a safe work area and control the lifting operation throughout the duration of the lift e.g. restricted areas, control of persons on site, banksman in place

Trade Test Theme: Transmission lifting operations (Transmission)	Amplification and Guidance (where required)
	• provide clear visual signals and/or verbal communication to control the lifting operation

Trade Test Theme: Install access equipment (Transmission)	Amplification and Guidance (where required)
S49: Install access equipment for example, platforms, ladders, and spacer trollies.	The apprentice should be able to demonstrate their ability to: • receive and install access equipment at height in a controlled manner in line with Company procedures

Trade Test Theme: Install temporary earthing (Transmission)	Amplification and Guidance (where required)
K52: High voltage temporary earthing requirements.	The apprentice should be able to: • Identify the component parts and requirements of temporary earthing • describe the purpose of installing high voltage temporary earthing • describe the Company procedure for the fitting of temporary earthing

Trade Test Theme: Install temporary earthing (Transmission)	Amplification and Guidance (where required)
K53: Management of circulating currents.	The apprentice should be able to demonstrate their ability to: • identify the cause and effect of circulating currents • describe how temporary earthing manages the effect of circulating currents
S50: Install high voltage temporary earthing equipment.	The apprentice should be able to demonstrate their ability to: • install high voltage temporary earthing equipment to manage circulating currents in line with Company procedures

Trade Test Theme: Install and test transmission conductors (Transmission)	Amplification and Guidance (where required)
K47: The types and characteristics of common transmission conductors and joints; causes and consequences of common installation faults.	The apprentice should be able to: • identify the type, size and characteristics of common transmission overhead line conductors used by the Company • identify the types and characteristics of common overhead line transmission joints used by the Company • describe the Company procedure to prepare overhead line transmission conductors for making jointed connections

Trade Test Theme: Install and test transmission conductors (Transmission)	Amplification and Guidance (where required)
	• describe the common types of installation faults and how they can be avoided
S51: Install or replace conductors, insulators and ancillary equipment on overhead line plant or apparatus including sagging, tensioning and termination where required.	The apprentice should be able to demonstrate their ability to: • prepare and fit running equipment at height to allow conductors to be installed or replaced e.g. conductor rollers, blocks • tension and terminate conductors at height to the correct tension and sag, in line with Company procedures and specifications • prepare and fit equipment at height to allow tower insulators to be replaced e.g. suspension, tension • prepare and fit equipment at height to allow ancillary equipment to be installed/replaced e.g. dampers, arcing horns

Trade Test Theme: Test compression joints (Transmission)	Amplification and Guidance (where required)
S52: Carry out conductor compression jointing	The apprentice should be able to demonstrate their ability to:

Trade Test Theme: Test compression joints (Transmission)	Amplification and Guidance (where required)
	• clean and prepare transmission conductors ready for joint fitting and compression in line with Company procedures • inspect the compression equipment and select the correct dies for the joint to be compressed • use compression jointing equipment in line with Company procedures to joint overhead line transmission conductors
S54: Test compression joints.	The apprentice should be able to demonstrate their ability to: • clean transmission conductors ready for making connections of test equipment • inspect and fit test equipment to test compression joints in line with Company procedures and manufacturer's instructions confirm the compression joint tested is within the Company's set parameters and record the test results where required

Trade test practical assessment roles and responsibilities

Role	Responsibility
Employer Assessor	Provide written and verbal instructions for the trade test practical with questions. Administer and assess the trade test practical with questions in line with their company's requirements, and EUIAS' requirements including using resources approved by EUIAS. Undertake standardisation training before conducting an EPA for the first time, when the EPA is updated, and periodically on a risk based approach. Make preliminary grading decisions for the trade test practical with questions which will be subject to EUIAS's moderation process. Record and report assessment outcome decisions to EUIAS. On behalf of EUIAS, where necessary: • ensure the apprentice understands the implications of ending an assessment early • document the apprentice's request to end any assessment early Comply with the IQA requirements of EUIAS.
Employer/Training Provider	Provide the venue for the trade test practical with questions which must be suitably equipped to allow the apprentice to attempt all aspects of the trade test practical with questions.

Role	Responsibility
	Provide all necessary tools and equipment for the apprentice. Develop and produce an assessment specification, question bank, assessment materials, and assessment recording documentation for the trade test practical assessment with questions in line with the EPA plan. Confirm arrangements with EUIAS for the standardisation and approval of the trade test practical with questions, question bank, assessment materials, and assessment recording documentation. Appoint employer assessors in line with the requirements of this EPA plan. Appoint administrators, invigilators and any other roles required to facilitate the trade test practical with questions. Maintain the security of the trade test practical with questions including verifying the identity of the apprentice, invigilation, and security of materials. Arrange for standardisation training for their employer assessors with EUIAS. Give EUIAS at least two weeks' notice of the date of the trade test practical with questions to enable EUIAS to schedule quality assurance.

Role	Responsibility
	Not start any trade test practical with questions until EUIAS has confirmed the apprentice has passed the multiple-choice test and interview based on an EPA portfolio. Maintain and apply a policy for the declaration and management of conflict of interests and independence for the trade test practical with questions. Submit completed assessment documentation to EUIAS within 5 working days from the last assessment day relating to the trade test practical assessment with questions and trade test technical interview.
EUIAS	Provide information, advice, and guidance to enable an employer to develop a trade test practical with questions specification, question bank, assessment materials, and assessment recording documentation. Undertake standardisation of the employer's trade test practical with questions, question bank and assessment materials before the employer conducts an assessment for the first time, and periodically on a risk-based approach. Approve the employer's assessment specification, question bank, assessment materials, and assessment recording documentation to be used by employer assessors. Confirm employer assessors have been appointed in line with the requirements of the PIOL EPA Plan.

