ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

End-point Assessment for Electrical Power Networks Engineer

Asset Management Pathway

QAN: 603/7295/3

Contents

Section 1 – Introduction 3

Section 2 – Mapping the Standard 14

Section 3 – Service Delivery and Gateway Eligibility 19

Section 4 – The EPNE Standard and Pathway with Amplification and Guidance 31

Section 5 – Assessment 50

Section 5.1 Knowledge Test 55

Section 5.2: Practical Observation 58

Section 5.3: Technical Interview 75

Section 6 – Practice Assessments and Guidance 91

Section 7 – Supporting Documents and Guidance 96

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 1 – Introduction

Contacts

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

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

About the Energy and Utilities Independent Assessment Service (EUIAS)

The EUIAS is an independent End-point assessment organisation (EPAO) recognised by Ofqual and approved by the Education and Skills Funding Agency (ESFA) (number EPA0009) to offer and carry out the end-point assessments (EPA) for the Level 4 Electrical Power Networks Engineer Apprenticeship Standard (ST0475). This specification relates to Assessment Plan ST0475/AP01.

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

About end-point assessment

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

The EPA typically consists of three assessment components each of which must be passed in order to achieve an overall pass. For the Electrical Power Networks Engineer Standard, the assessments are a knowledge test, practical observation and a technical interview supported by the apprentice's work log.

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

The EPAO designs the assessments to cover the Standard, while complying with the Assessment Plan.

It is important for training providers supporting apprenticeships:

- to ensure their training programmes cover all the elements required by the Apprenticeship Standard
- to have access to a suitable electrical network desk for the practical observation

How to Use This EPA Specification for The Electrical Power Networks Engineer Apprenticeship Standard

Welcome to the EUIAS EPA Specification for the Electrical Power Networks Engineer (EPNE) Apprenticeship Standard.

The EUIAS internally quality assures all end-point assessments in accordance with its IQA process and IfATE requirements. This Standard is externally quality assured by Ofqual QAN: 603/7295/3.

This Specification is available from the EUIAS website (www.euias.co.uk) as a complete document, and also in its individual sections to allow customers to download what they require. **Important: the web site will always contain the latest version of this document so please check back to ensure you are using the latest version.**

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

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

Audience:

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

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

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

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

At a glance

Apprenticeship standard: Electrical Power Networks Engineer (EPNE)

Assessment Plan: ST0475/AP01

Ofqual QAN: 603/7295/3

Level: 4

On-programme duration: Typically 30 - 36 months (including end-point assessment)

Grading: Fail, Pass or Distinction

End-point assessment duration: Typically 6 months

End-point assessment methods:

- Knowledge test
- Practical observation
- Technical interview supported by the apprentice's work log

Quality Assurance:

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

- Practical is observed by an independent industry technical expert accompanied with an employer technical expert. The practical observation is written up by the independent technical industry with confirmation of mark allocation by independent (EUIAS) examiner
- Technical interview is carried out by an independent industry technical expert accompanied by an employer technical expert from the apprentice's workplace
- Ongoing internal quality assurance
- Moderation and final grading carried out by an Independent Examiner on behalf of the EUIAS

External quality assurance is provided by Ofqual.

In this guide, you will find:

- Detailed amplification and guidance of the Standard and guidance on how to prepare the apprentice for gateway
- Detailed information on which part of the Standard is assessed by which assessment method
- A section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out practice assessments

- Suggestions on how to prepare the apprentice for each part of the end-point assessment
- A practice test that you can use with the apprentices

Is this the right standard for you?

The Electrical Power Networks Engineer Standard has been designed by the trailblazer group of employers for technicians specifically engaged in work within the power sector with other Engineers, sometimes specialist Engineers, to provide engineering solutions to solve complex electricity network scenarios in order to safely manage electricity supplies in normal and abnormal conditions. Using company and or client network strategies, engineers undertake engineering activities to plan, manage, control, construct, replace, maintain and repair assets on the electricity network. They will work in engineering teams that may include Power Networks Craftspersons, senior Engineers and other business specialists, for example procurement, finance and telecommunications engineers.

A substantial part of the assessment activity is the practical observation where the apprentice carries out various tasks to support work on developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns and it is important that the setting provides the opportunity to cover all the requirements of the Standard. It is really important that the employer and training provider check that they have the right site with the right opportunities for the apprentice to cover all the requirements. The apprentice will not be assessed on the job that they do but on the requirements of the Standard.

Purpose

The EPNE End-point Assessment provides evidence that can be used to show and secure the confidence of others that the apprentice has acquired, the skills, knowledge and understanding which confirms their ability to perform functions of an occupational role to the Standards required. It provides evidence of apprenticeship competence, for example, to clients/customers or to their employer to allow them to progress within their career.

Standard Overview

The Electrical Power Networks Engineer Apprentices work within the power sector with other Engineers, sometimes specialist Engineers, to provide engineering solutions to solve complex electricity network scenarios in order to safely manage electricity supplies in normal and abnormal conditions. Using company/client network strategies, engineers undertake engineering activities to plan, manage, control, construct, replace, maintain and repair assets on the electricity network.

They will work in engineering teams that may include Power Networks Craftspersons, senior Engineers and other business specialists, for example procurement, finance and telecommunications engineers.

Electrical Power Networks Engineer has **six** pathways covering **six** different roles:

- Asset Management
- Planning Engineer
- Design Engineer
- Control Engineer
- Electrical Project Engineer
- Operational Delivery Engineer

The apprentice would be expected to understand:

- electrical power principles: alternating current/direct current theories; dynamic/static engineering systems; application of electrical and electronic circuit theory; the use of complex wave forms
- three-phase systems with consideration being given to harmonics and their effects and the methods of power distribution
- electricity network design, capabilities, complexities, operations and topologies; operation and limitations of plant and equipment
- the operation of the electricity network in normal and fault conditions
- safe systems of work and risk management; the application of Electricity Supply Standards, Regulations including environmental requirements. These are Health and Safety at Work Act 1974, Electricity at Work Regulations 1989, Management of Health & Safety at Work Regulations 2003, Control of Substances Hazardous to Health (COSHH) Regulations 2002, The Electricity Safety, Quality and Continuity Regulations 2002, The Environmental Protection Act 1990
- company requirements with regard to project management tools, techniques and processes
- company engineering policies appropriate to their role
- engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness
- company business planning and resource control measures
- the key interfaces of the electricity network and the impact of those interfaces

The apprentice would be expected in their job role to:

- be responsible for the quality of their own work, possibly others'
- ensure the work is completed safely, meets stakeholder quality, time, productivity and budget requirements, whilst maintaining the integrity and efficient running of the network
- comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices
- ensure that all safety considerations are incorporated and evident in all working practices
- apply asset management, design, planning, control, electrical project or operational engineering principles, as appropriate to their role, to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network
- produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities
- read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications
- produce clear and precise reports in relation to their activities to line management, other business departments and to external stakeholders
- develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records
- use company IT systems to provide accurate and reliable data to support business decisions
- demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms
- provide information to support business planning processes in relation to their role activities
- uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment

The apprentice would be expected in their job role to demonstrate the following behaviours:

- **Health, Safety & Environment** – follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information
- **Stakeholder management** – is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely

- **Interpersonal skills -** works well with people from different disciplines, backgrounds and expertise. Takes others' needs and concerns into account and supports them to accomplish an activity safely and on time

- **Analysing and solving problems** – takes responsibility for solving problems by identifying and analysing the issues and drawing logical, sound solutions that benefit customers and the business

- **Risk awareness** – has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on- going basis to achieve safe systems of work

- **Planning & organising** – takes a forward looking perspective when considering the delivery of decisions, activities and projects and ensure plans are in place to manage anticipated issues, considers contingency planning

This specification specifically covers the Electrical Power Networks Engineer – Asset Management Engineer's Role

Electrical Power Networks Engineers are engaged in work within the power sector with other Engineers, sometimes specialist Engineers, to provide engineering solutions to solve complex electricity network scenarios in order to safely manage electricity supplies in normal and abnormal conditions.

In addition, an Asset Management Engineer is responsible for putting concepts and processes into practice, and will:

- support the development of innovative policy solutions to best serve the needs of customers and stakeholders

- plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements

- understand and interpret Regulatory requirements and business plans and contribute to the production of Regulatory technical returns

- assimilate complex external information to inform company decisions

- evaluate plant and equipment proposals and recommend company approaches

- instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis

- support the identification of new and existing innovation projects

- identify the implications of the next generation of low carbon energy and how it influences the way the network is operated

All Electrical Power Networks Engineers will be responsible for the quality of their own work, possibly others' and ensuring the work is completed safely, meets stakeholder quality, time, productivity and budget requirements, whilst maintaining the integrity and efficient running of the network.

The full range of knowledge, skills and behaviours for this role is covered in Section 4.

On-programme requirements

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

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

The programme of training for the Electrical Power Networks Engineer – Asset Management Engineer **must** be completed before entering gateway and **must** include:

- Achievement certificates for Level 2 English and mathematics
- Satisfactory completion of the formal training plan agreed with the apprentice by the employer
- Sufficient evidence in the form of a work log. Details of work log requirements can be found in Section 5.3 of the Specification

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

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

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

Readiness for end-point assessment

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

- Achievement of Level 2 English and mathematics. The apprentice must provide evidence of achievement for both. The EUIAS will require copies of the certificates before any end-point assessment can take place
- Apprentice has satisfactorily completed the formal training plan that was agreed with the employer and or training provider
- Apprentice has sufficient quality evidence in the form of a work log. Details of work log requirements can be found in Section 5.3 of the Specification

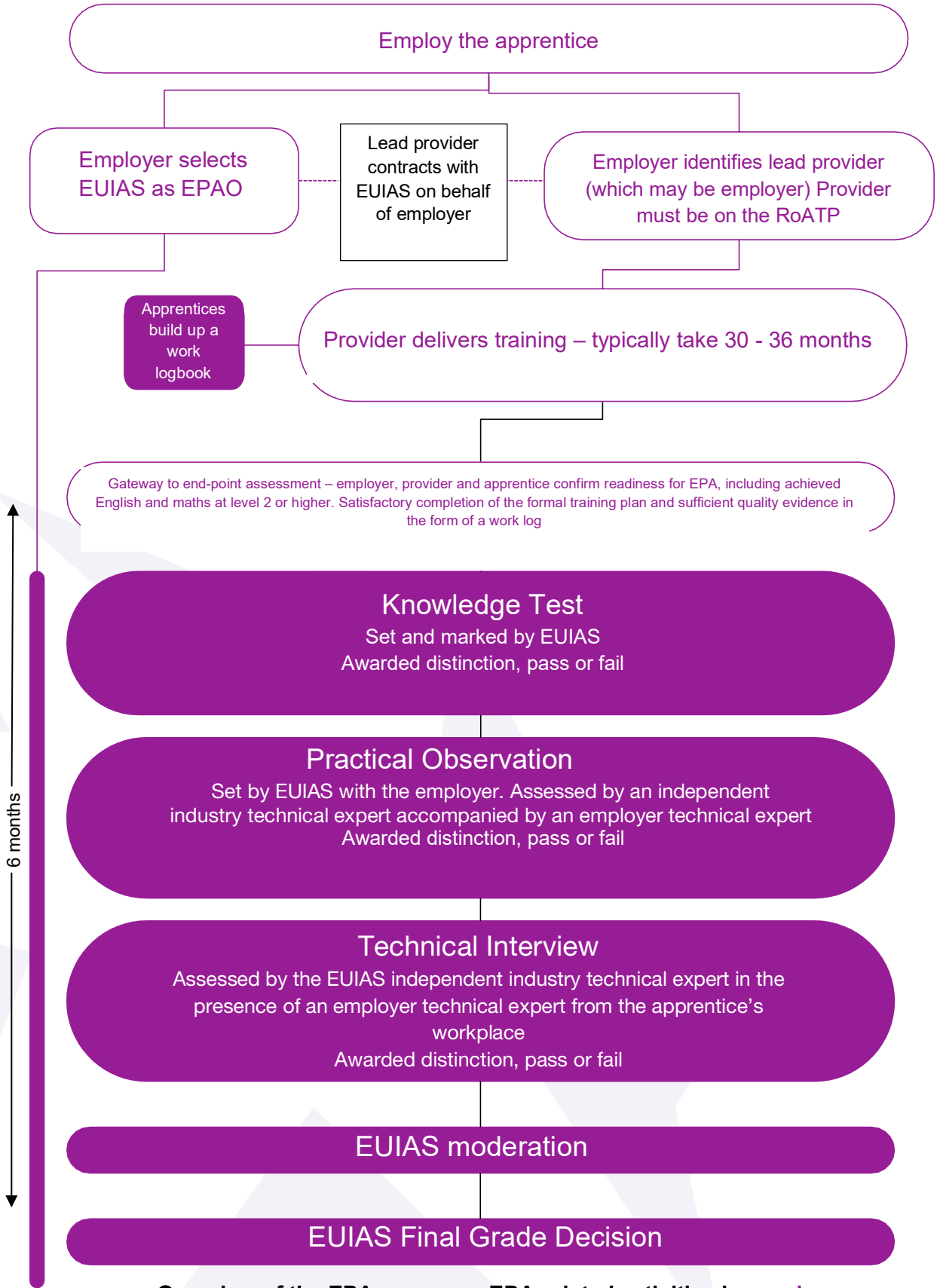
- It is recommended by the EUIAS that the on-programme work log should be signed off by the lead provider as being complete, and made available for the work log review and the interview
- The employer, training provider and apprentice must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the Apprenticeship Standard. To ensure this, it is suggested that training and assessment:
    - is agreed and documented in a personal training / development plan
    - review meetings are regularly held and should be programmed to ensure training / development needs are met and supported
    - could include additional training, or ways of accelerating learning, as required by the apprentice
    - interview is held (typically) with the apprentice's line manager but may include colleagues from Human Resources. Feedback from mentors and team members may be included to contribute towards individual personalised training/development plans. The review documentation should be included in the apprentice's work log
- The EUIAS recommend the employer and training provider hold a formal meeting with the apprentice to complete the EUIAS Gateway Eligibility Report
- The employer and or lead provider must engage with the Service Delivery team at EUIAS to agree a schedule for each end-point assessment activity for the apprentice and ensure all components can be completed within a 6-month assessment window. Further information about the gateway process is covered later in Section 3 Service Delivery and Gateway Eligibility
- The 'EPNE Practical Assessment Review Form' provided in Section 7 Supporting Documents must be completed and submitted to the EUIAS

Order of end-point assessments

The following assessment methods must be undertaken in this order:

1. Knowledge test
2. An observation of practical work activities
3. Technical interview, based on a work log compiled during the apprenticeship

The successful completion of the knowledge test, practical observation, must precede the technical interview which is based on a review of the apprentice's work log. Further details on each assessment method is available in Section 5 of this Specification.



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

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 2 – Mapping the Standard

Contacts

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Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

Purpose

The purpose of this section is to introduce the elements of the Standard and the referencing system used by the EUIAS. It provides and 'at-a-glance' view of which parts of the Standard are assessed by which assessment method. The referencing system is used throughout this Specification.