Role	Responsibility
	Conduct standardisation training with employer assessors before they deliver an EPA, when the EPA is updated, and at least once a year. Conduct on-going moderation across all the employer assessors' decisions according to a sampling plan, with associated risk rating of employer assessors. Confirm the grade for the trade test practical with questions through their internal quality assurance (IQA) procedures.

Component 4: Trade test technical interview

Overview

The trade test technical interview allows for testing of responses where there are a range of potential answers. It is established practice in the power industry and supports regulatory requirements.

Step-by-step guide

The table below provides a step-by-step guide on how the trade test technical interview will be carried out:

Assessors	1 employer assessor, approved by EUIAS, will conduct the interview. As a minimum the employer assessor will have recent relevant experience of the occupation or sector to at least occupational level 3 gained in the last 3 years or significant experience of the occupation or sector.
Trade Test Technical Interview structure	The employer assessor will ask at least 4 questions to explore the apprentice's level of knowledge, skills and behaviours The employer assessor must use the questions from their employer's question bank or create their own questions in line with EUIAS training. Additional follow up questions are allowed, to seek clarification. **Locations:** Employer's premises or a suitable venue for example a training provider's premises. **Time:** The interview must last for at least 60 minutes. The apprentice may choose to end the trade test technical interview early. The apprentice must be confident they have demonstrated competence against the assessment requirements for the trade test technical interview. The employer assessor must ensure the apprentice is fully aware of all assessment requirements. The employer assessor cannot suggest or choose to

	end the trade test technical interview early, unless in an emergency. The employer assessor is responsible for ensuring the apprentice understands the implications of ending an assessment early if they choose to do so. The employer assessor may suggest the assessment continues. The employer assessor must document the apprentice's request to end the assessment early. **The trade test technical interview will be:** • face to face or remote, as agreed • recorded in writing using the trade test technical interview record template approved by EUIAS • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under examination conditions The employer must give an apprentice 2 weeks' notice of the trade test interview.
	The purpose of the employer assessor's questions is to assess the apprentice's competence against the following themes: **Core:** • role and responsibilities • electrical danger and control • power engineering electrical plant and apparatus **Distribution:** • conductor types and tensions **Transmission:** • transmission support structures
Grading	Fail or Pass

Trade test technical interview knowledge, skills and behaviours (KSBs) coverage

Role and responsibilities (Core)	Amplification and guidance (where required)
K4: Overhead linesperson's role and responsibilities. Limitations of role and escalation procedures. Different teams and functions involved in operations: how they work together.	Apprentices should be able to: • describe the duties of an overhead linesperson within their business e.g. their range of work and general conduct • describe their range of responsibilities in relation to the relevant Company policies and procedures e.g. health and safety requirements, methods of work, environmental practices • describe the limitations of their role as an overhead linesperson e.g. levels of authority for decision making • describe the Company processes for raising issues/seeking confirmation and raising objections when necessary • describe how the different teams work together to achieve a common objective e.g. reconductoring team/winching team
K5: Responsibilities of persons as defined in industry standard safety rules: supervising a working party, competent persons. Authorisation roles and responsibilities. Safety documentation.	Apprentices should be able to: • provide examples of where they have worked as part of a working party and describe their responsibilities for the work carried out • describe the responsibilities of the person supervising their working party

Role and responsibilities (Core)	Amplification and guidance (where required)
	• describe the different levels of authorisation within the Company and the limits of their responsibilities e.g. Competent Person, Authorised Person, Senior Authorised Person • provide examples of where they have received Safety Documentation and the details of the work involved e.g. Permit to Work, Limited Work Certificate
S22: Report or escalate issues outside limits of responsibility.	Apprentices should be able to: • provide examples of when they have raised specific issues or sought clarification with their line management to resolve work related issues e.g. landowner wayleave issues, identified pole/conductor damage, hazardous road conditions
B4: Respond and adapt to work demands. For example, adapt working methods to reflect changes in working environment, take initiative - making on the spot decisions, re-prioritise workloads to react to emergency response and to fault scenarios.	Apprentices should be able to: • provide examples of when they have had to adapt or change their approach to their overhead line activities to resolve a specific issue and explain how this change allowed them to maintain safe working practices and meet the work requirements e.g. fault situations, temporary supplies

Electrical danger – control and first aid (Core)	Amplification and Guidance (where required)
K8: The dangers of electricity and how an electric shock can be received: direct contact, induced (impressed) voltage, and arcing. Electric shock emergency procedures.	Apprentices should be able to: • explain the different ways an electric shock can be received and describe examples of each which are relevant to their job role as an overhead linesperson • describe the potential danger of secondary incidents following an electrical shock e.g. disorientated, loss of balance • describe how to assess the situation of a person receiving an electric shock before attempting to deal with the situation • describe the Company procedure for removing/isolating the source of supply dependent on the situation • describe the Company emergency procedure for summoning assistance and the information required when reporting the incident
K11: Emergency First Aid.	Apprentices should be able to: • describe the Company procedure for rendering emergency first aid to the victim of an electric shock • describe the different methods of treatment for different conditions e.g. unconscious or conscious casualty, no sign of life, burns

Electrical danger – control and first aid (Core)	Amplification and Guidance (where required)
	• describe the actions to take while waiting for assistance to arrive dependent on the situation e.g. warn others, maintain a safe environment
S9: Respond in the event of an emergency first aid situation including situations where there is electrical risk.	Apprentices should be able to: • describe the actions they would take in the event of an emergency first aid situation e.g. assessing the situation, summoning assistance, informing others, providing first aid, site management, access arrangements

Power engineering electrical plant and apparatus (Core)	Amplification and Guidance (where required)
K30: Power engineering electrical plant and apparatus, the properties and purpose of transformers, switchgear, earthing devices, voltage control and automated equipment.	Apprentices should be able to: • describe the purpose and characteristics of the differing overhead line plant and apparatus e.g. transformers, switchgear, earthing devices, voltage control and automated equipment • provide examples of the differing types of overhead line plant and apparatus they have worked on

Conductor types and tensions (Distribution)	Amplification and Guidance (where required)
K37: Distribution conductor types, construction, features and tensioning of: all aluminium alloy conductor (AAAC) 30-175mm, Cross-linked polyethylene (XLPE), low voltage earthing, domestic and industrial service cables, cadmium and copper conductors 16-150mm.	Apprentices should be able to: • describe the features and characteristics of the differing overhead line conductor types used in their Company • explain the reasoning behind why the different sizes and types of conductors are used • identify where specification data can be found for the range of conductors used by the Company • provide examples of where they have worked on differing conductors in their job role

Transmission support structures (Transmission)	Amplification and Guidance (where required)
K50: Transmission support structures construction methods. Requirements for support mechanisms and temporary stays.	Apprentices should be able to: • describe the range of transmission support structures used in their Company the types they have worked on • describe the typical construction methods used and the stages of construction • identify where Company specification data can be found for each transmission structure

Transmission support structures (Transmission)	Amplification and Guidance (where required)
	• describe the factors which affect the type of support structure used e.g. span length, line deviation, ground clearance • describe the conditions where temporary stays may be required

Trade Test Technical Interview Roles and Responsibilities

Role	Responsibility
Employer Assessor	Administer and assess the trade test technical interview in line with their company's requirements, and EUIAS' requirements including using resources approved by EUIAS. Undertake standardisation training before conducting an EPA for the first time, when the EPA is updated, and periodically on a risk based approach Make preliminary grading decisions for the trade test technical interview which will be subject to EUIAS's moderation process. Record and report assessment outcome decisions to EUIAS. On behalf of EUIAS, where necessary: • ensure the apprentice understands the implications of ending an assessment early • document the apprentice's request to end any assessment early. Comply with the IQA requirements of EUIAS.
Employer/Training Provider	Develop and produce an assessment specification, question bank, assessment materials, and assessment recording

Role	Responsibility
	documentation for the trade test technical interview in line with the EPA plan. Confirm arrangements with EUIAS for the standardisation and approval of the trade test technical interview question bank, assessment materials, and assessment recording documentation. Appoint employer assessors in line with the requirements of this EPA plan. Maintain the security of the trade test technical interview including verifying the identity of the apprentice, invigilation, and security of materials. Arrange for standardisation training for their employer assessors with EUIAS. Give EUIAS at least two weeks' notice of the date of the trade test technical interview to enable EUIAS to schedule quality assurance. Not start any trade test technical interview until EUIAS has confirmed that the apprentice has passed the multiple-choice test and interview based on an EPA portfolio. Maintain and apply a policy for the declaration and management of conflict of

Role	Responsibility
	interests and independence for the trade test technical interview Submit completed assessment documentation to EUIAS within 5 working days from the last assessment day.
EUIAS	Provide information, advice, and guidance to enable an employer to develop a trade test technical interview specification, question bank, assessment materials, and assessment recording documentation. Undertake standardisation of the employer's trade test technical interview, question bank and assessment materials before the employer conducts an assessment for the first time, and periodically on a risk-based approach. Approve the employer's assessment specification, question bank, assessment materials, and assessment recording documentation to be used by employer assessors. Confirm employer assessors have been appointed in line with the requirements of the PIOL EPA Plan. Conduct standardisation training with employer assessors before they deliver an EPA, when the EPA is updated, and at least once a year.

Role	Responsibility
	Conduct on-going moderation across all the employer assessors' decisions according to a sampling plan, with associated risk rating of employer assessors. Confirm the grade for the trade test technical interview through their internal quality assurance (IQA) procedures.

Section 3: Grading and Grading criteria

Component 1: Multiple-choice test

The following grade boundaries apply to the multiple-choice test

Grade	Minimum mark	Maximum mark
Fail	0	27
Pass	28	40

Component 2: Interview based on an EPA portfolio

The apprentice must demonstrate KSBs in an integrated way.

A Fail will be awarded if an apprentice has not achieved **all** the Pass criteria.

To gain a Pass, an apprentice must successfully achieve **all** the descriptors for the core and their option, as shown below.

To achieve a Distinction an apprentice must successfully achieve **all** the Pass descriptors and **all** of the Distinction descriptors for the core and their option.