The Standard

The Standard is divided in Knowledge, Skills and Behaviours. It has:

- Core Technical Knowledge
- Core Skills
- Core Behaviours
- Specific Asset Management Engineer Skills

Core Technical Knowledge:

CTK1 Electrical power principles electrical power principles: alternating current and direct current theories; dynamic and static engineering systems; application of electrical and electronic circuit theory; the use of complex wave forms

CTK2 Three-phase systems with consideration being given to harmonics and their effects and the methods of power distribution

CTK3 Electricity network design, capabilities, complexities, operations and topologies; operation and limitations of plant and equipment

CTK4 The operation of the electricity network in normal and fault conditions

CTK5 Safe systems of work and risk management; the application of Electricity Supply Standards, Regulations including environmental requirements. These are Health and Safety at Work Act 1974, Electricity at Work Regulations 1989, Management of Health & Safety at Work Regulations 2003, Control of Substances Hazardous to Health (COSHH) Regulations 2002, The Electricity Safety, Quality and Continuity Regulations 2002, The Environmental Protection Act 1990

CTK6 Company requirements with regard to project management tools, techniques and processes

CTK7 Company engineering policies appropriate to their role

CTK8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness

CTK9 Company business planning and resource control measures

CTK10 The key interfaces of the electricity network

Core Skills:

CS1 Comply with company and industry health, safety and environmental standards, regulations, company operating procedures and working practices relating to the health, safety and environmental practices used within the sector

CS2 Ensure that all safety considerations are incorporated and evident in all working practices relating to the preparation and monitoring of safety practices during the observation

CS3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network

CS4 Produce timely communications providing information to stakeholders both in writing and verbally relating the use and dissemination of information relevant to their job role

CS5 read, understand, and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications

CS6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders

CS7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes, and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records

CS8 Use company IT systems to provide accurate and reliable data to support business decisions relating to the use of IT systems and equipment during the course of their job role

CS9 Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms

CS10 Provide information to support business planning processes in relation to their role activities.

CS11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment relating to the identification and control of risks

Core Behaviours

CB1 Health, Safety & Environment - follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information

CB2 Stakeholder management – is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely.

CB3 Interpersonal Skills - works well with people from different disciplines, backgrounds and expertise. Takes others' needs and
concerns into account and supports them to accomplish an activity safely and on time

CB4 Analysing and solving problems – takes responsibility for solving problems by identifying and

analysing the issues and drawing logical, sound solutions that benefit customers and the business.

CB5 Risk Awareness - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying
mitigation actions on an on-going basis

CB6 Planning & organising – takes a forward looking perspective when considering the delivery of decisions, activities and projects and ensure plans are in place to manage anticipated issues, considers contingency planning

Specific Skills – Asset Management Engineer

SS1 Support the development of innovative policy solutions to best serve the needs of customers and stakeholders

SS2 Plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements

SS3 Understand and interpret Regulatory requirements and business plans and contribute to the production of Regulatory technical returns

SS4 Assimilate complex external information to inform company decisions

SS5 Evaluate plant and equipment proposals and recommend company approaches

SS6 Instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis

SS7 Support the identification of new and existing innovation projects

SS8 Identify the implications of the next generation of low carbon energy and how it influences the way the network is operated

The Standard mapped to the assessment methods:

Knowledge Test:	Core technical knowledge (CTK1; CTK2; CTK3; CTK4; CTK5; CTK10)
Practical Observation:	Core technical knowledge (CTK6; CTK9)
	Core Skills (CS1; CS2; CS4; CS8; CS11)
	Core Behaviours (CB1; CB3; CB5)
	Specific Skills for the Asset Management Engineer: (SS2; SS3; SS4; SS5; SS6)
Technical Interview, underpinned by the work log:	Core knowledge (CTK7; CTK8; CTK9)
	Core skills (CS3; CS5; CS6; CS7; CS9; CS10)
	Core behaviours: (CB2; CB4; CB6)
	Specific Skills for the Asset Management Engineer: (SS1; SS7; SS8)

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 3 – Service Delivery and Gateway Eligibility

- EUIAS Service Delivery
- How to prepare for gateway
- The Gateway meeting
- Timeline

Contacts

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

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

EUIAS Service Delivery

Whether you are an employer or a training provider (or both) your initial engagement will probably be with a business development manager who will introduce you to this document and take you through the EPA service that we offer. Our aim is to make the experience as straight-forward and easy to engage with as possible.

The key to a successful EPA experience is early identification of requirements to enable proper planning to take place and this section explains the requirements for preparing for the Electrical Power Networks Engineer – Asset Management Engineer EPA.

All the requirements discussed below are important, but some of them are critical, in particular the Gateway Eligibility Requirements. It is important to note that the end-point assessments cannot proceed without the Gateway Eligibility requirements being met. A completed Gateway Eligibility Report with supporting documents is required for each apprentice before EPA.

The EPA Window

All end-point assessments have a 'window' during which the end-point assessment must be completed, to avoid apprentices 'timing out'. The EPA window for the Electrical Power Networks Engineer Standard is 6 months. The EPA window for each apprentice commences on the date they successfully complete the first element of their EPA, for example, the day of the knowledge test. All EPA activities are typically completed within this 6-month window and EUIAS will work with you to schedule the EPA as close to the beginning of the window as possible to allow for re-sits if necessary.

Service Level Agreement (SLA) and Cohort Registration Form

EUIAS uses four documents to capture the details of the end-point assessment agreement:

- Service Level Agreement form – signed by lead provider
- Cohort Registration form – signed by lead provider; this form identifies the apprentices in the cohort
- Learner Data form – signed by the lead provider (to be used with the Cohort Registration Form)
- EPAO Appointment form – signed by the employer; this confirms that the employer has selected Energy & Utilities Independent Assessment Service (EUIAS) as their end-point assessment service for this apprenticeship programme

Initial Engagement

Initial engagement with EUIAS will usually take place well before the EPA is due to take place and sometimes before the apprentices start their programme. The initial engagement meeting will cover:

- The numbers of apprentices in the cohort
- Any Reasonable Adjustments you want to apply for
- The relevant specialist pathways: it is very important that this apprenticeship, and the pathway within it, is the right one for your requirements. The apprentice will be assessed against the requirements of the Standard and not what they actually do within their job role
- The expected date(s) of EPA
- The employer and or lead provider for each apprentice
- The assessment methods and the order in which they must be undertaken including confirming arrangements with the Service Delivery team:
    - Stage 1 - Knowledge Test – location details of where it will take place, invigilation arrangements (who will invigilate) are usually made by the employer
    - Stage 2 – Practical Observation – location details of where it will take place and employer technical expert details
    - Stage 3 - Technical Interview, based on a work log compiled during the apprenticeship – The work log must be compiled by the apprentice throughout the apprenticeship and completed by gateway. The work log must be submitted 3 weeks before the interview and reviewed by the technical experts before the technical interview and arrangements must be made with the Service Delivery team. The location details of where the interview will take place including employer technical expert details
- If there is risk of supplying technical experts the employer must state the risk at this stage as it affects pricing, and technical experts must be standardised and approved by the EUIAS before they can carry out any assessments
- Arrangements for 'site review' to confirm that the proposed location for the practical observation provides all of the required opportunities for the apprentice to cover the Standard should be clearly identified by completing the 'Practical Assessment Review Form' and submitted to the EUIAS for a review, this form is included in Section 7 'Supporting documents and Guidance', in this Specification
- Completion of the Service Level Agreement
- The EUIAS operates a two-stage payment schedule
    - Stage One applies at the registration stage when the initial registration fee is due
    - Stage Two applies at Gateway, when the balance of the agreed fee is due

Further details of the assessment methods are in Section 5 of this EPA Specification.

During the initial engagement, we will also cover the support that is available employers and or training providers. We are confident that most, if not all the answers you need are contained within this Specification, but we are always available to provide answers to specific queries using the Help Desk email enquiries@euias.co.uk.

Appointment/Registration

The appointment stage is the first formal stage of working with the EUIAS. This stage must involve both the employer and the training provider (if applicable).

Successful appointment involves the completion of the Cohort Registration Form, officially appointing EUIAS as the EPAO for this cohort. The form contains:

- Details of the employer and lead provider this may be the training provider (if applicable)
- Confirmation of learner numbers, names and specialist pathways
- Confirmation of expected EPA dates
- Confirmation of the level of service agreed with EUIAS, with pricing
- Confirmation that you will give a minimum of three months' notice of apprentices being ready for EPA (especially important if you bring forward the completion date)
- Signatures from the lead provider
- Completion of the Learner Submission form listing each learner in the cohort
- A purchase order from the lead-provider to EUIAS to the value agreed

If it has not already taken place, the details of the EPA will be discussed (as described in the Initial Engagement Section above) with the employer and training provider (if applicable) to agree roles and responsibilities.

On-programme

It is the responsibility of the lead provider to create and deliver the apprentice training programme, ensuring you comply with the relevant ESFA rules. The EUIAS has no formal involvement in the 'on-programme' aspect of the apprenticeship. However, we DO provide guidance on the work log requirements for the technical interview. This can be found in Section 5 of the Specification.

We do appreciate that circumstances change so please notify us if:

- expected end-dates change, giving at least three months' notice of readiness for end-point assessment
- any cohort details change, especially if an apprentice drops off the programme
- any anticipated changes in venues for the end-point assessments

Scheduling the end-point assessment

The EPA for Electrical Power Networks Engineer – Asset Management Engineer is very resource intensive, both in terms of availability of specialist settings for the practical observation and also in terms of availability of the specialist independent industry technical experts and employer technical experts that are required. It is imperative that the apprentices **must** be available for all assessments, which seems obvious, but can prove problematic if communications are not as clear as they should be. Employer, lead provider and EUIAS **must** keep in touch and notify each other of any changes as soon as they occur.

To help things run smoothly, you **must** inform EUIAS between 3 and 6 months before you expect to have your Gateway meetings with the cohort. The EUIAS Service Delivery team will be contacting you during this time, to facilitate two-way communication. Your proposed EPA date may be sooner than was originally anticipated at the time of registration, which is OK so long as the apprentice(s) has been on programme for at least a year.

We cannot confirm any EPA arrangements until we have confirmation of Gateway Eligibility, as discussed in the next section, but we will put together a provisional plan and share it with you. As a customer, you probably want to confirm gateway Eligibility on one day and have the first end-point assessments the next day. The reality is that scheduling takes time and can take varying periods of time. The early notification helps us put together a provisional schedule, but we can only confirm it after Gateway Eligibility requirements are all met. The fewer changes you make to the information you give us three months before Gateway, the sooner it will be before we can start the EPA. We too commit to making last-minute changes as rare as possible.

We always aim to accommodate your requirements when scheduling, taking account of availability of apprentices, location and availability of assessment venues, availability of employer technical experts and independent industry technical experts and also ensuring that we have evidence of the pre-requisites, in particular the apprentice:

- has achieved L2 English and mathematics. The apprentice must provide evidence of achievement for both. The EUIAS will require copies of the certificates before any end-point assessment can take place
- should be advised by the employer and training provider (if training provider has been appointed) to gather evidence throughout their on-programme training
- has compiled and submitted a work log to EUIAS **3 weeks** prior to the interview as the work log will be reviewed by the independent industry technical expert in preparation for the interview. Details of work log requirements can be found in Section 5.3 of the Specification
- mid and end-of-year performance reviews
- feedback from the employer and or training provider to show how they have met the Apprenticeship Standard during the on-programme

The employer and or training provider **must** be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard. To ensure this, the EUIAS

recommend that the apprentice attends a formal meeting with their employer to complete the Gateway Eligibility Report. As soon as possible after Gateway, EUIAS will confirm with you the end-point assessment arrangements for each apprentice in the cohort.

We will always try to schedule as soon as possible within the 6-month window, to allow time for any re-sits before the window closes.

How to prepare for gateway

On completion of their on-programme learning apprentices should be ready to pass through 'gateway' to their end-point assessment.

At this point, the EUIAS recommend that the employer, training provider and apprentice hold a Gateway Eligibility meeting. The purpose of this meeting is to confirm that all parties agree the apprentice has met the requirements of the Apprenticeship Standard and is ready for end-point assessment. **Note** that the EUIAS is **NOT** present at this meeting. It is your sole responsibility to assure yourself, along with the training provider (if applicable) that the apprentice is ready for end-point assessment.

You are advised that the apprentice should prepare for this meeting by bringing along sufficient evidence, including:

- Sufficient evidence in the form of a Work log of evidence to demonstrate that they have consistently applied the Knowledge, Skills and Behaviours as described in the Standard
- Mid and end-of-year performance reviews
- Feedback to show how they have met the Apprenticeship Standard while on-programme

Before the meeting, apprentices must have:

- achieved Level 2 English
- achieved Level 2 maths
- completed a satisfactory formal training plan that was agreed with the apprentice by the employer
- complete their work log evidence which should demonstrate that they have consistently applied the knowledge, skills and behaviours

Apprentices should be advised by employers and providers to gather this evidence throughout their on-programme training, **copies or scans of certificates WILL be required by EUIAS** before the apprentice can start EPA. Typically, these will be functional skills qualifications at Level 2 or GCSEs at grade C or above, or grade 4 and above.

It is recommended that the lead provider completes regular checks and reviews of this evidence to ensure the apprentice is progressing and achieving the Standard before the gateway meeting is arranged.

The Gateway meeting

Employers must confirm that apprentices are ready for their end-point assessment (EPA). The EUIAS recommend that the employer and lead provider hold a meeting with the apprentice to confirm that the apprentice is ready for their end-point assessment. To comply with end-point assessment rules, EUIAS is **not** present at the Gateway meeting. Ideally it would be conducted with the apprentice, training provider and the employer present. Gateway meetings last about an hour and are completed on or after the apprenticeship on-programme end date.

During the meeting, the apprentice, employer and training provider will discuss the different aspects of the apprenticeship standard and confirm that the apprentice has met the full criteria of the Apprenticeship Standard during their on-programme training. A copy of the Standard and the Assessment Plan (ST0475/AP01) should be available at the meeting. This can be accessed via the link below:

https://www.instituteforapprenticeships.org/apprenticeship-standards/electrical-power-networks-engineer-v1-0

In addition, the apprentice should be informed that EUIAS will be conducting the end-point assessment and that copies of the following policies are available on the EUIAS web site at euias.co.uk

- Appeals Policy
- Complaints Policy

A full list of EUIAS policies can be accessed via the link below:

https://www.euias.co.uk/end-point-assessment/policies/

At the meeting, the apprentice should be informed that they are required to have proof of their identity with them for each end-point assessment element. The EUIAS will accept the following as proof of identity:

- a valid passport
- a UK driving licence
- a valid warrant card issued by HM forces or uniformed services

- Other photographic ID card such as an employee ID card or travel card

At the meeting, the Gateway Eligibility Report (GER) below must be completed, agreed and signed by all 3 parties* and submitted to EUIAS at enquiries@euias.co.uk with the subject line "GER – apprentice name – provider name".

A completed GER form is required for every apprentice you want to enter for end-point assessment.

*Where possible. We recognise that some meetings will take place at distance in which case an email agreement from the apprentice should be appended to the GER form.