Interview (based on an EPA portfolio)	To achieve a Pass the apprentice must achieve ALL of the following:
Task 1: Communication and working with others (all pathways)	
Written communication K22 S23	Describes how they apply written communication techniques to produce or amend documents in their work that are suitable for the context.
Information and digital technology K24 S24	Describes how they use information and digital technology – computers and mobile devices - in the workplace in compliance with their organisation's cyber security requirements. Outlines the requirements of the General Data Protection Regulation
Teamwork K25 K26 S21 B6	Describes how they apply team working principles to meet work goals and support inclusivity in line with their company's policy on equality, diversity, and inclusion.
Task 2: Sustainability (all pathways)	
Sustainability K17 S11 B2	Describes how they consider and apply the principles of sustainability and the circular economy in their own work to support their employer's and the power industry's net

Interview (based on an EPA portfolio)	To achieve a Pass the apprentice must achieve ALL of the following:
	zero strategy with reference to the impact of sites of special scientific interest and flora and fauna on work, and the potential effects on the environment of companies and individuals not complying with good environmental practices.
Task 3: CPD and improvement activities (all pathways)	
CPD (Continued professional development) S25 B7	Outlines the planned and unplanned learning and development activities they have carried out and recorded and shows a commitment to future continued professional development to maintain and enhance competence.
Contribute to improvement activities S19	Describes how they have identified an area for improvement in the workplace.
Task 4: Working on the highway, location and avoidance of utilities and customer service (Distribution)	
Plant or vehicle checks K15 S5	Describes how they conduct plant or vehicle checks in line with company requirements.
New Roads and Street Works Act K46	Explains requirements for signing, lighting, and guarding and safe excavation in line with the New Roads and Street Works Act.
Location and avoidance of utilities K33 K40 S27 S28	Describes how they carry out visual inspections, use electronic locating equipment to identify evidence of overhead services, buried utilities and other utility apparatus as per utility plan and mark the position of services and sub-structures on the work site in line with the health and safety executive guidance and requirements: HSG 47 (Avoiding danger from underground services) and GS6 (Avoiding danger from overhead power lines).
Customer service K43 S45	Describes how they apply customer service techniques to meet company requirements.
Assignment 4: Locating and avoiding utilities (Transmission)	

Interview (based on an EPA portfolio)	To achieve a Pass the apprentice must achieve ALL of the following:
Locating and avoiding utilities K49	Explains methods for locating and avoiding utilities in line with the health and safety executive guidance and requirements: HSG 47 (Avoiding danger from underground services) and GS6 (Avoiding danger from overhead power lines).

Indicative 'distinction' criteria for the Interview (based on an EPA portfolio)

Interview (based on an EPA portfolio)	To achieve a Distinction the apprentice must achieve ALL of the following:
Task 1: Communication and working with others (all pathways)	
Written communication K22 S23	
Information and digital technology K24 S24	
Teamwork K25 K26 S21 B6	Justifies the application of teamworking principles to meeting work goals.
Task 2: Sustainability (all pathways)	
Sustainability K17 S11 B2	Justifies the application of sustainability practices in the power industry.
Task 3: CPD and improvement activities (all pathways)	
CPD (Continued professional development) S25 B7	
Contribute to improvement activities S19	Justifies the potential impact of the improvement suggestion with consideration to benefits and any potential risks.

Interview (based on an EPA portfolio)	To achieve a Distinction the apprentice must achieve ALL of the following:
Task 4: Working on the highway, location and avoidance of utilities and customer service (Distribution)	
Plant or vehicle checks K15 S5	
New Roads and Street Works Act K46	
Location and avoidance of utilities K33 K40 S27 S28	
Customer service K43 S45	
Task 4: Locating and avoiding utilities (Transmission)	
Locating and avoiding utilities K49	

Component 3: Trade test practical assessment with questions

The apprentice must demonstrate KSBs in an integrated way.

A Fail will be awarded if an apprentice has not achieved **all** the Pass criteria.

To gain a Pass, an apprentice must successfully achieve **all** the descriptors for the core and their option, as shown below.

To achieve a Distinction an apprentice must successfully achieve **all** the Pass descriptors and **all** of the Distinction descriptors for the core and their option.

Trade test practical assessment (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
Prepare for power overhead lines activities K20 S1 S2 S3 S17	Reviews drawings, instructions, or information to understand the task's requirements. Plans tasks and identifies and organises resources required to complete tasks for self and working party using planning, prioritising, and time management techniques with consideration for safety, environmental impact, quality, and cost. Selects, checks and prepares resources in line with task requirements.

Trade test practical assessment (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
Organise and supervise a working party S6 B3	Receives and clears a safety document and briefs a working party in line with company requirements taking ownership for work and responsibility for the impact of the work on others.
Maintain work site health, safety, and environmental compliance K7 K10 K14 K18 S7 S8 S10 S12 B1	Identifies hazards and risks in the workplace and applies control measures including consideration of hazards associated with work on or near electrical power networks. Prioritises and applies health and safety procedures in compliance with regulations and standards mitigating against risks including emergency procedures, personal protective equipment, manual handling, and fire safety. Applies measures to leave power work environments in a safe and secure condition in line with company procedures. Segregates resources for reuse, recycling, and waste handling in line with company procedures for recycling and waste transfer.
Work at height **K12 K13 S14 S15 S16**	Uses working at height equipment for safe working at height access and egress in line with hierarchy of methods, inspection, and operation requirements and exclusion zone requirements to avoid risk from falling objects.

Trade test practical assessment (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
	Selects personal climbing equipment suitable for the context. Inspects and uses it to access and manoeuvre to a work position at height on overhead line plant and apparatus in line with company procedures for inspection and operation. Fits and operates a rescue device at height suitable for context and in line with company procedures. Explains maintenance requirements for working at height equipment and personal climbing equipment in line with company procedures.
Identify apparatus S4	Identifies apparatus to be worked on using identification methods suitable for the equipment and the situation.
Tools and equipment S13	Selects, checks, and prepares personal tools and equipment suitable for the task in line with company procedures. Uses or operates personal tools and equipment in line with safety and operational requirements. Stores personal tools and equipment in line with company procedures.

Trade test practical assessment (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
Communicate with others K21 S20 B5	Communicates with others to give and receive information in a professional manner using communication techniques and industry terminology suitable for the context.
Complete work records K23 S18	Records information for work tasks in line with company documentation requirements.

Trade test practical assessment Distribution	To achieve a Pass the apprentice must achieve ALL of the following:
Work on or in proximity to live apparatus K34 S29 S30	Follows procedures for working on or in proximity to live apparatus with justification for live working including selection and use of specialist LV live working PPE in line with protocols.
Distribution lifting operations K38 S26	Selects and operates lifting equipment suitable for the task and in line with company procedures for distribution rigging on conductors and transmission towers.

Trade test practical assessment Distribution	To achieve a Pass the apprentice must achieve ALL of the following:
Install distribution support structures and their support mechanisms K35 K36 S31	Erects overhead lines plant and apparatus in line with task requirements and company installation procedures for distribution support structures and their support mechanisms and distribution network excavation.
Install fixed and temporary earthing K41 S32 S33	Installs circuit main earths, additional (drain) earths, and fixed earthing conductors and carries out earth electrode testing in line with task requirements and company procedures for earthing installation an earth electrode testing.
Install distribution conductors K31 K42 S34 S35	Installs or replaces conductors, insulators and ancillary equipment on overhead line plant or apparatus including sagging, tensioning and termination in line with task requirements and company procedures taking account of the types and characteristics of common distribution conductors and joints and the causes and consequences of common installation faults. Installs cut outs in line with company procedures in compliance with the domestic and industrial supply earthing and cut out requirements

Trade test practical assessment Distribution	To achieve a Pass the apprentice must achieve ALL of the following:
Install and dismantle pole mounted plant and apparatus K39 S36 S37	Installs, connects, and commissions pole mounted plant and apparatus in line with task requirements and company procedures for installation and commissioning. Dismantles pole mounted plant and apparatus in line with task requirements and company procedures for dismantling.
Conduct electrical testing K45 S38 S39 S41	Conducts pre-energisation tests and post-energisation checks in line with task requirements and company procedures for low voltage electrical testing. Interprets testing procedure results accurately and action required in line with company procedures.
Problem solving and fault-finding K32 S43 S44	Recognises fault conditions on electrical power circuits, plant and apparatus using problem solving and fault-finding techniques including non-invasive visual examinations and testing procedures to identify the root cause. Replaces components or resolves issues to address faults in line with company procedures.

Trade test practical assessment Distribution	To achieve a Pass the apprentice must achieve ALL of the following:
Make and break live connections K44 S40 S42	Operates switchgear and fuses making and breaking live conductor connections and performs testing procedures before and after switching operations in line with task requirements and company procedures for low voltage operational switching and testing.

Trade test practical assessment Transmission	To achieve a Pass the apprentice must achieve ALL of the following:
Work in proximity to live apparatus K48 S46 S48	Follows procedures for working in proximity to live apparatus, checks overhead line plant and apparatus is safe to access including installing flag and check wristlets if required in line with company procedures in compliance with working in proximity to live apparatus protocols.
Lifting operations K51 S47	Selects and operates lifting equipment in line with task requirement and company procedures for transmission rigging on conductors and transmission towers.
Install access equipment S49	Installs access equipment to meet task requirements in line with company procedures.

Trade test practical assessment Transmission	To achieve a Pass the apprentice must achieve ALL of the following:
Install temporary earthing K52 K53 S50	Installs high voltage earthing equipment to meet task requirements and manage circulating currents in line with company procedures for high voltage temporary earthing.
Install and test transmission conductors K47 S51 S53	Installs or replaces conductors, insulators and ancillary equipment on overhead line plant or apparatus including sagging, tensioning and termination and connects spaces to conductors in line with task requirements and company procedures taking account of the types and characteristics of common transmission conductors and joints and the causes and consequences of common installation faults.
Test compression joints S52 S54	Carries out conductor compression jointing and tests compression joints in line with task requirements and company procedures.

Distinction criteria for the trade test practical assessment

Trade test practical assessment (Core)	To achieve a Distinction the apprentice must achieve ALL of the following:
Prepare for power overhead lines activities K20 S1 S2 S3 S17	Justifies their planning in terms of efficiencies achieved and the balance of safety, environmental impact, quality, and cost in planning decisions.
Organise and supervise a working party S6 B3	
Maintain work site health, safety, and environmental compliance K7 K10 K14 K18 S7 S8 S10 S12 B1	Justifies how the controls they applied eliminated or reduced risks to an acceptable level using a hierarchical approach to risk assessment.
Work at height K12 K13 S14 S15 S16	
Identify apparatus S4	
Tools and equipment S13	
Communicate with others K21 S20 B5	
Complete work records K23 S18	