The current Electrical Power Networks Engineer Assessment Plan (ST0475/AP01) mandates that the EPA should only start once the EPA gateway requirements have been met and evidence has been be submitted to the EUIAS. As gateway requirements, the employer must meet with the apprentice and be satisfied that the apprentice is consistently working at, or above Level set out in the occupational standard and apprentices without English and mathematics at level 2 must achieve this level as a minimum prior to taking the EPA. The Gateway Eligibility Report is a requirement of the EUIAS. If it is not possible to have the employer present at the time the Gateway Eligibility Form is completed by the apprentice and training provider, EUIAS will contact the employer to gain their signature.

Reasonable adjustments

If you wish to apply for reasonable adjustments on behalf of any of your apprentices, please do so at the same time as submitting the GER form, using the EUIAS Reasonable Adjustment Policy and Application that can be found at www.euias.co.uk

Re-sits and Re-takes

Any component that is failed can be re-sat within the EPA window. It is not possible to re-sit outside of the EPA window. Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EUIAS determines there are exceptional circumstances requiring a re-sit or re-take. If an apprentice is not successful, they can undertake a period of further training and re-take the failed components within a new EPA assessment window.

The EUIAS resit and re-take policy can be found at www.euias.co.uk This can also be accessed via the link below:

https://www.euias.co.uk/wp-content/uploads/2020/02/Re-sit-and-Re-take-Policy-v5.0.pdf

Timeline

Typical timeline in months, before and after the Gateway.

Initial engagement - Up to 30 - 36 months before Gateway

Initial engagement, informal meeting between EUIAS and to agree:

- The number of apprentices in the cohort
- Any Reasonable Adjustments you want to apply for
- The relevant specialist pathways
- Expected location(s) for the knowledge test, practical task and the technical interview underpinned by the work log
- The training provider (if one has been appointed)
- The expected date(s) of EPA
- The payment schedule
- Completion of Service Level Agreement (lead provider) and at this stage the EUIAS must be informed if the lead provider has a risk in relation to technical expert requirements. If the EUIAS are to supply independent technical experts the EUIAS will provide a price at this stage

Registration - 30 – 36 months before Gateway to 6 months before Gateway

The apprentice is on-programme and compiling their work log of evidence to support the technical interview.

Formal Appointment/registration using the Cohort Registration form (Triggers Stage 1 payment)

- EUIAS will issue the Privacy Notice which must be shared with every apprentice in the cohort

Employer/training provider:

- Confirmation of expected EPA dates
- Confirmation of the level of service agreed with EUIAS, with pricing
- Confirmation that you will give three months' notice of apprentices being ready for EPA
- Completion of the Learner Submission form including each learner in the cohort
- A purchase order from the lead provider to EUIAS to the value agreed

30 - 36 months before Gateway to 6 months before Gateway

Update calls (as agreed)

- EUIAS will periodically call designated contact to enquire about progress towards EPA
- EUIAS provides on-going support via enquiries@euias.co.uk

- Lead provider will give at least 6 months' notice of any proposed change to EPA dates

6 months before Gateway to Gateway

- Lead provider completes the 'EPNE Practical Assessment Review Form', and submits the form to the EUIAS this form will include details about the practical task, see Section 7 'Supporting Documents', for further details

3 months before Gateway to Gateway

- Employer or training provider to compile evidence of meeting Gateway eligibility requirements (Level 2 or higher in English and maths)
- Employer or training provider should also be arranging practice assessments for apprentices

Gateway

Employer and training provider:

- Provide completed Gateway Eligibility Report for each apprentice
- Ensure ALL eligibility requirements are met for each apprentice going forward to EPA
- Purchase order for Stage 2 payments

Gateway, and the maximum 6 month EPA window

End-point assessment window (NB. 6 month window for each assessment commences on the date of their first EPA activity, work log to be submitted 3 weeks before the Technical Interview.

The assessment methods must be undertaken in the following order:

1. Knowledge test
2. An observation of practical work activities practical observation work activities
3. Technical interview, based on a work log compiled during the apprenticeship and must be the final assessment component

Responsibilities of EUIAS:

- Schedule the assessments, in discussion with the employer and or training provider
- Will provide the independent industry technical expert(s) for the practical observation for this pathway – Asset Management Engineer. The independent industry technical expert will be approved by the EUIAS and initially standardised. The independent industry technical expert will be expected to carry out the practical observation, assess the

practical activities, provide a preliminary grade, complete and submit the formal assessment documentation to the EUIAS and will be involved in the technical interview

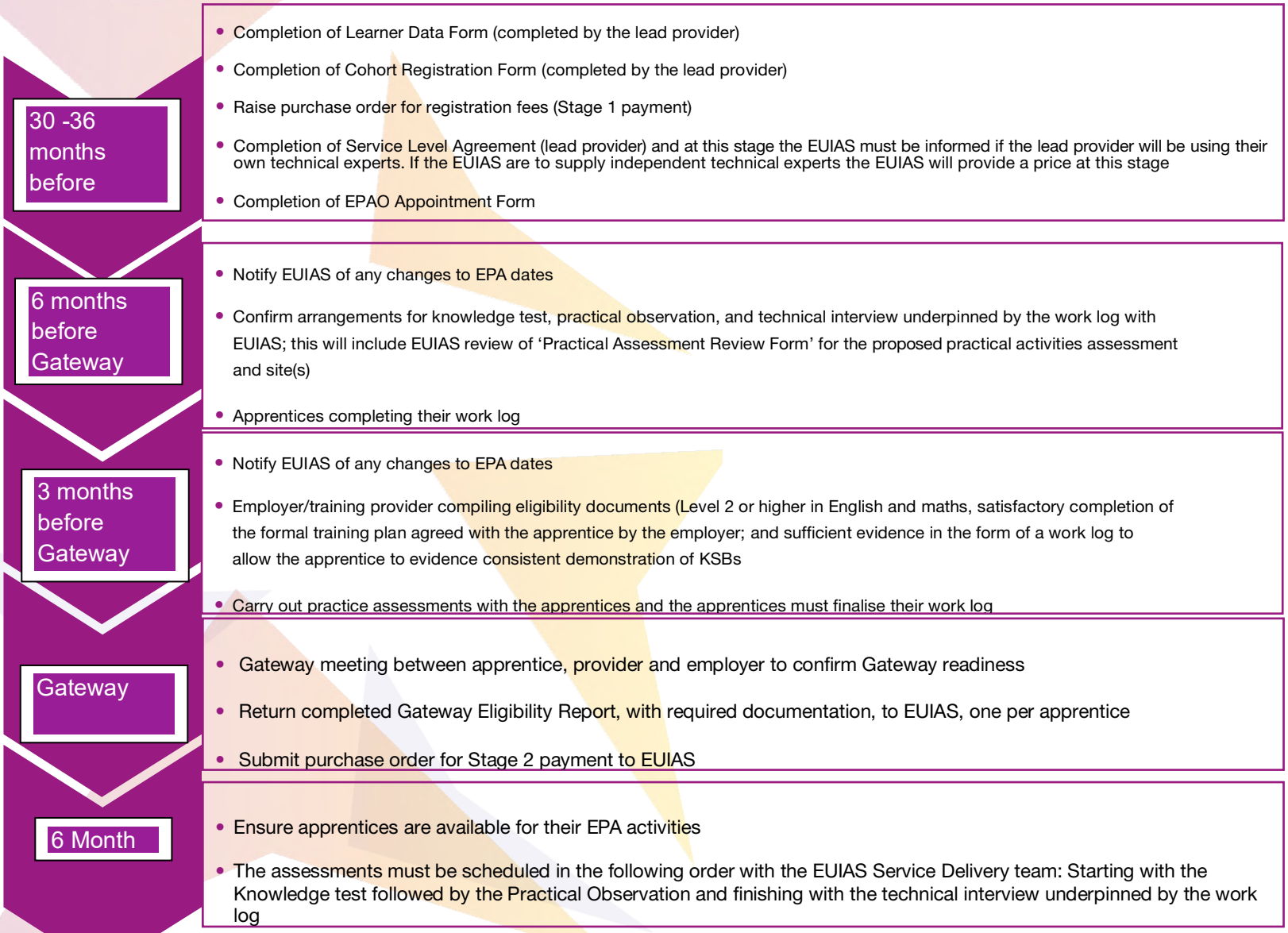
- Provides the independent industry technical expert(s) for the technical interview
- Provides the invigilator for the knowledge test (if agreed in the price)
- Arranges re-sits within the 6 month EPA window, if required
- Carries out a final moderation to confirm grading decisions
- Will provide results of EPA with 11 working days of final moderation

Responsibilities of Employer and / or training provider:

- Ensures apprentices are briefed and prepared for EPA, including location and timings of assessments
- Provides venue for the knowledge test (and re-sits if required)
- Provides an employer technical expert to accompany the independent industry technical expert during the practical observation
- Provides an employer technical expert to support the interview process, which must be the technical expert who conducted the practical observation
- Provides access and details of venue for the practical activities, as previously agreed with EUIAS

Nb. A re-take will be arranged, with the agreement of all parties, for apprentices who have failed a component or components and are deemed to require further training before being ready for end-point assessment.

Time-line summary for Employers and training provider; refer to previous section for details



Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 4 – The EPNE Standard and Pathway with Amplification and Guidance

Contacts

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

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

The Electrical Power Networks Engineer Standard in detail

The Electrical Power Networks Engineer consists of the following core requirements, this applies across all pathways:

- Core Technical Knowledge (10 elements)
- Core Skills (11 elements)
- Core Behaviours (6 elements)

The following pages list each of the elements of the Standard and additional amplification and guidance from the EUIAS on the range and depth expected.

Core Technical Knowledge

Assessed in Knowledge Test

CTK1 Electrical power principles electrical power principles: alternating current and direct current theories; dynamic and static engineering systems; application of electrical and electronic circuit theory; the use of complex wave forms

CTK2 Three-phase systems with consideration being given to harmonics and their effects and the methods of power distribution

CTK3 Electricity network design, capabilities, complexities, operations and topologies; operation and limitations of plant and equipment

CTK4 The operation of the electricity network in normal and fault conditions

CTK5 Safe systems of work and risk management; the application of Electricity Supply Standards, Regulations including environmental requirements. These are Health and Safety at Work Act 1974, Electricity at Work Regulations 1989, Management of Health & Safety at Work Regulations 2003, Control of Substances Hazardous to Health (COSHH) Regulations 2002, The Electricity Safety, Quality and Continuity Regulations 2002, The Environmental Protection Act 1990

CTK10 The key interfaces of the electricity network

Core Technical Knowledge

Assessed in Practical Observation

CTK6 Company requirements with regard to project management tools, techniques and processes

CTK9 Company business planning and resource control measures

Core Technical Knowledge

Assessed in Technical Interview

CTK7 Company engineering policies appropriate to their role

CTK8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness

CTK9 Company business planning and resource control measures

Core Technical Knowledge

Amplification and Guidance

CTK1 Electrical Power Principles

This element is assessed during the Knowledge Test and requires a good understanding of electrical power principles, including:

- Alternating and direct current theory and principles including the formulae used for common power calculations
- Application of electrical and electronic circuit theory including the effects and control of power factor
- The principles of complex wave forms and their phase angles
- The principles and purpose of ring and radial circuits
- Series and parallel circuits and the connection of instruments to measure amps, watts and volts in those circuits

CTK2 Three-phase Systems

This element is assessed during the Knowledge Test and requires a good understanding of:

- The design and purpose of three phase systems
- The principles of three phase operation and typical vector groupings
- The fundamental cause, effect and control of harmonics on the network
- The connection and winding arrangement of three phase transformers
- The effect and control of lagging and leading voltage

CTK3 Electricity Network Design

This element is assessed during the Knowledge Test and requires a good understanding of:

- The design principles and layout of overhead and underground networks
- The typical plant and equipment used on the network and their purpose, operation and limitations
- Current UK generation, transmission and distribution system voltages and their regulatory tolerances
- The purpose and principles of earthing substations and the methods used
- The common methods used for voltage control
- The principles and methods used for circuit protection

CTK4 Operation of the electricity network in normal and fault conditions

This element is assessed during the Knowledge Test and requires a good understanding of:

- The plant and equipment used for the isolation and switching of circuits
- The types of network fault, the typical causes and the methods used to identify and control them
- The principles of network protection and the equipment used to protect circuits

- The equipment used to measure and control circuit voltage and current
- The typical types and capabilities of equipment used to conduct switching
- The principles of switching and controlling networks in normal and fault conditions

CTK5 Safe systems of work and risk management. The application of relevant legislation, regulations and standards, including:

This element is assessed during the Knowledge Test and requires a good understanding of:

- The purpose and general requirements of the following: Health and Safety at Work Act 1974, Electricity at Work Regulations 1989, Construction Design and Management (CDM) Regulations 2015, Management of Health & Safety at Work Regulations 2003, The Electricity Safety, Quality and Continuity Regulations 2002
- The principles and techniques used for risk identification and hazard management
- The types, purpose and information contained in typical operational safety documents used to achieve safety from the system
- The fundamental requirements relating to the control and management of work / persons on or near electrical networks
- The responsibilities of persons involved in organising and controlling operational activities of the network

CTK6 Company requirements with regard to project management tools, techniques and processes

This element is assessed during the Practical Observation and requires the apprentice to demonstrate a good understanding of:

- The relevant Company project / engineering management tools which are applicable to the design work / project being observed e.g., how they can be used to control / monitor work projects / inform others of their work project details
- How they have applied the relevant Company project / engineering management tools to the design work / project being observed
- How to use project management tools to present design information in a clear and concise manner e.g., presentation / briefing to a manager using project management tools

CTK7 Company engineering policies appropriate to their role

This element is assessed during the Technical Interview and requires the apprentice to use supporting evidence from their work log to demonstrate a good understanding of:

- The use of Company business planning and resource control measures and how they impact design work e.g., how to identify budget/resource considerations in their project plans
- Presents business planning / resource control measures information in a clear and concise manner to sufficient depth for the audience. e.g., presentation / briefing to a manager demonstrating the use of planning / resource control measures
- Identifies the risks of inadequate business planning / resource control measures in their design project and chooses an appropriate course of action. e.g., demonstrates the methods used to plan their work project to make the most effective use of the resources required including contingency plans

CTK8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness

This element is assessed during the Technical Interview and requires the candidate to use supporting evidence from their work log to demonstrate a good understanding of:

- How to gather and analyse relevant information to implement solutions to resolve engineering problems e.g., information they have used to solve engineering problems
- How to recognise and define problems associated with their work projects. e.g., methods they have used for identifying and analysing technical problems
- How to tackle issues in a step by step logical way and make suggestions for solving problems which benefit customers and the business. e.g., plans they have developed to deal effectively with engineering problems

CTK9 Company business planning and resource control measures

This element is assessed during the Practical Observation and the Technical Interview where it requires the apprentice to use supporting evidence from their work log. The assessments require the apprentice to demonstrate a good understanding of:

- How to gather and analyse information in order to implement effective planning solutions or resource requirements in their work projects / designs e.g., examples of information they have used to support their planning or projects
- The link between their design work and the Company strategies and policies which ensure compliance with the Company business planning and resource control measures e.g., examples of how their designs align with the Company policy / procedures

- How to develop project plans / designs that contain objectives, budgets, desired outcomes, timescales and evaluation records e.g., examples of project plans they have developed which contain all necessary data including contingency plans

CTK10 The key interfaces of the electricity network

This element is assessed during the Knowledge Test and requires a good understanding of:

- The purpose, responsibilities and operating principles of the UK power regulator
- The principles used by the regulator to control pricing
- The aims and objectives of the regulator for power companies
- The general purpose of the Electricity Safety, Quality and Continuity Regulations 2002
- The responsibilities placed upon employers for the safety, quality and continuity of the UK electricity supply

Core Skills

Assessed in the Practical Observation

CS1 Comply with company and industry health, safety and environmental standards, regulations, company operating procedures and working practices relating to the health, safety and environmental practices used within the sector

CS2 Ensure that all safety considerations are incorporated and evident in all working practices relating to the preparation and monitoring of safety practices during the observation

CS4 Produce timely communications providing information to stakeholders both in writing and verbally relating the use and dissemination of information relevant to their job role

CS8 Use company IT systems to provide accurate and reliable data to support business decisions relating to the use of IT systems and equipment during the course of their job role

CS11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment relating to the identification and control of risks

Core Skills

Assessed in the Technical Interview

CS3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network relating to the use and implementation of asset management methods and processes during their work projects

CS5 Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications relating to the interpretation and delivery of technical information during their work projects

CS6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders relating to the production and use of technical reports and communication of information to relevant parties

CS7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records relating to the development and use of project plans relevant to their job role

CS9 Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms relating to their awareness of regulatory requirements and how they affect the projects undertaken

CS10 Provide information to support business planning processes in relation to their role activities relating to the production of relevant technical information and implementation into the business planning process

Core Skills

Amplification and Guidance

CS1 Comply with company and industry health, safety and environmental standards, regulations, company operating procedures and working practices

- How their design work complies with HS&E requirements and the health, safety and environmental considerations which affect their projects e.g., the relevant health, safety and environmental legislation relevant to the planning and development of their asset management projects
- How they follow and comply with the appropriate Company HS&E policies and procedures. e.g., examples of how relevant legislation has

influenced their projects

- How to present HS&E information in a clear and concise manner to sufficient depth for the audience. e.g., brief a supervisor / manager on the HS&E considerations / requirements for an asset management project

CS2 Ensure that all safety considerations are incorporated and evident in all working practices

- How to recognise and identify specific risks associated with their design work and choose appropriate courses of action e.g., examples of how specific risks have been identified in their project work and how they dealt with it
- How they follow and comply with the appropriate safety considerations. e.g., examples of how they have had to change a project to cater for a safety consideration
- Presents safety information in a clear and concise manner to sufficient depth for the audience. e.g., brief a supervisor / manager on a safety consideration in their project plans and their proposal to deal with the requirements

CS3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network

- How they have gathered and analysed relevant information in order to maintain and improve the integrity / safety / longevity of the electrical network e.g., examples of technical information they have gathered and used to support the development of their asset management projects
- How they have linked their design work to Company strategies and policies to ensure compliance with the Company engineering principles e.g., examples of project alterations they have made to align with the Company strategy / policy
- How their engineering designs support the business / client to achieve regulatory incentive mechanisms. e.g., examples of how their project designs have improved the reliability of the network and reduced potential outages

CS4 Produce timely communications providing information to stakeholders both in writing and verbally

- Present information in a clear and concise manner to sufficient depth for the audience. e.g., a briefing / presentation to a supervisor / manager of their progress with an asset management project
- Demonstrates that others' views are considered and support, where required, is offered to them. e.g., examples of how they have taken on board other views (internal / regulatory) and modified a project to cater for the changes
- Speaks confidently, listens to others and takes required action to progress work. e.g., a briefing / meeting with a stakeholder/manager to

understand the requirements of a new project

CS5 Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications

- How they have gathered and analysed relevant information in order to produce work projects / designs which meet Company requirements / specifications e.g., examples of technical specifications / data they have used to support the development of their projects which align to the Company strategies / policies
- How they have used and interpreted technical Information to develop project plans that contain objectives / budgets / desired outcomes / timescales / evaluation records e.g., examples of project plans they have developed which contain all of the relevant detail and align with the business strategies / policies
- How they have used technical information to recognise and define design problems which they have tackled in a logical manner e.g., how they have used system plans to identify a project design problem and how they have resolved the issue

CS6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders

- How they have gathered and analysed relevant information in order to produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders e.g., examples of technical reports developed which have / are being used to inform / influence stakeholders in relation to an asset management project
- How the reports they have produced link to Company strategies and polices e.g., examples of how their report/s meet the design specifications of the business
- How reports they have produced have been used to support internal and / or external stakeholder requirements e.g., examples of reports they have developed which have been used to influence / gain approval for their asset management projects

CS7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records

- How they have gathered and analysed relevant information in order to develop and agree project plans e.g., examples of project plans they have developed which have been used to agree activities or are being presented to gain agreement from a manager / supervisor

- How they have developed project plans that contain objectives, budgets, desired outcomes, timescales and evaluation records e.g., examples of project plans they have developed or are presenting which contain all of the necessary items'
- How project plans they have produced have been used to deliver required stakeholder outcomes e.g., examples of project plans they have produced which have been used or are being presented to gain stakeholder approval

CS8 Use company IT systems to provide accurate and reliable data to support business decisions

- Identify and describe the use of the appropriate Company IT systems, techniques and processes used in their design work e.g., use a range of software packages including specific Company design software to work on an asset management project
- Use the appropriate Company IT techniques and processes in their design work e.g., demonstrate the use of design software when working on their project/s
- Use IT systems to present design information in a clear and concise manner to sufficient depth for the audience. e.g., brief a manager / supervisor on their design / project progress using the Company's design software

CS9 Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms

- How they have gathered and analysed relevant information in order to support the business to achieve its regulatory incentive mechanisms e.g., examples of how their designs have improved network reliability which has contributed to a reduced level of faults
- How their work projects / designs link to Company strategies and polices and support the achievement of regulatory incentive mechanisms e.g., examples of how their designs improve the integrity and longevity of the network
- How the Company regulatory incentive mechanisms impact / affect relevant stakeholders and their requirements e.g., examples of where they have adapted or amended an asset management project to comply with the Company's strategy

CS10 Provide information to support business planning processes in relation to their role activities

- How they have gathered and analysed relevant information in order to support the business planning processes in relation to their role activities e.g., examples of how they have used information to organise and plan their asset management projects
- How they have developed project plans that support / comply with the business planning processes e.g., example of project plans they have developed or are working on and how they align with the business planning timelines
- Identify stakeholders which are affected by the business planning processes and how they are affected e.g., contacting an internal / external stakeholder/s to keep them informed of the progress of an asset management project and where it is in the planning process

CS11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment

- Identify and describe the use of company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment used in the designs e.g., examples of how they have used engineering systems / data to evaluate the performance / specification of apparatus for their asset management projects
- Use Company risk tools and techniques to evaluate the engineering systems and equipment used in their designs e.g., example of using Company systems to evaluate / model the use of specific arrangements / equipment on the network for an asset management project
- Presents all information in a clear and concise manner to sufficient depth for the audience. e.g., presents / briefs a supervisor / manager on their proposal for the use of equipment in their asset management project

Core Behaviours

Assessed in the Practical Observation

The behaviours are assessed through natural performance during the practical observation and have been incorporated into the relevant core skills elements

CB1 Health, Safety & Environment - follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information

CB3 Interpersonal Skills - works well with people from different disciplines, backgrounds and expertise. Takes others' needs and concerns into account and supports them to accomplish an activity safely and on time

CB5 Risk Awareness - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis

Core Behaviours

Assessed in the Technical Interview

CB2 Stakeholder management – is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely

CB4 Analysing and solving problems – takes responsibility for solving problems by identifying and analysing the issues and drawing logical, sound solutions that benefit customers and the business

CB6 Planning & organising – takes a forward looking perspective when considering the delivery of decisions, activities and projects and ensure plans are in place to manage anticipated issues, considers contingency planning

Core Behaviours

Amplification and Guidance

CB1 Health, Safety & Environment (Practical Observation)

- How they follow health, safety and environmental policies and procedures and where necessary challenge unsafe behaviour using appropriate techniques e.g., demonstrates compliance with Company HS&E policies and procedures
- Demonstrates high levels of concentration and the desire to reduce risks through regular monitoring and checking of information e.g., takes responsibility for self and others and autonomy in making decisions to implement HS&E policies and procedures

CB2 Stakeholder management (Technical Interview)

- Proactive in identifying stakeholders and managing their expectations, presenting appropriate information e.g., takes responsibility for analysing situations and drawing logical, sound solutions that benefit customers and the business
- Provide stakeholders with appropriate information clearly and concisely to support the business planning process e.g., meetings with internal / external stakeholders to discuss projects and manage their expectations

CB3 Interpersonal skills (Practical Observation)

- Demonstrates how they can work well with people from different disciplines, backgrounds and expertise e.g., communicates and works well with other people as a team effort to achieve results
- Demonstrates how they take others' needs and concerns into account and supports them to accomplish an activity safely and on time e.g., listens and takes on board others views during discussions / meetings

CB4 Analysing and solving problems (Technical Interview)

- Takes responsibility for solving problems by identifying and analysing the issues and drawing logical, sound solutions that benefit customers and the business e.g., discussions / briefing with manager / supervisor to discuss solutions to project issues
- Take responsibility for solving problems by identifying and analysing issues and agreeing contingency measures e.g., discussion with supervisor / stakeholder

CB5 Risk awareness (Practical Observation)

- Demonstrates they have an embedded desire to reduce risks through a systematic approach e.g., examples of risk registers risk analysis for projects
- Monitors and checks information on an on-going basis and takes mitigating actions when required e.g., examples of project planning with check points to monitor progress / measures in place

CB6 Planning & organising (Technical Interview)

- Takes a forward-looking perspective when considering the delivery of decisions, activities and projects e.g., discussion with supervisor / stakeholder
  to plan project progression
- Ensures plans are in place to manage anticipated issues, considers contingency planning e.g., discussion with supervisor / manager
  to plan project development and agree contingency measures

Asset Management Engineer Pathway

In addition to the Core Knowledge, Skills and Behaviours the Asset Management Engineer Pathway also contains:

- Specific Skills - 8 elements

The following list each of the elements of the Asset Management Engineer pathway providing amplification and guidance on the range and depth expected this is then followed by the assessment method(s) used per element.

Specific Skills Asset Management Engineer
Assessed in the Practical Observation
SS2 Plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements
SS3 Understand and interpret Regulatory requirements and business plans and contribute to the production of regulatory technical returns
SS4 Assimilate complex external information to inform company decisions
SS5 Undertake Evaluate plant and equipment proposals and recommend company approaches
SS6 Instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis

Specific Skills Asset Management Engineer
Assessed in the Technical Interview
SS1 Support the development of innovative policy solutions to best serve the needs of customers and stakeholders
SS7 Support the identification of new and existing innovation projects

SS8 Identify the implications of the next generation of low carbon energy and how it influences the way the network is operated

Specific Skills Asset Management Engineer

Amplification and guidance

SS1 Support the development of innovative policy solutions to best serve the needs of customers and stakeholders (Technical Interview)

- Confidently explains and demonstrates how they have gathered and analysed relevant information to support the development of engineering solutions e.g., examples of information gathered to support project development
- Demonstrates how the work they have conducted links and supports Company policies / strategies e.g., examples of meetings with engineers / stakeholders to plan and agree projects
- Demonstrates how their work activities have supported the business / stakeholders to achieve regulatory requirements e.g., examples of project work they have completed which improves the network efficiency and supports regulatory requirements

SS2 Plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load Requirements (Practical Observation)

- Demonstrates how they have used Company policies and procedures to produce long term network reinforcement plans e.g., examples of work projects they have produced
- Demonstrates how they can present information in a clear and concise manner with sufficient depth have others e.g., discussion / presentation of project plans to colleagues / stakeholders
- Demonstrates they can speak confidently and listen to others, taking action where required. e.g., discussion / presentation of project plans to colleagues / stakeholders

SS3 Understand and interpret Regulatory requirements and business plans and contribute to the production of regulatory technical returns (Practical Observation)

- Demonstrates how they have used Company policies and procedures to interpret and apply regulatory requirements to achieve technical returns e.g., examples of relevant work projects which meet regulatory requirements
- Presents information clearly and concisely demonstrating how they have interpreted and implemented plans which meet regulatory requirements and / or business plans e.g., meetings / presentation with managers / stakeholders to discuss and agree project plans
- Demonstrates the impact of their work activities / projects on the regulatory outcomes of the business e.g., meetings / presentation with managers / to discuss / agree project plans

SS4 Assimilate complex external information to inform company decisions (Practical Observation)

- Demonstrates how they can present complex external information to inform company decisions clearly and concisely e.g., presentation / meeting with managers / stakeholders
- Demonstrates how the views of others have been considered during the assimilation of complex external information e.g., examples from meetings conducted / emails
- Identifies the impact of budget / resource considerations when considering complex external information to inform Company decisions e.g., discussion / meeting with colleagues / stakeholders

SS5 Evaluate plant and equipment proposals and recommend company approaches (Practical Observation)

- Demonstrates how they have used Company policies and procedures to support their evaluation of plant and equipment proposals e.g., examples of work projects / proposals
- Demonstrates how they are able to recognise potential risks with proposals and takes the appropriate course of action
- Identifies the impact of budget / resource considerations when considering plant and equipment proposals e.g., discussion / meeting with colleagues / managers

SS6 Instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis (Practical Observation)

- Demonstrates how they ensure Health, Safety and Environmental considerations are taken into account and prioritised when instigating or taking part

in the investigation of asset system or process failure e.g., example of investigations being carried out / conducted

- Demonstrates how they have used Company policies and procedures to conduct investigations into asset system or process failure e.g., examples of information presented / delivered

- Presents information clearly and concisely to conduct the investigation of asset system or process failure e.g., examples of Company policies and procedures used / referenced

SS7 Support the identification of new and existing innovation projects (Technical Interview)

- Demonstrates how they have gathered and analysed relevant information to support the development of new and existing innovation projects e.g., examples of project plans they have produced where they have managed conflicts with contractors / stakeholders

- Demonstrates how their projects link to Company strategies and policies to ensure compliance with technical specifications e.g., explains how their asset projects have aligned with the Company strategy and only incorporate approved assets which meet the technical specification

- Clearly identifies the stakeholders involved in the planned work, their requirements and the desired outcomes e.g., provide examples of developed asset plans which required them to be accountable for identifying and informing the relevant stakeholders

SS8 Identify the implications of the next generation of low carbon energy and how it influences the way the network is operated (Technical Interview)

- Demonstrates how they have gathered and analysed relevant information to identify the implications of the next generation of low carbon energy and how it influences the way the network is operated e.g., examples of information / technical data they have studied to conclude their findings

- Demonstrates how their work links to Company strategies and policies to ensure compliance with technical specifications e.g., explains how their asset projects have aligned with the Company lo carbon strategy and utilise assets which meet the Company technical specifications

- Demonstrates how they have recognised and defined problems to the network from low carbon energy and make suggestions for improvement e.g., minutes from asset management meetings / evidence of discussions with colleagues / stakeholders to resolve asset problems

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 5 – Assessment

- Assessment summary
- Retake and resit information
- Overall grading
    - 5.1 Knowledge test and component grading
    - 5.2 Practical observation and component grading
    - 5.3 Technical interview and component grading

Contacts

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

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

Assessment summary

The end-point assessment for Electrical Power Networks Engineer (EPNE) consists of three components:

Stage 1 – Knowledge Test

- The test ensures that the apprentice has acquired the underpinning knowledge to enable them to perform their role. The test consists of 40 multiple choice questions to be answered in a 60-minute assessment under controlled conditions. Each question will present the apprentice with 4 options from which they must select the correct one. Each question answered correctly will be assigned 1 mark, any incorrect or missing answers will be assigned 0 marks. The test will be open book, and this means the apprentices are allowed to have available and refer to any materials that they wish to consult while carrying out the test. This material may include training manuals, company policies and procedures and work logs but they cannot have access to any internet search engines

Stage 2 - Practical Observation

- This is a skills-based practical exercise which will take 1 day. The exact duration will be similar to the time expected for a competent worker to successfully complete a similar task. The observation will provide the opportunity for the apprentice to synoptically demonstrate core and specific skills, knowledge and behaviours in a real working environment, as identified in Section 4, 7 of the Specification and Annex A of the Assessment Plan

Stage 3 - Technical Interview

- This is a face-to-face interview based on a review of the apprentice's work log. The interview will typically be 2.75 hours and a maximum of 3 hours. It is conducted under controlled conditions and will be recorded with the use of relevant technology such as Microsoft Teams or a recording audio and submitted to the EUIAS via the Service Delivery team

Roles and responsibilities

EUIAS will provide the independent industry expert for the practical observation. The practical observation will be administered and supervised by the independent industry technical expert who will be approved by the EUIAS. They **must not** be or have been involved in the training or line-management of the apprentice. The independent technical expert must be accompanied by an employer technical expert. Following the observation, the independent industry technical expert, after discussion with the employer technical expert, will assign a preliminary mark. In the case of

disagreement, the independent technical expert has the casting vote.