Trade test practical assessment (Distribution)	To achieve a Distinction the apprentice must achieve ALL of the following:
Work on or in proximity to live apparatus K34 S29 S30	
Distribution lifting operations K38 S26	
Install distribution support structures and their support mechanisms K35 K36 S31	
Install fixed and temporary earthing K41 S32 S33	
Install distribution conductors K31 K42 S34 S35	
Install and dismantle pole mounted plant and apparatus K39 S36 S37	
Conduct electrical testing K45 S38 S39 S41	Evaluates the test procedure results to determine potential underlying cause.
Problem solving and fault-finding K32 S43 S44	
Make and break live connections K44 S40 S42	

Trade test practical assessment (Transmission)	To achieve a Distinction the apprentice must achieve ALL of the following:
Work in proximity to live apparatus K48 S46 S48	
Lifting operations K51 S47	
Install access equipment S49	
Install temporary earthing K52 K53 S50	
Install and test transmission conductors K47 S51 S53	
Test compression joints S52 S54	Conductor compression joint tolerance is within set parameters and confirmed right first time.

Component 4: Trade test technical interview

The apprentice must demonstrate KSBs in an integrated way.

A Fail will be awarded if an apprentice has not achieved **all** the Pass criteria.

To gain a Pass, an apprentice must successfully achieve **all** the descriptors for each KSB, as shown below.

Trade test technical interview (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
Role and responsibilities K4 K5 S22 B4	Outlines their role as an overhead linesperson including their limits of responsibility and how they report or escalate issues. Describes how they respond and adapt to work demands in line with organisational requirements, with reference to different teams and functions involved in operations and how they work together. Explains the responsibilities of persons as defined in the industry standard safety rules: supervising a working party, competent persons, and authorisation roles and responsibilities in relation to working under safety documentation.
Electrical danger - control and first aid K8 K11 S9	Explains the dangers of electricity and how an electric shock can be received including direct contact, induced (impressed) voltage, and arcing. Outlines electric shock emergency procedures in line with company procedures.

Trade test technical interview (Core)	To achieve a Pass the apprentice must achieve ALL of the following:
	Describes how they would respond in the event of a first aid emergency, with reference to their emergency first aid training and responsibilities and measures they would take to avoid electrical risk in line with company procedures.
Power engineering electrical plant and apparatus K30	Outlines power engineering electrical plant and apparatus, the properties and purpose of transformers, switchgear, earthing devices, voltage control and automated equipment.

Trade test technical interview (Distribution)	To achieve a Pass the apprentice must achieve ALL of the following:
Conductor types and tensions K37	Explains different distribution conductor types and tensions including all aluminium alloy conductor (AAAC) 30-175mm, Cross-linked polyethylene (XLPE), low voltage earthing, domestic and industrial service cables, cadmium and copper conductors 16-150mm.

Trade test technical interview (Transmission)	To achieve a Pass the apprentice must achieve ALL of the following:
Transmission support structures K50	Explains transmission support structures' construction methods and requirements for support mechanisms and temporary stays.

Overall Grading

The apprenticeship will be graded fail, pass or distinction. The final grade will be determined by collective performance in the four assessment components.

The multiple-choice test and trade test technical interview are marked separately and awarded a fail or pass.

The interview based on an EPA portfolio and trade test practical assessment with questions are marked separately and awarded a fail, pass or distinction.

The multiple-choice test is based on the number of correct answers achieved. The grade for each of the other three assessment components is based on the number of criteria achieved.

The overall grade for the PIOL Standard is based on the grades in individual components as follows:

Multiple-choice test	Interview based on an EPA portfolio	Trade test practical assessment with questions	Trade test technical interview	Overall grading
Fail in any component				Fail
Pass	Pass	Pass	Pass	Pass
Pass	Distinction	Pass	Pass	Pass
Pass	Pass	Distinction	Pass	Pass
Pass	Distinction	Distinction	Pass	Distinction

The scoring criteria that will be applied for each assessment criteria along with additional details can be found in Section 3 of this Specification.

The overall grading for the PIOL standard is based on the grades in the individual components as follows:

- Fail – if a Fail is awarded for at least one of the components

- Pass – If at least a Pass is awarded in all the components
- Distinction – If a Distinction is awarded in the interview based on an EPA portfolio and trade test practical assessment with questions, and a pass in the multiple-choice test and trade test technical interview

Section 4: Resits and Retakes

Apprentices who fail one or more EPA components can re-sit or re-take the failed component at the employer's discretion. The apprentice's employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, but a re-take does. Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and EUIAS agree the timescale for a re-sit or re-take. A re-sit is typically taken within 4 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 6 months of the EPA outcome notification. Failed EPA components must be re-sat or re-taken within the 6 month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to a higher grade.

An apprentice will get a maximum EPA grade of pass if there has been a re-sit or re-take for one or more assessment methods.

The EUIAS resit and re-take policy can be found at:
https://www.euias.co.uk/end-point-assessment/policies-and-fees/

Section 5: Practical Guidance

Preparing for the multiple-choice test

While on-programme, the employer and/or training provider should brief the apprentice on the areas to be assessed by the multiple-choice test, as detailed in Section 2 of this specification. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered, ensuring that apprentices are aware that elements of these might come up in the test.

The multiple-choice test is aligned to the standard rather than a specific job role that the apprentice may be doing. The questions have been written to reflect the Power Industry Overhead Linesperson role as a whole and not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice multiple-choice test. This should be undertaken in advance of the live multiple-choice test, with enough time to mark the test, and provide feedback to the apprentices.