The independent industry technical expert must meet the requirements detailed in the assessment plan of having an electrical engineering qualification at a minimum of level 4 or equivalent and have a minimum of 5 years' experience as a practitioner in an appropriate work environment and hold or have previously held an appropriate company Authorisation. In addition, the independent industry technical expert must **NOT** have been involved in the training or line-management of the apprentice, their training provider or employer.

The employer technical expert must have an electrical engineering qualification at a minimum of level 4 or equivalent and have a minimum of 5 years' experience as a practitioner in an appropriate work environment and hold or have previously held an appropriate company Authorisation and will be from the apprentice's employer but will not have been involved in the direct training or line management of the apprentice.

The independent examiner will have an electrical engineering qualification at a minimum of level 4 or equivalent and have a minimum of 5 years' experience as a practitioner in an appropriate work environment. In addition, they will have no connection with the apprentice, their training provider or employer.

For the role of the Asset Management Engineer the apprentice will be observed developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory terms by an independent industry technical expert.

Following the observation, the independent industry technical expert will present the outcomes (depth, breadth and real time examples) of their observation to an independent examiner to enable them to allocate a final mark for the practical observation.

EUIAS will provide the invigilator (at a cost) or the employer can provide the invigilator in accordance with EUIAS invigilation guidelines. This will be agreed at the Registration stage (see Section 3).

The employer or training provider will provide the venues for all assessments, including settings for the practical observation which must be suitably equipped to allow the apprentice to attempt all aspects of the practical observation. The employer or training provider will provide all necessary tools and equipment for the apprentice.

The employer or training provider will adequately prepare apprentices for the end-point assessments

and will ensure the practical observation evidence for each apprentice is submitted to the EUIAS prior to end-point assessment at an agreed date.

Retake and resit information

Apprentices who fail one or more assessment methods will be offered the opportunity to take a resit or a retake. The apprentice's employer will need to agree that either a resit or retake is an appropriate course of action.

A resit does not require further learning whereas a retake does.

Apprentices should have a supportive action plan to prepare for a resit or a retake. Re-takes/re-sits would be at the discretion of the employer following a 1:1 review with the apprentice to determine the suitability of the apprentice for further testing.

The timescales for a resit/retake is agreed between the employer and EUIAS.

Apprentices may re-take/re-sit one or more methods within the six month EPA period. Re-take/re-sits outside of the six-month end-point assessment period would require all elements to be re-assessed.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless the EUIAS determines there are exceptional circumstances requiring a re-sit or re-take.

Overall Grading

The EPNE Asset Management Engineer will be graded distinction, pass or fail. The final grade will be determined by collective performance in the three assessment methods in the EPA.

Each assessment method will be graded distinction, pass or fail. In order to gain a pass, an apprentice must achieve a minimum of a pass in each EPA method. A pass represents full competence against the Standard. To achieve a distinction grade, an apprentice must achieve a distinction in each EPA method.

The knowledge test, practical observation and technical interview are all marked separately and awarded either a distinction, pass or fail.

The knowledge test is based on the percentage score achieved. The grade and mark for the practical observation and technical interview is based on the number and level of criteria achieved.

The overall grade for the Electrical Power Networks Engineer Standard is based on the grades in individual components as follows:

Knowledge Test:

Grade	Distinction	Pass	Fail
Grade boundaries	90% or greater	80 – 89%	79% or less

Table 1: Knowledge test grading boundaries

Practical Observation

The independent industry technical expert who conducts the practical observation will assign a preliminary grade and submit the grade on the official EUIAS assessor documentation to the EUIAS for the independent examiner. The preliminary grade must be assigned after discussion with the employer technical expert. In the case of a disagreement, the independent industry technical expert has the casting vote.

Grade	Distinction	Pass	Fail
Grade boundaries	85% or greater	60 – 84%	59% or less

Table 2: Practical observation assessment grading boundaries

Technical Interview

The independent technical industry expert who conducts the technical interview, **must** provide a preliminary mark for the independent examiner.

Grade	Distinction	Pass	Fail
Grade boundaries	85% or greater	60 – 84%	59% or less

Table 3: Technical interview assessment grading boundaries

The scoring criteria that will be applied for each assessment method along with additional details can be found in Section 5 of this Specification.

The overall grading for the EPNE Standard is based on the grades in the individual components as follows:

- Distinction – If a distinction is awarded in all three components
- Pass – If a combination of a Pass or Distinction is awarded across the 3 components
- Fail – if a Fail is awarded for at least one of the components

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 5.1 – Knowledge Test

- Criteria
- Grading

Contacts

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

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Introduction

The knowledge test assessment consists of 40 multiple choice questions sampling the core knowledge as required of the Electrical Power Networks Engineer Standard (listed below as CTK1; CTK2; CTK3; CKT4; CKT5; CKT10). The practice test supplied as part of this document illustrates the format and style of the assessment.

Preparing for the Knowledge Test Assessment

- While on-programme, the employer and or training provider should ensure the apprentice is familiar with all areas assessed by the knowledge test assessment
- The employer and or training provider should support the apprentice to complete a practice test and provide them with formative feedback to enable them identify areas of further learning

Knowledge Test Criteria

The criteria that are covered in the knowledge test assessment are listed below. In each assessment, questions will cover each of the areas; not every aspect of every area will be covered in every assessment. Refer to Section 4 for amplification and guidance. In accordance with the Electrical Power Networks Engineer Assessment Plan.

Knowledge	Number of knowledge questions per category
CTK1 Electrical Power Principles: Alternating current/direct current theories; dynamic/static engineering systems; application of electrical and electronic circuit theory; the use of complex wave forms	7 - 9
CTK2 Three-phase systems with consideration being given to harmonics and their effects and the methods of power distribution	7 - 9
CTK3 Electricity network design capabilities, complexities, operations and topologies; operation and limitations of plant and equipment	7 - 9
CTK4 The operation of the electricity network in normal and fault conditions	7 - 9

CTK5 Safe systems of work and risk management; the application of Electricity Supply Standards, Regulations including environmental requirements. These are Health and Safety at Work Act 1974, Electricity at Work Regulations 1989, Management of Health & Safety at Work Regulations 2003, Control of Substances Hazardous to Health (COSHH) Regulations 2002, The Electricity Safety, Quality and Continuity Regulations 2002, The Environmental Protection Act 1990	8 - 10
CTK10 the key interfaces of the electricity network and the impact of those interface	4 - 6

Knowledge Test Grading

This component is graded as follows:

Grade	Mark
Fail	79% or less
Pass	80% - 89%
Distinction	90% or greater

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 5.2 – Practical Observation

- Introduction
- Preparing for the Practical Observation
- Practical Observation Grading
- Criteria and Grading

Contacts

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Introduction

Apprentices who have successfully completed the Knowledge test will move onto completing the practical activity that will be observed. This activity will be appropriate for their role and as detailed in Annex A of the Assessment Plan and below.

For the practical observation each apprentice will be observed completing a practical activity in a real working environment which is appropriate for their specific job role. In the role of an Asset Management Engineer, they may typically be observed developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns.

The practical observation will be assessed by the independent technical expert accompanied by the Employer Technical Expert. Details of their roles and responsibilities are covered below and in Section 5 'Assessment Summary – Roles and Responsibilities'.

During the practical observation the apprentices will be asked questions by the independent industry technical expert to confirm their understanding of the rationale for actions taken and choices made during the task(s). The content of this practical observation will relate to the specific role they are working towards. The duration of this activity will typically be no longer than 1 day i.e., between 5 and 6 hours depending on the activity(s) and a maximum of 6 hours. The actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful task(s) completion. The EUIAS will set the time allowed for a particular observation in consultation with representative employers. The EUIAS will provide the performance criteria and the recording documents for the tasks. Through consultation with the employer and training provider, the EUIAS will ensure sufficient complexity to allow the apprentice to demonstrate the required knowledge, skills and behaviours (KSB) in an integrated way, which will test:

- Core technical knowledge (CTK6; CTK9)
- Core skills (CS1; CS2; CS4; CS8 and CS11)
- Core behaviours (CB1; CB3; CB5)
- Selected role specific skills for the Asset Management Engineer (SS2; SS3; SS4; SS5; SS6)

See Section 4 for the references to the Standard.

Note that the apprentice is only required to demonstrate the core knowledge, skills and behaviours and specific Asset Management Engineer specific skills requirements, and the task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects of the knowledge, skills and behaviours in an integrated way.

The task(s) will be supervised, managed and initially marked by an independent industry technical expert approved by the EUIAS.

As part of the practical observation the independent industry technical expert will ask standardised questions, with follow up questions as appropriate, to confirm their understanding of the rationale for actions taken and the choices made to complete the tasks.

This practical observation provides the opportunity for the apprentice to synoptically demonstrate core and specific knowledge, skills and behaviours as detailed in Section 4 of this Specification and in Annex A of the Assessment Plan. The Asset Management Engineer will be observed developing aspects of network reinforcement plans that includes making plant and equipment proposals as well as including the plan information in regulatory returns.

Following the observation, the independent industry technical expert, after discussion with the employer technical expert, will assign a preliminary mark using the EUIAS approved documentation. The independent industry technical expert must present the outcomes (depth, breadth and real time examples) of their observation to an independent examiner to enable them to allocate a final mark for the practical observation via the Service Delivery team. The apprentice can achieve a distinction or a pass.

Preparing for the Practical Observation

The Asset Management Engineer will be observed developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns.

The practical observation should be carefully planned to ensure it provides sufficient tasks and activities to allow the asset management engineer apprentice to demonstrate their knowledge, skills and behaviours in a realistic work environment. To plan the practical observation the EUIAS have provided a form for the employer technical expert to complete in Section 7 ‘Supporting Documents and Guidance’, titled ‘EPNE Practical Assessment Review Form’, this form must be completed and submitted to the EUIAS before any assessments are scheduled. Following the planning stage, the arrangements for the practical observation will be agreed by the EUIAS working alongside and in consultation with the employer. This will include agreeing the complexity of the planned activities to ensure the tasks incorporated are of a suitable size and complexity to meet the requirements of the End-point Assessment Plan.

To assist with planning the practical observation the EUIAS has provided a 'Practical Task Example Specification and Planning Template', see Section 7 'Supporting Documents and Guidance' of this Specification. The practical task **must** be designed to enable demonstration of the core knowledge, skills and behaviours required by an Asset Management Engineer during the operation of their duties.

The practical task will be administered and assessed by an independent industry technical expert, who has received training by the EUIAS in the requirements of the assessment.

The independent industry technical expert:

- must have no connection with the apprentice, their training provider or employer
- must not have been involved in the learning or training of the apprentice and cannot guide the apprentice in any way
- meet the requirements of having an electrical engineering qualification. Details of the requirements can be found in the Assessment Plan and in Section 5 – Assessment Summary of the specification
- will provide written instructions and brief the apprentice at the beginning of the task in line with EUIAS guidance
- is not allowed to discuss the task with the apprentice before, during or after the practical task
- will question the apprentice to ascertain the depth and breadth of their underpinning knowledge
- will record the outcomes from the practical observation and enter a preliminary grade using EUIAS documentation as per EUIAS guidelines, verifying whether the task was completed appropriately
- will supervise the apprentice during the practical task on a one-to-one basis to maintain quality and rigour. The area where the practical task is taking place must be designed to ensure the independent industry technical expert has full sight of the apprentice at all times during the practical task

Apprentices should be prepared for the practical task with the opportunity to carry out large scale complex tasks under assessment conditions. They should be questioned either before or during the practice task, as outlined in Section 6 'Practice Assessments and Guidance'.

The EUIAS Service Delivery team will get in touch with the agreed point of contact at the

employer or training provider to schedule the practical task as required. This task requires sufficient notice to take account of the availability of the apprentice, the independent industry technical expert, and the venue staff for the duration of the task(s).

The apprentices should be made aware that the practical observation mark being awarded by the independent industry technical expert is only a preliminary grade, but that it will be graded a distinction, pass or fail. The apprentice should be made aware that the practical task has been designed to enable demonstration of core KSBs and the Asset Management Engineer specific skills in an integrated way.

The EUIAS Service Delivery team will work with the employer or training provider to schedule the practical task.

Grading the Practical Observation

The grading criteria are described in the following pages.

To gain a **Pass**, an apprentice must successfully achieve **ALL** of the assessment criteria for each KSB undertaken, as shown below.

To achieve a **Distinction**, an apprentice must successfully achieve **ALL** of the Pass assessment criteria and an additional 25 – 40 marks.

Grade	Distinction	Pass	Fail
Grade boundaries	85% or greater	60 – 84%	59% or less

Practical observation assessment grading boundaries

Practical Observation Grading

The **apprentice must demonstrate** core KSBs and the Asset Management Engineer specific skills in an integrated way. The practical task is administered, supervised, managed and assessed by the independent industry technical expert approved by the EUIAS. The independent industry technical expert will submit a preliminary mark to the independent examiner.

The following tables explain the criteria that the apprentice **must** demonstrate:

Core Technical Knowledge	CKT6	CKT9
Demonstrate	✓	✓

Core Skills	CS1	CS2	CS4	CS8	CS11
Demonstrate	✓	✓	✓	✓	✓

Core Behaviours	CB1	CB3	CB5
Demonstrate	✓	✓	✓

Specific Skills	SS2	SS3	SS4	SS5	SS6
Demonstrate	✓	✓	✓	✓	✓

The practical task must be successfully completed.