A practice multiple-choice test is available as a printable copy - see Appendix E, PIOL Supporting Documents 'Practice multiple-choice test.

For maximum effect, ensure the test is taken in exam conditions similar to those that will be experienced in a live test.

Preparing for the interview based on an EPA portfolio

A practice interview should take place between the apprentice and the person acting the role of an assessor. The apprentice should draw on evidence from their portfolio during the discussion.

Guidance on the EPA portfolio

The EPA Portfolio should be compiled towards the end of the on-programme training when the apprentice has developed the knowledge, skills and behaviours required and can evidence them in tasks and activities they carry out. The EPA portfolio is **not assessed**. The interview will draw on the evidence contained in the EPA portfolio.

The EPA portfolio should reflect:

- their individual experiences and the activities carried out during this period
- the requirements outlined in the assessment plan.

A completed EPA portfolio is one of the Gateway requirements.

The apprentice will have access to their EPA portfolio during the interview.

The EPA portfolio is a record of how each apprentice demonstrated the knowledge, skills and behaviours that are assessed in the interview. Each apprentice will have access to their EPA portfolio during the interview. A set of four tasks to support the compilation of the EPA portfolio has been developed. They help each apprentice focus on the specific knowledge, skills and behaviours that will be assessed in the interview.

For each task there is:

- a series of questions to be answered
- a text box following each question for apprentices to provide their response. These boxes will expand to take more text; however apprentices should be aware that quality of answer is more important than quantity. Apprentices will be able to use their answers as prompts in the interview
- a table for the apprentice to record evidence that supports the examples provided in response to the questions

Supporting evidence must be:

- produced by the apprentice (authentic)
- relevant to the task
- cross referenced and easily accessible in the portfolio
- produced during the time the apprentice is carrying out their on-programme training

The apprentice should include their best examples to answer each question in this document. The examples should be individual to them.

The completed EPA portfolio should contain the four tasks with their responses and at least one piece of evidence backing up each of the questions. A piece of evidence may cover more than one question. No other evidence should be included.

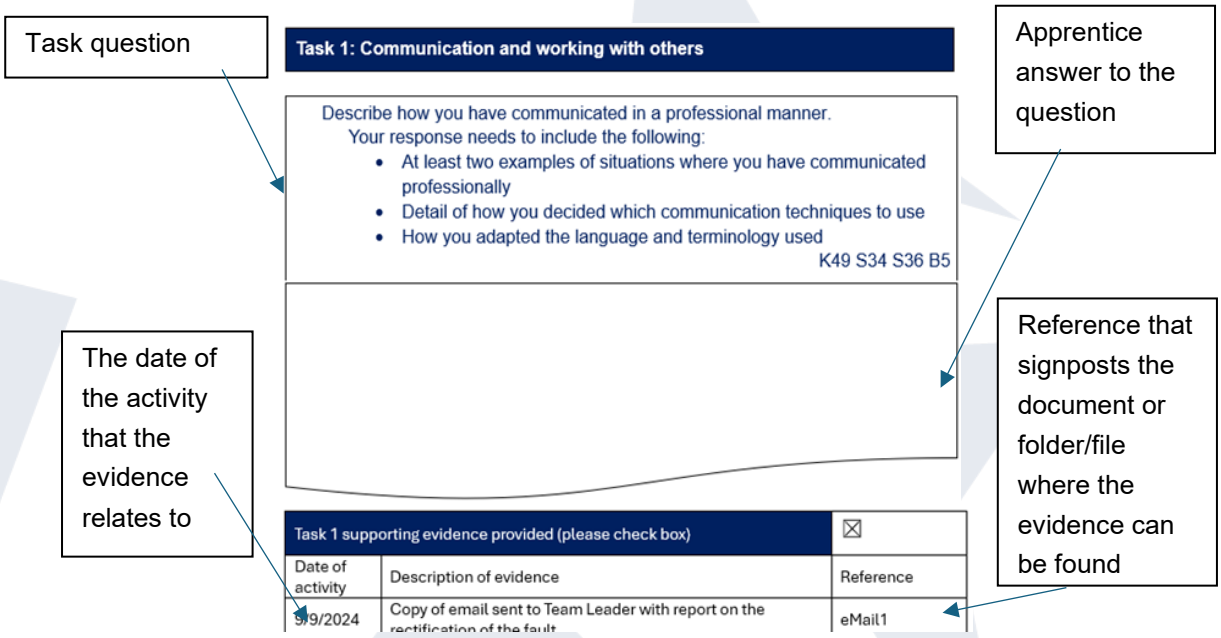
Examples of acceptable evidence:

- workplace documentation/records, for example job task sheets/job card/times sheets, equipment maintenance /service records related to the apprentice
- witness statements signed and dated by coaches/trainers
- employer contributions that focus only on direct observation of evidence (for example witness statements) rather than opinions
- annotated photographs/video clips with a maximum total duration of 10 minutes showing the apprentice carrying out tasks
- diagrams

The above is not a definitive list. The apprentice can include other relevant evidence sources. The portfolio must not contain any methods of self-assessment.

Each piece of evidence must be given a reference. For those using e-portfolios such as ONEFILE or SMARTASSESSOR, the reference used must simply be the file or folder name the apprentice used when uploading the evidence to such systems.

How the apprentice should complete the EPA Portfolio Template



The role of the employer/training provider

Their employer/training provider is expected to support the apprentice in preparing their portfolio by:

- providing clear instruction and deadlines to allow the apprentice to plan and compile their portfolio in preparation for the Gateway meeting
- advising on which pieces of evidence to select
- authenticating evidence as valid
- signing off the EPA portfolio
- submitting the portfolio to EUIAS as part of Gateway requirements.

What to expect in the practice interview?

The practice interview will be based on the EPA portfolio which will provide the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme and by referring to the evidence from their portfolio using their responses to the tasks and associated evidence. A suitable person should be chosen to play the part of the assessor.

A practice interview based on the EPA portfolio from is provided to help prepare the appropriate questions to ask and to record the apprentices' performance. See Appendix F, PIOL Supporting Documents 'Practice Interview based on a Portfolio Form'.
As part of the practice exercise, apprentices should have access to their EPA portfolio to support their responses.

Trade test practical assessment with questions approval

Purpose

EUIAS are required to approve employers' trade test practical assessment with questions materials to be used by employer assessors, apprentices and their managers. The approval must take place before the first trade test practical assessment is carried out. Additional approvals may be taken periodically on a risk-based approach. The purpose of the approval is to provide EUIAS with assurance that the trade test practical assessment will be conducted in line with the PIOL Assessment Plan.

Submitting the form to EUIAS

To obtain approval, employers must complete the trade test practical assessment requirements and mapping form, see Appendix C, PIOL Supporting Documents 'Trade Test Practical Assessment Requirements and Mapping Form'. This must be submitted to the EUIAS Service Delivery Team for approval at least 3 months before Gateway. The form must be accompanied by the relevant documents, listed on page 1 of the form.

EUIAS approval process

Once the trade test practical assessment requirements and mapping form has been received the approval process will be conducted by EUIAS. The outcomes will be shared with the employer/training provider no later than 10 working days following receipt of all the relevant documents.

Preparing for the trade test practical assessment with questions

Where possible, the employer/training provider should provide the apprentice with the opportunity to carry out a practice trade test practical as close to the real assessment described in Section 2 of the specification (Component 3).

The employer/training provider should prepare tasks similar to (but not identical to) the tasks being used for the live assessment. A suitable person should be chosen to play the part of the assessor. An example trade test practical assessment recording form for assessors is provided in Supporting Documents, see Appendix G, PIOL Supporting Documents 'Example: Trade Test Practical Assessment Assessor Recording Form'.

Employer assessors who will be carrying out assessment of the trade test, as part of the EPA, are required to be approved by EUIAS and listed on the EUIAS assessor register. Employers should contact EUIAS to ensure that the approval process if followed.

Trade test technical interview approval

Purpose

EUIAS are required to approve employers' trade test technical interview materials to be used by employer assessors, apprentices and their managers. The approval must take place before the first trade test technical interview is carried out. Additional approvals may be taken periodically on a risk-based approach. The purpose of the approval is to provide EUIAS with assurance that the trade test practical assessment will be conducted in line with the PIOL Assessment Plan.

Submitting the form to EUIAS

To obtain approval, employers must complete the trade test technical interview requirements and mapping form, see Appendix D, PIOL Supporting Documents 'Trade Test Technical Interview Requirements and Mapping Form. This must be submitted to the EUIAS Service Delivery Team for approval at least 3 months before Gateway. The form must be accompanied by the relevant documents, listed on page 1 of the form.

EUIAS approval process

Once the trade test technical interview requirements and mapping form has been received the approval process will be conducted by EUIAS. The outcomes will be shared with the employer/training provider no later than 10 working days following receipt of all the relevant documents.

Preparing for the trade test technical interview

Where possible, the employer/training provider should provide the apprentice with the opportunity to carry out a practice trade test technical interview as close to the real assessment described in Section 2 of the specification (Component 4).

A practice technical interview should take place between the apprentice and the person acting the role of an assessor. An example trade test technical interview recording form, for assessors, is provided in Supporting Documents, see Appendix H, PIOL Supporting Documents 'Example: Trade Test Technical Interview Assessor Recording Form'.

Employer assessors who will be carrying out the trade test technical interview, as part of the EPA, are required to be approved by EUIAS and listed on the EUIAS assessor register. Employers should contact EUIAS to ensure that the approval process is followed.

Section 6: Authenticity and security of apprentice work

The apprentices must be advised by their training provider and employer that copying of any work (whether it is from another apprentice or from internal, external documents or source) and presenting it as their own will be deemed as malpractice and will lead to their work being disqualified. Apprentices must not share their work or allow any person to copy their work as this is not allowed and would also be deemed as malpractice.

In signing off the portfolio, training providers and employers must be satisfied that the evidence in the portfolio is:

- **adequate**: evidence must cover all relevant KSBs within the assessment plan. Adequate does not mean a large quantity of evidence. The evidence should focus on quality rather than quantity
- **authentic**: apprentices must be able to confirm and talk about the evidence that they submit with the independent assessor. It is vitally important apprentices only submit evidence relating to them
- **appropriate**: all evidence must be relevant to the KSBs assessed during the interview based on an EPA portfolio
- **recent and up to date**: all evidence must be linked to the tasks in the EPA Portfolio Template. The evidence must be recent and current which demonstrate the apprentice's competence. The independent assessors, appointed by the EUIAS, will assess current competencies. Apprentices must gather the evidence during their on-programme training