Practical Observation Overall Grading

The Practical Observation is graded out of 100. 60 marks have been allocated to the Pass criteria and all of these must be achieved in order to gain a Pass. A further 40 marks are available as described below, and a minimum of a Pass plus 25 additional marks is required to gain a Distinction. Once all of the elements have been observed and the marks awarded the employer technical expert will recommend a preliminary grade for the independent examiner.

Indicative 'pass' criteria for the Practical Observation

The apprentice must be able to demonstrate the following core KSBs and the asset management engineer specific skills in an integrated way. The following criteria are indicative of the **pass criteria** the independent industry technical expert will be looking for during the practical observation:

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
CTK6 Company requirements with regard to project management tools, techniques and processes **CB3** Interpersonal Skills	• Chooses and uses the appropriate company project / engineering management tools, techniques and processes in their asset operations • Uses project management tools to present technical information in a clear and concise manner to sufficient depth for the audience • Demonstrates how they can work well with people from different disciplines, backgrounds and expertise to develop their projects
CTK9 Company business planning and resource control measures **CB5** Risk Awareness	• Chooses and uses the appropriate company planning and resource control measures in their asset projects • Presents business planning / resource control measures information in a clear and concise manner to sufficient depth for the audience

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
	• Identifies the risks of inadequate business planning / resource control measures in their asset projects • Demonstrates they have an embedded desire to reduce risks through systematic monitoring and checking of information on an on-going basis and taking mitigation actions when required
CS1 Comply with Company and industry health, safety and environmental standards, regulations, company operating procedures and working practices **CB1** Health, Safety & Environment	• Takes actions to ensure their control operations comply with the health, safety and environmental considerations which affect their operational activities • Chooses and uses the appropriate company HS&E policies and procedures • Presents HS&E information in a clear and concise manner to sufficient depth for the audience • Demonstrates how they follow health, safety and environmental policies and procedures and where necessary challenge unsafe behaviour using appropriate techniques • Demonstrates high levels of concentration and the desire to reduce risks through regular monitoring and checking of information
CS2 Ensure that all safety considerations are incorporated and	• Uses and follows the appropriate company HS&E policies and

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
evident in all working practices **CB5** Risk awareness	procedures • Recognises and identifies specific risks associated with their asset design / planning work and chooses an appropriate course of action • Presents safety information in a clear and concise manner to sufficient depth for the audience • Demonstrates they have an embedded desire to reduce risks through systematic monitoring and checking of information on an on-going basis and taking mitigation actions when required
CS4 Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities **CB3** Interpersonal skills	• Presents information in a clear and concise manner to sufficient depth for the audience • Demonstrates that others' views are considered and support, where required, is offered to them • Speaks confidently, listens to others and takes required action to progress work • Demonstrates how they can work well with people from different disciplines, backgrounds and expertise • Demonstrates how they take others' needs and concerns into account and supports them to accomplish an activity safely and on time

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
CS8 Use company IT systems to provide accurate and reliable data to support business decisions	• Chooses and uses the appropriate company IT systems, techniques and processes used in their asset project work • Uses IT systems to present design information in a clear and concise manner to sufficient depth for the audience
CS11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment **CB3** Interpersonal skills	• Chooses and uses the appropriate company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment used in their projects • Presents all information in a clear and concise manner to sufficient depth for the audience • Recognises risks and chooses appropriate action depending on the situation • Demonstrates they have an embedded desire to reduce risks through systematic monitoring and checking of information on an on-going basis and taking mitigation actions when required
SS2 Plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements	• Identifies budget / resource considerations through their planning to support emerging technologies and / or projected future load requirements • Identifies and justifies the company's long term network reinforcement plan and justifies the approach taken

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
CB3 Interpersonal skills	• Demonstrates how they work well with people with different disciplines and expertise, taking their needs / concerns into account and supporting them to deliver asset projects safely and on time
SS3 Understand and interpret regulatory requirements and business plans and contribute to the production of regulatory technical returns **CB5** Risk awareness	• Identifies the company's regulatory requirements and justifies the approach taken to achieve them • Presents all regulatory information in a clear and concise manner to sufficient depth for the audience • Demonstrates they have an embedded desire to reduce regulatory risks through systematic monitoring and checking of information on an on-going basis and taking mitigation actions when required
SS4 Assimilate complex external information to inform Company decisions	• Presents complex external information in a clear and concise manner to sufficient depth for the audience • Demonstrates that other stakeholders' views are considered and acted on where required
SS5 Evaluate plant and equipment proposals and recommend company approaches	• Demonstrates how they have used company policies and procedures to conduct investigations into asset system or process failure and network performance analysis

Standard	To achieve a Pass the apprentice must achieve ALL of the following:
CB5 Risk awareness	• Presents information clearly and concisely to conduct the investigation of asset system or process failure • Demonstrates they have an embedded desire to reduce risks to the network through the evaluation and checking of information and taking mitigation actions when required
SS6 Instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis **CB1** Health, Safety & Environment	• Demonstrates how they have used company policies and procedures to conduct investigations into asset system or process failure and network performance analysis • Presents information clearly and concisely to conduct the investigation of asset system or process failure • Demonstrates how they consider health, safety and environmental policies and procedures when investigating system or process failure • Demonstrates high levels of concentration and the desire to reduce risks through monitoring and checking of network information

Indicative ‘distinction’ criteria for the practical observation

- Distinction criteria may only be awarded following the achievement of **ALL PASS** criteria in this element
- To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria.
    - On completion of **ALL** of the elements the **DISTINCTION** marks for each element will be totalled by the Independent Industry Technical Expert and recorded on EUIAS documentation
    - **EACH** element has been awarded a pre-set number of **DISTINCTION** marks based on the industry weighting of that element. When each element’s **DISTINCTION** marks are totalled together the maximum number of marks achievable is **40**
    - The **DISTINCTION** marks gained will be added to the overall **PASS** mark of **60** to provide a combined total. 60 marks have been allocated to the Pass criteria and all of these must be achieved to gain a Pass. A further 40 marks are available as described below, and a minimum of a Pass plus 25 additional marks is required to gain a Distinction
    - If that total attains **85** marks or more an overall **DISTINCTION** grade may be awarded

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
CTK6 Company requirements with regard to project management tools, techniques and processes	• Demonstrates how they are able to consult and involve appropriate people from other areas to capitalise on different skills / perspectives / experience and / or knowledge to improve the management of their asset projects • Demonstrates how they are able to transmit difficult technical

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
	operational information in an understandable manner
CTK9 Company business planning and resource control measures	• Demonstrates how they are able to consult and involve appropriate people from other areas to capitalise on different skills / perspectives / experience and / or knowledge to improve the asset management planning process • Demonstrates how they are able to transmit difficult asset planning and / or resource information in an understandable manner
CS1 Comply with Company and industry health, safety and environmental standards, regulations, company operating procedures and working practices	• Consults and involves appropriate people from other areas to capitalise on different skills / perspectives / experience and / or knowledge to improve the health, safety or environmental arrangements of their operational procedures • Assesses the impact of a health, safety or environmental problem and seeks out solutions by making suggestions to remedy or resolve the situation
CS2 Ensure that all safety considerations are incorporated and evident in all working practices	• Consults and involves appropriate people from other areas to capitalise on different skills / perspectives / experience and / or knowledge to ensure safety considerations are incorporated into their operational procedure/s

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
	• Assesses the impact of an operational problem and seeks out solutions by making suggestions to remedy or resolve the situation safely
CS4 Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities	• Communicates effectively with stakeholders to provide operational information in both written and verbal formats to keep them informed • Communicates effectively to transmit complex operational information in an understandable manner
CS8 Use company IT systems to provide accurate and reliable data to support business decisions	N/A
CS11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment	• Consults and involves appropriate people from other areas to capitalise on different skills / perspectives / experience and / or knowledge to predict the reliability of engineering systems and equipment in their planned operational procedures • Assesses the impact of an operational problem and seeks out solutions by making suggestions to remedy or resolve the situation safely
SS2 Plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected	• Demonstrates how they are able to consult and involve appropriate people to capitalise on different skills / perspectives / experience / knowledge to support the development of network

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
future load requirements	plans which account for the requirements of emerging technologies and future load requirements • Demonstrates how they can evaluate and predict the impact of problems in asset projects and seek out solutions and make suggestions for future improvement
SS3 Understand and interpret Regulatory requirements and business plans and contribute to the production of Regulatory technical returns	• Demonstrates how they are able to consult and involve appropriate people to capitalise on different skills / perspectives / experience / knowledge to help to understand regulatory requirements and support the delivery of accurate information • Demonstrates how they can evaluate and predict the impact of regulatory problems and seek out solutions and make suggestions for future improvement
SS4 Assimilate complex external information to inform company decisions	• Demonstrates how they are able to consult and involve appropriate people to capitalise on different skills / perspectives / experience / knowledge to help to understand complex external information and support company decisions • Demonstrates they are able to assimilate complex external information and transmit it in an understandable manner
SS5 Evaluate plant and equipment proposals and recommend	• Demonstrates how they are able to consult and involve appropriate people to capitalise on different skills / perspectives /

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
company approaches	experience / knowledge to evaluate equipment to be used on the network • Demonstrates they are able to assimilate complex external information from manufactures / specifications and transmit it in an understandable manner
SS6 Instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis	• Demonstrates how they are able to consult and involve appropriate people from other areas to capitalise on their experience / knowledge to support their analysis of network performance and system failure • Demonstrates how they can evaluate and predict the impact of asset, systems or process failures and seek out solutions and make suggestions for future improvement

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 5.3 – Technical Interview

- Introduction
- Preparing for the technical interview
- Criteria and Grading

Introduction

The technical interview is the final stage of the end-point assessment. The technical interview is based on a review of the apprentice's work log and will be recorded using technology such as Microsoft Teams and on EUIAS documentation. It is conducted and assessed by an independent industry technical expert approved and appointed by the EUIAS. The technical interview will be documented by the independent industry technical expert. The independent industry technical expert **must** assess the evidence holistically. Representative from the apprentice's employer or training provider is allowed to be present in the room whilst the interview is being conducted which would normally be the employer technical expert who conducted the practical observation. The employer technical expert:

- **must not** amplify or clarify points made by the apprentice
- role is to provide context for the independent industry technical expert with clarifications around specific company policies and procedures
- following the interview, will be asked by the independent industry technical expert to join in a discussion about the interview and the independent industry technical expert will assign a preliminary mark

The technical interview is based on a review of the contents of the apprentice's work log and the interview will focus on each of the elements of the Standard listed below. It is important that the apprentice is completely familiar with each of them.

- Core Technical Knowledge (CTK7; CTK8; CTK9)
- Core Skills (CS3; CS5; CS6; CS7; CS9; CS10)
- Core behaviours (CB2; CB4; CB6)
- Specific Skills for the Asset Management Engineer (SS1; SS7; SS8)

See Section 4 for the references to the Standard.

The technical interview **must** last 2.75 hours and a maximum of 3 hours and must be conducted under controlled conditions. If the apprentice requires a comfort break this must be supervised by an invigilator at all times.

Preparing for the Technical Interview

Apprentices should be prepared for the technical interview underpinned by the work log with 'mock interview' opportunities. This should take place near or at the end of their training programme when they are finalising their work log. Apprentices should be guided to include quality pieces of evidence and to index their work logs, referencing each part of their evidence to

the relevant part of the Standard.

The independent industry technical expert will ask standardised questions to explore the apprentice's level of KSBs and specific skills and follow up questions may be asked and to ensure the apprentice has the depth and breadth of competence for the role. The greater depth of understanding will lead to a higher grade being awarded. The apprentice should support their answers by referring to evidence from their work log.

Guidance for preparing for the technical interview underpinned by the work log is outlined in Section 6 'Guidance – Setting Up a Practice Technical Interview'. In particular, apprentices should be made aware of the grading criteria for distinction and pass to enable them to achieve their full potential.

The Technical Interview underpinned by the work log:

The technical interview will be conducted by an independent industry technical expert accompanied by an employer technical expert from the apprentice's workplace. See Section 5 'Assessment Summary', for further details about the roles and responsibilities of each technical expert.

The technical interview will be focused on contents of evidence in the work log, which must be compiled by the apprentice during their on-programme work. The work log must be submitted 3 weeks before the interview and contain:

- include at least **one piece of quality evidence** relating to each knowledge, skill and behaviour. This piece of quality evidence must demonstrate the knowledge, skills and behaviours (KSBs) as outlined in Section 2 of this Specification and in Annex A of the Assessment Plan
- contain:
    - evidence that covers all KSBs required, and this would normally come from evidence relating to at **least 5 holistic jobs**
    - **written accounts of activities** that have been completed and referenced against the knowledge, skills and behaviours supported by appropriate photographic evidence and work products, for example work instructions, safety documentation, company policies and procedures as appropriate to the activities
    - **progress review documentation** - reviews which should be completed and recorded to determine progression towards competence across the entire occupational Standard

- **KSBs mapping document** that identifies clearly where all the quality evidence from the work log has been mapped. As mentioned above each piece of evidence is likely to demonstrate more than one KSB. The evidence should be sufficient to demonstrate that the apprentice can apply the core technical knowledge, skills and behaviours required and the control engineer skills as indicated in section 4 of this document
- **evidence must be valid and attributable to the apprentice, with a qualitative as opposed to quantitative approach**

The independent industry technical expert will review the work log and ask standardised questions, to confirm authenticity of the work and assess underpinning knowledge, skills and behaviours relating to the task. Follow up questions may be asked by the independent industry technical expert to ensure the apprentice has the depth and breadth of competence for the role. The greater depth of understanding will lead to a higher grade being awarded.

The interview discussion should be conducted in the context of each apprentice's specific job role using the Specific Skill (SS) topic areas identified in Annex A of the Assessment Plan. The interview discussion should encompass the relevant supporting Core Technical Knowledge (CTK), Core Skills (CS) and supporting Core Behaviours (CB) through the use of the standardised questions provided for each of the relevant elements which support the scenario being discussed. Where necessary, additional questioning should be conducted by the independent industry technical expert to probe further into the detail of the topic area and activities being discussed. Wherever possible the interviewers questioning should be contextualised to the apprentice's job role and the specific work activities they are presenting from their work log.

The technical interview will:

- take place after successful completion of the knowledge test assessment, and practical observation
- be a face to face (remote interviews may be applicable pending on Covid-19) professional interview underpinned by the work log of evidence which must take place after successful completion of the knowledge test and practical observation. The interview will be recorded using the relevant technology such as Microsoft Teams or a recording audio and must be submitted to the EUIAS via the Service Delivery team
- be written up and recorded on an interview record template provided by the EUIAS

- be recorded with the use of relevant technology such as Microsoft Teams or a recording audio and submitted to the EUIAS via the Service Delivery team
- evidence the above KSBs

Please note that the work log is **NOT** assessed, but the apprentice **must** use their work log to support themselves in answering the technical interview questions. The interview questions will focus on each of the elements of the Standard listed above so it is important that the apprentice is completely familiar with each of them.

Prior to the technical interview, the independent industry technical expert will have reviewed the work log in preparation for the technical interview. The questioning will cover **ALL** the elements as identified in the apprenticeship Standard. The apprentice can achieve a distinction or a pass. If the apprentice fails, this element the apprentice may re-take or re-sit the technical interview within the six month EPA window. Further information can be found in Section 5 'Retake and Resit Information' of the Specification.

Grading the Technical Interview

The technical interview is marked as a distinction, pass or fail. The grading criteria are described in the following pages.

The grading criteria is based on the Assessment Plan:

- To achieve a **Pass all,** pass criteria as listed below **must** be achieved
- To achieve a **Distinction**, an apprentice must successfully achieve **ALL** of the Pass assessment criteria and an additional 25 – 40 marks.

Technical interview grading is shown in the table below:

Grade	Distinction	Pass	Fail
Grade boundaries	85% or greater	60 – 84%	59% or less

Technical Interview assessment grading boundaries

Details of overall grading are as described earlier in this document.

Technical Interview underpinned by the logbook grading

The technical interview is graded by the independent industry technical expert approved by the EUIAS. The following tables explain the criteria that are applied in order to achieve each grade for the technical interview.

- To achieve a **Distinction**, an apprentice must successfully achieve **ALL** of the Pass assessment criteria and ONE of the criteria from each of the distinction boxes, which will provide additional 25 – 40 marks.

Core Knowledge	CKT7	CKT8	CKT9
All Pass criteria must be achieved	✓	✓	✓

Core Skills	CS3	CS5	CS6	CS7	CS9	CS10
All Pass criteria must be achieved	✓	✓	✓	✓	✓	✓

Core Behaviours	CB2	CB4	CB6
All Pass criteria must be achieved	✓	✓	✓

Specific Skills	SS1	SS7	SS8
All Pass criteria must be achieved	✓	✓	✓

The Technical Interview is graded out of 100. 60 marks have been allocated to the Pass criteria and all of these must be achieved in order to gain a Pass. A further 40 marks are available as described below, and a minimum of a Pass plus 25 additional marks is required to gain a Distinction. Once all of the elements have been observed and the marks awarded the Independent Industry technical expert will recommend a preliminary grade for the independent examiner.

Indicative 'pass' criteria for the Technical Interview supported by the work log

The following criteria are indicative of the **pass criteria** the independent industry technical expert will be looking for when the apprentice takes part in the technical interview which will be based upon quality evidence provided in the work log.

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
CTK7 Company engineering policies appropriate to their role	• Demonstrate how they have gathered and analysed relevant information to apply the relevant Company engineering policies to their asset projects to achieve workable solutions • Explain the link between their asset projects and how they have ensured compliance with the relevant technical specifications • Explain how they have used their knowledge of the company engineering policies to support their asset projects to achieve regulatory objectives
CTK8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness **CB4** Analysing and solving problems	• Demonstrate how they have gathered and analysed relevant information to implement solutions to resolve engineering problems • Explain how they have recognised, and defined problems associated with their work projects • Explain how they have tackled asset issues in a step by step logical way and made suggestions for solving problems which benefit customers and the

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
	business • Explain how operational analysis they have undertaken supports the company strategies and policies ensuring compliance with technical requirements
CTK9 Company business planning and resource control measures **CB6** Planning and Organising	• Explain how they have gathered and analysed relevant information in order to implement effective planning solutions or resource requirements in their asset projects • Demonstrate how they have linked their asset work to company strategies and policies to ensure compliance with the company business planning and resource control measures • Demonstrate how they have developed project plans / designs that contain objectives, budgets, desired outcomes, timescales and evaluation records • Explains how they have taken a forward looking perspective when considering delivery planning decisions and ensured that plans are in place to manage anticipated issues, including contingency planning
CS3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network	• Explain how they have gathered and analysed relevant information in order to maintain and improve the integrity / safety / longevity of the electrical network • Demonstrate how they have linked their asset work to company strategies and policies to ensure compliance with the company engineering principles • Explain how their engineering asset work supports the business / client to

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
CB6 Planning and Organising	achieve regulatory incentive mechanisms • Explains how they have taken a forward looking perspective when considering the delivery of asset projects and ensured that plans are in place to manage anticipated issues, including contingency planning
CS5 Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications	• Explain how they have gathered and analysed relevant information in order to produce asset projects / designs which meet company requirements / specifications • Demonstrate how they have used and interpreted technical Information to develop project plans that contain objectives / budgets / desired outcomes / timescales / evaluation records • Demonstrate how they have used technical information to recognise and define design problems which they have tackled in a logical manner
CS6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders **CB2** Stakeholder management	• Demonstrate how they have gathered and analysed relevant information in order to produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders • Explain how their asset reports they have produced link to company strategies and polices • Demonstrate how operational reports /plans they have produced have been used to support internal and / or external stakeholders and meet their requirements

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
	• Explain how they have dealt with stakeholder queries / problems in a logical way and made suggestions for resolution which resulted in a benefit to stakeholders / business
CS7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records **CB6** Planning and organising	• Demonstrate how they have gathered and analysed relevant information in order to develop and agree project plans • Demonstrate how they have developed project plans that contain objectives, budgets, desired outcomes, timescales and evaluation records and where appropriate budgets • Demonstrate how asset plans they have produced have been used to deliver required stakeholder outcomes by following implementation criteria, monitoring process controls and using evaluation records • Explains how they have taken a forward looking perspective when considering the delivery of asset management activities and ensured that plans are in place to manage anticipated issues, including contingencies
CS9 Demonstrate that their work activities support the business to achieve its regulatory incentive mechanisms **CB2** Stakeholder management	• Demonstrate how they have gathered and analysed relevant operational information in order to support the business to achieve its regulatory incentive mechanisms • Explain how their asset projects link to Company strategies and polices and support the achievement of regulatory incentive mechanisms • Explain how the Company regulatory incentive mechanisms impact / affect relevant stakeholders and their requirements

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
	• Identifies the relevant regulatory stakeholders and how the business manage their expectations by presenting appropriate information to them clearly and concisely
CS10 Provide information to support business planning processes in relation to their role activities **CB6** Planning and organising	• Demonstrate how they have gathered and analysed relevant operational information in order to support the business planning processes in relation to their job role • Demonstrate how they have developed asset plans that support / comply with the business planning processes • Identifies the stakeholders which are affected by the business planning processes and how they are affected • Demonstrate how they have developed asset project plans that take a forward-looking perspective and manage anticipated issues • Explain how their work planning links / supports Company strategies and polices and supports the achievement of regulatory incentive mechanisms • Demonstrate how their asset planning has managed anticipated operational issues and considered contingency planning
SS1 Support the development of innovative policy solutions to best serve the needs of customers and stakeholders	• Demonstrate how they have gathered and analysed relevant information in order to support the development of innovative policy solutions • Explains how the development of the innovative policy solutions link to the company long term strategies and comply with technical requirements /

Standard	To achieve a **Pass** the apprentice must achieve **ALL** of the following:
CB2 Stakeholder management	specifications • Identifies the stakeholders which are affected by the policy solutions developed and how they have managed their expectations, presenting appropriate information to them clearly and concisely are affected
SS7 Support the identification of new and existing innovation projects **CB4** Analysing and solving problems	• Demonstrates how they have gathered and analysed relevant information in order to support the identification of new innovative policy solutions • Explains how the identification of innovative policy solutions link to the company long term strategies and comply with technical requirements / specifications • Identifies the stakeholders which are affected by the policy solutions developed and how they are affected • Demonstrates how they have taken responsibility for solving problems by identifying and analysing issues and drawing logical solutions that benefit customers and the business
SS8 Identify the implications of the next generation of low carbon energy and how it influences the way the network is operated **CB4** Analysing and solving problems	• Explains how they have gathered and analysed relevant information in order to understand the implications of the next generation of low carbon energy and how it influences the way the network is operated • Explains how the identification of innovative policy solutions link to the Company long term strategies and comply with technical requirements / specifications • Identifies the stakeholders which are affected by the next generation of low carbon energy and how they are affected

Indicative 'distinction' criteria for the Technical Interview supported by the work log

- Distinction criteria may only be awarded following the achievement of ALL PASS criteria in this element
- To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria.
    - On completion of **ALL** of the elements the **DISTINCTION** marks for each element will be totalled by the Independent Industry Technical Expert and recorded on EUIAS documentation
    - **EACH** element has been awarded a pre-set number of **DISTINCTION** marks based on the industry weighting of that element. When each element's **DISTINCTION** marks are totalled together the maximum number of marks achievable is **40**
    - The **DISTINCTION** marks gained will be added to the overall **PASS** mark of **60** to provide a combined total. 60 marks have been allocated to the Pass criteria and all of these must be achieved to gain a Pass. A further 40 marks are available as described below, and a minimum of a Pass plus 25 additional marks is required to gain a Distinction
    - If that total attains **85** marks or more an overall **DISTINCTION** grade may be awarded

Once the technical Interview has been completed and the marks awarded, the independent industry technical expert will calculate the overall recommended preliminary grading by totalling the marks awarded on the EUIAS Grading Document.

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
CTK7 Company engineering policies appropriate to their role	• Confidently explains in detail the relevant company engineering policies which support sound engineering principles in their work projects • Confidently explains how they have used their knowledge of relevant engineering policies to improve the integrity, safety and longevity of the electrical network in their asset projects

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
CTK8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness	• Confidently explains how they have resolved engineering problems based on sound principles to improve the integrity / safety / longevity of the network • Explains how they have assessed the effect of differing approaches to resolve engineering problems and made suggestions for improvement
CTK9 Company business planning and resource control measures	• Confidently explains the principles of the company's business planning policy and resource control measures and the effect on their work projects • Explains how they have used their knowledge of business planning and resource control measures to assess different approaches to their asset projects and made suggestions for improvement
CS3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and improve the integrity, safety and longevity of the transmission/distribution electrical network	• Confidently discusses and justifies their application of sound engineering principles in their asset projects to improve the integrity, safety and longevity of the electrical network • Demonstrates how they have assessed the impact of differing engineering approaches and made suggestions for improvement in the integrity, safety, or longevity of the electrical network
CS5 Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in	• Demonstrates how they have used technical information to apply engineering principles which have led to improved integrity, safety and longevity of the electrical network • Demonstrates how they used technical information to consider the inclusion of

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
compliance with technical specifications	new technologies or innovations which have been implemented in their work projects
CS6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders	• Demonstrates how they have used their knowledge gained from project monitoring and the evaluation of records to produce clear and precise reports which benefit the business • Discusses reports produced which demonstrate their skills in assessing the impact in different approaches, and provides analysis to support suggestions for improvement
CS7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and timescales. Also included will be implementation criteria, monitoring process controls and evaluation records	• Demonstrates confidently how they have applied sound engineering principles to develop project plans to undertake projects which contain clear objectives, budgets, desired outcomes and timescales • Discusses project plans produced which demonstrate their skills in assessing the impact in different approaches, and provide analysis to support suggestions for improvement
CS9 Demonstrate that their work activities support the business to achieve its regulatory incentive mechanisms	• Confidently discusses the company's asset engineering principles and the part they play in supporting the business to achieve its regulatory incentive mechanisms • Confidently explains how the company's inclusion of new technologies and engineering innovations are supporting the business to achieve its regulatory incentive mechanisms
CS10 Provide information to support business	• Explains how they have monitoring / evaluated projects produced which has led to learning points to support future planning processes

Standard	To achieve a Distinction grade in an element a minimum of ONE distinction criteria in that element must be achieved in addition to ALL Pass criteria
planning processes in relation to their role activities	• Discusses project plans produced which demonstrate their skills in assessing the impact in different approaches, and provide analysis to support suggestions for improvement in the planning process
SS1 Support the development of innovative policy solutions to best serve the needs of customers and stakeholders	• Demonstrates how they have supported the inclusion of new technologies and engineering innovations in their work to best serve the needs of customers and stakeholders • Demonstrates their skills in assessing the impact of differing innovative policy solutions and provide analysis to best serve the needs of customers and stakeholders
SS7 Support the identification of new and existing innovation projects	• Demonstrates how they have supported the identification of new or existing innovation projects in their work to improve the operation of the network • Demonstrates their skills in assessing the impact of new or existing innovation projects and provide analysis to support their findings and make suggestions for improvement
SS8 Identify the implications of the next generation of low carbon energy and how it influences the way the network is operated	• Demonstrates how they have considered the implications and effects of the next generation of low carbon energy in their work projects • Demonstrates their skills in assessing the impact of the next generation of low carbon energy on the network and provide analysis to support their findings and make suggestions for improvement

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 6 – Practice Assessments and guidance

- Knowledge Test
- Practical Observation
- Technical Interview

Contacts

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

Help Desk email: enquiries@euias.co.uk

Help Desk telephone: 0121 713 8310

Knowledge Test

Guidance – preparation for the knowledge test

While on-programme, the employer and or training provider should brief the apprentice on the areas to be assessed by the knowledge test, as detailed in Section 5.1 and further details are in Section 4 of this specification. These are the selected knowledge elements of the standard: CTK1; CTK2; CTK3; CTK4; CTK5; CTK10. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered and ensuring that apprentices are aware that elements from each of these criteria might come up in the test.

The knowledge test is aligned to the Standard and the specific job role that the apprentice may be doing. The questions have been written to reflect the Electrical Powers Network Engineer – Asset Management Engineer role as a whole and are not focussed on specific plant, machinery, or employer-specific processes.

In readiness for end-point assessment, the apprentice should complete a practice knowledge and skills assessment, which is included in section 7 of this specification. This should be undertaken in advance of the knowledge test assessment, with enough time to mark the assessment, and provide feedback to the apprentices.

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

Practical Observation

Practical observation assessment requirements

The EUIAS recommend that a practice practical observation is carried out with the apprentice this must not be the actual live practice assessment. The Asset Management Engineer has to be observed developing aspects of network reinforcement plans that include plant and equipment proposals as well as including the plan information in regulatory returns.

The practice practical observation **must** in all cases assess each apprentice synoptically against the core knowledge, skills, behaviours, and specific skills as shown below, and details can be found in Section 4 and 5.3 of this Specification and in Annex A of the Assessment Plan:

- Core Technical Knowledge (CKT6; CTK9)
- Core Skills (CS1; CS2; CS4; CS8; CS11)
- Core Behaviours (CB1; CB3; CB5)
- Specific Skills for the Asset Management Engineer (SS2; SS3; SS4; SS5; SS6)

Guidance for setting up a practical assessment

- The practice practical activities for the Asset Management Engineers must be observed in a real work environment developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns and be assessed by experienced technical experts for further details about 'Roles and Responsibilities', see Section 5 of the Specification

- The practice practical observation assessment must be designed to meet the requirements of the Electrical Power Networks Engineer (EPNE) Standard – for further guidance refer to Section 5.3 and Section 7 'Supporting Documents – Practical Task Example Specification and Planning Template' of the Specification

- The practice practical observation assessment should be designed to incorporate the use of tools and techniques that allow the apprentice to demonstrate the more complex higher order level of skills required by their role

- The tutor or supervisor (independent industry technical expert and accompanying employer technical expert) who will conduct the observation must take on the role as described in 'Roles and Responsibilities', see Section 5 of the Specification for further details

- The tutor or supervisor conducting the practice task and taking the role on as the independent industry technical expert should capture the outcomes of the practical observation in a report verifying whether the task was completed appropriately. Additional support and guidance can be found in 'Section 5' of this Specification including 'Section 7 which includes a Practical Task Example Specification and Planning Template'

- The clock must be stopped if and when there is a break scheduled or movement from one site to another and restarted when the practical assessment commences. The independent industry technical expert must make a note of the start and stop times and record the times in the documentation that they are using to record the outcomes

Successful completion of the practice practical observation should provide evidence that the apprentice has the required knowledge, skills, behaviours and role specific skills that is required from an Asset Management Engineer.

While it is not permitted to brief the apprentice as to the specific task they will be given during the live practical task, for practice purposes it is permitted to set up tasks of similar complexity and duration and ask the apprentice to carry them out under live assessment conditions. To make the practice more realistic, a tutor or supervisor should adopt the role of an independent industry technical expert and use the appropriate grading criteria from Section 5 to 'assess' the apprentice.

The practical task scenarios may be used to form the principles of practice scenarios. However, such scenarios must be different and separate from the scenarios used for end-point assessment purposes.

The practice task brief should provide specification instructions for the apprentice to be able to:

- plan the job
- select the appropriate tools and materials
- focus on the skill
- work safely

The apprentice will be expected to work to the standards set in relevant industry and company procedures.

Scenarios must reflect and be consistent with a realistic working task.

Note: that the expectation is that all the tasks will take up to 1 day i.e., between 5 and 6 hours depending on the activity(s) and a maximum of 6 hours to complete and therefore must be sufficiently complex to match this duration.

Technical Interview

Preparing for the Technical Interview

The technical interview covers a large part of the Standard and therefore, the work log has the potential to become very large. It is important to understand that the work log is **NOT** assessed, even though the industry technical expert will review the work log before conducting the technical interview.

The purpose of the work log is to support the apprentice in providing quality evidence of their achievements when asked about them in the technical interview. It is particularly useful in supporting apprentices in achieving a distinction. For example, the distinction grading criteria (see Section 5) makes reference to 'agree and co-ordinate the work of others to maximise network availability and minimise network risks'– the work log may contain witness testimony describing the circumstances, and the apprentice would be able to refer to this testimony when answering questions during the technical interview.

It is also important to include quality evidence in the work log, index the work log and cross reference it to the skills within the Standard. It is strongly recommended that you use the same referencing system as used within this Specification document.

Preparing and carrying out a practice technical interview

When the work log is complete, towards the end of the formal training period is a good time to schedule a practice interview. It must be done with enough time to provide feedback to the apprentice that they can learn from before the live end-point assessment. A period of two weeks or more is recommended, depending on the circumstances. The key is that the apprentice has time to act on the feedback they get at the end of the practice.

Practice interviews are valuable to apprentices in order to effectively prepare them for the EPA technical interviews. Apprentices should appreciate that the interview forms a significant part of their EPA and it is not just a 'bolt on' to the knowledge test assessment, and practical observation. Apprentices should be encouraged to volunteer information willingly in a full descriptive and explanatory manner. If the apprentice does not provide information during the technical interview the apprentice will not be allocated any marks.

The technical interview will typically be 2.75 hours and a maximum of 3 hours and should be conducted under controlled conditions. It is a good idea to have another colleague take on the role of an invigilator in case the apprentice requires a comfort break. The apprentice must be supervised throughout the technical interview. A set of open-ended questions should be prepared and used to cover each of the areas of the Standard covered by the technical interview.

A tutor or supervisor should play the part of the independent industry technical expert and another tutor or supervisor should be present who should take on the role of an employer technical expert carrying out the technical interview, asking the questions in a 'live test environment'. They should record their assessment of the apprentice performance, using the grading descriptions in Section 5 as a guide, and provide the apprentice with feedback, focussing on areas of improvement.

Level 4 End-Point Assessment for Electrical Power Networks Engineer – Asset Management Engineer

EPA Specification Section 7 – Supporting Documents and Guidance

- Gateway Eligibility Report
- Practical Assessment Review Form
- Practice Knowledge Test Assessment, with Answer Scheme
- Practical Task Guidance

Contacts

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Help Desk telephone: 0121 713 8310

EUIAS Level 4 End-point Assessment for Electrical Power Networks Engineer - Asset Management Engineer

Gateway Eligibility Report

(Standard Version: ST0475 version 1.0 dated 2017; Assessment Plan Version: ST0475/AP01)

Apprentice's details

Apprentice's name:	Apprentice's job title:
Name of Employer:	Name of Training provider:
Employer representatives present:	Training provider representatives present:
Apprenticeship start date:	Apprenticeship on-programme end date:
Gateway meeting date:	
Has the apprentice taken any part of the end-point assessment for this apprenticeship standard with any other End Point Assessment Organisation?	Y / N
If "Yes" please give details:	

Eligibility requirements for Electrical Power Networks Engineer

The apprentice must confirm their achievement of the following:

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (scans of certificates MUST be included)
A competent work log has been produced and meets the Specification and Assessment Plan requirements		
Achieved English Level 2 or higher		
Achieved Maths Level 2 or higher		
Satisfactory completion of the formal training plan agreed with the apprentice by the employer		

Gateway Eligibility Declaration

The apprentice, the employer and the training provider must sign this form to confirm that they understand and agree to the following:

1. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with EUIAS
2. The apprentice will only submit their own work as part of end-point assessment
3. All parties agree that end-point assessment evidence may be recorded and stored by EUIAS for quality assurance purposes
4. The apprentice has been on-programme for a minimum duration of 30 months
5. The apprentice has achieved Level 2 or higher English and maths requirements as detailed in this document
6. The apprentice has satisfactorily completed the formal training plan which was agreed with the apprentice by the employer
7. The apprentice has complied a work log throughout their apprenticeship and finalised the work log by gateway. The apprentice must have included sufficient quality evidence in their work log to demonstrate that they can apply the knowledge and skills as indicated in Annex A of the Assessment Plan and in Section 5 of the Specification
8. The apprentice, if successful, gives permission for EUIAS to request the apprenticeship certificate from the ESFA who issue the certificate on behalf of the Secretary of State
9. The apprentice has been directed to the EUIAS Appeals Policy and Complaints Policy
10. The employer/training provider has given the EUIAS at least three months' notice of requesting this EPA for this apprentice
11. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to EUIAS, the end-point assessment cannot take place

Signed on behalf of the employer (print name):	Signature:	Date:
Signed on behalf of the training provider (print name):	Signature:	Date:
Apprentice's name (print):	Signature:	Date:

EUIAS use only:	
EUIAS Sign off:	
Comments/actions:	

Electrical Power Networks Engineer – Asset Management Engineer

Practical Assessment Review Form

Introduction

The purpose of the 'Practical Assessment Review Form', is to provide support in ensuring that the practical task proposed for the apprentice is sufficiently complex to allow the apprentice to demonstrate the widest range of knowledge, skills and behaviours against the mandatory elements of the Electrical Power Network Engineer (EPNE) Assessment Plan.

Details of the mandatory elements are included in Section 4 of the EPNE EPA Specification.

Each Apprenticeship Standard and Assessment Plan details the content, form, and nature of the components of end-point assessment (EPA). The practical task will be set by EUIAS with the employer, taking account of workplace considerations in discussions with the apprentice's employer. Practical task may have a number of elements, but all tasks must be of equal size and complexity for each option.

The employer must ensure that the practical task is developed to allow the independent industry technical expert to observe the Asset Management Engineer being observed developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns.

The employer technical expert **must** complete and submit the 'Practical Assessment Review Form', to the EUIAS Service Delivery Team for approval 3 months before the start of the end-point assessment. The form should be accompanied by photographs and or video of the plant/equipment/network areas, including practical task and brief(s) which the apprentice will be working on.

The EUIAS approval process will be conducted by an independent examiner who will review the 'Practical Assessment Review Form', which will include information in relation to the workplace and or simulated environment appropriate to the practical task including the practical task, brief(s), plant/equipment including the network areas and site to ensure the assessment is fit for purpose. The outcomes will be recorded in this form and used to communicate with the employer to advise of all approval outcomes. The EUIAS will ensure this form is available for Internal Quality Assurance. The outcomes will be shared with the employer technical expert no later than 5 working days following the review. Where remedial action is required by the employer and or training provider the form will be accompanied by a notice to improve which will include those aspects that were of concern and a deadline for receipt of an appropriate remedial action plan. The employer or training provider **must not** conduct the practical task or use the brief(s), plant/equipment/network areas, site for the practical task until a final approval confirmation has been received from the EUIAS.

Please be aware:

- Practical task review does not guarantee that the apprentice will pass the practical task
- No health and safety risk assessment has been carried out by EUIAS
- EUIAS review does not remove any of the provider's obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- EUIAS review is based only on information supplied and is not a guarantee that the task and plant/equipment on the day of the practical will be sufficient for an EPA practical task
- The information provided in this Practical Assessment Review Form must not be shared with the apprentice

[Please turn to the next page for the Practical Assessment Review Form]

Level 4 EPNE Practical Assessment Review Form

Return completed form to enquiries@euias.co.uk

Employer name and site address	
Training provider (if applicable) name and site address	
Standard	Electrical Power Networks Engineer
Pathway	Asset Management Engineer
Level	4
Practical Task Brief(s) Titles	
Name of site to be approved	
Contact Details: Employer technical expert full name, email address and contact number overseeing the setup of the practical task (documents and site)	
Date of review	

Practical Task Assessment Criteria	Evidence Sampled
Please complete one form per apprentice: • Covering the aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory terms to cover the depth and breadth of the criteria • Explain in detail how you plan to meet the knowledge, skills, behaviours and specific skills required in the task(s) for the practical observation. Please answer all questions concisely and thoroughly, and provide accurate details to the questions listed below:	
Description of the practical task including the purpose for which this task is to be used for (i.e., List the specific tasks to be undertaken).	
Are the operations to be conducted in a real working live environment?	
Will the practical allow the assessor to observe the apprentice developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns?	
Is the practical task to be conducted in the workplace appropriate to the task(s)and are there any risks involved?	
Provide a description of the proposed practical task(s) for developing network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory terms. Or Attach the proposed planned practical task(s) document.	
Does the practical task(s) have a number of elements, if yes how many?	
Do the practical task elements meet the requirements of the Assessment Plan Annex A the Specification Section 5?	
Do the practical task(s) include separate briefs? If yes, please attach and send them to the EUIAS with this form.	
Does the practical task(s) meet the core selected technical	

knowledge (CTK6; CTK9) as specified in Section 2 of the Specification?	
Does the practical task(s) meet the core selected core skills (CS1; CS2; CS4; CS8; CS11) as specified in Section 2 of the Specification?	
Does the practical task(s) meet ALL the behaviours (B1; B3; B4; B5) as specified in Section 2 of the Specification?	
Does the practical task(s) meet the Specific Skills for the Asset Management Engineer (SS2; SS3; SS4; SS5; SS6) as specified in Section 2 of the Specification?	
Provide details of the plant, equipment and networks that is to be used	
Provide site-specific details including access and or induction arrangements	
Will the technical experts require PPE?	
Will the apprentice require PPE?	

Remember: the specific detail of the tasks to be undertaken should be kept confidential from the apprentices, and you will require differing tasks where you have more than one apprentice to be assessed so that each apprentice cannot predict which task they will be given.

Practical Task, Photographic and or Video Evidence

Practical Task Scenario
Details of the practical task scenario including the purpose for which this scenario task is to be used for or state if the task is included for submission.
Practical Task per scenario
Details – List the specific tasks to be undertaken in the above scenario or state if the brief(s) are included for submission.

Photographs and or Videos
Photograph and or Video 1: Insert Title –
Insert photograph
Photograph and or Video 2: Insert Title –
Insert photograph
Photograph and or Video 3: Insert Title -
Insert photograph
Photograph and or Video 4: Insert Title -
Insert photograph
Photograph and or Video 5: Insert Title -
Insert photograph

Photograph and or Video 6: Insert Title -
Insert photograph
Please add more rows as required

EUIAS Office use only

Notice to improve including remedial action(s)	
Practical task scenario(s) approved	
Practical brief(s) approved	
Workplace approved	
Realistic work situation on a live electrical network up to 400kV environment approved	

End-point Assessment
Knowledge Practice Assessment

Please write clearly in block capitals below	
Company name	
First name (s)	
Last name (s)	
Date of birth	
Apprentice number	
Apprentice signature	
Date of knowledge test	

Level: 4
Standard: Electrical Power Networks Engineer
Duration: 1 hour (60 minutes)

Materials

For this paper you must have:

- Pens
- Calculators
- The test is open book. The apprentices are **allowed** to have available and refer to any materials that they wish to consult during the test, including training manuals, company policies and procedures and work logs, but **MUST NOT** have access to any internet search engines

Instructions

- Use black or blue ink or black ball-point pen
- Fill in the boxes on the front of the page
- Answer **all** questions
- There are questions, possible answers as well as a column for you to mark your answer

- Mark your answer with an ☒ against the possible answer you think is correct- if you wish to change your answer please put a line through ☒ and re-select with another ☒
- Only one answer per question allowed. Answers which do not follow the rules of selection will be disallowed. This may impact on the grade awarded
- Do all rough work in this answer book
- There is spare paper on page 3 that you can use but **MUST NOT** be removed
- Additional spare paper will not be provided
- All questions are open book

Sample:

London is the capital of….

Example Question		
London is the capital of…		
Possible answers		**Answer**
a)	Wales	~~**X**~~
b)	Scotland	
c)	Northern Ireland	
d)	England	**X**

Information

- The marks for questions are 1 mark each
- There are 40 questions in total
- All questions should be attempted

Advice

- You are not permitted to leave the examination room for the duration of the assessment
- Do not spend too long on one question
- Read all questions thoroughly before starting your examination
- Mobile phones and SMART watches must not be taken into the examination room. The examination must be conducted under examination conditions i.e., you may not speak to other candidates, if you have a question raise your hand and the invigilator will attend

- Cheating: you will be asked to leave the examination room and will be classified an automatic failure and referred to your employer

THIS PAPER MUST NOT BE COPIED OR CIRCULATED WITHOUT THE WRITTEN PERMISSION OF THE EUIAS

Do not turn over the page or commence the knowledge test until the invigilator instructs you to

You can use this page for rough work. This page must not be removed.

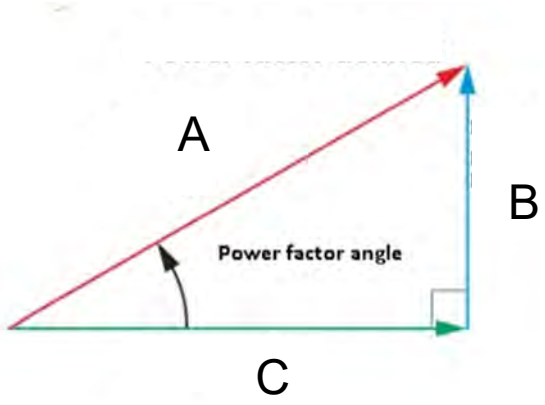
Question 1		
Identify the material that is typically used in the design of a transformers core to reduce the level of hysteresis loss.		
Possible answers		**Answer**
a)	Limited brass	
b)	Cross link polyethylene	
c)	Silicon alloys	
d)	Tungsten carbide	

Question 2		
Identify the term that is used to describe the circulating movement of current back and forth in the core of a transformer creating heat.		
Possible answers		**Answer**
a)	Copper losses	
b)	Eddy currents	
c)	Lenz law	
d)	Electromotive force	

Question 3		
Identify the phrase that is correct for the following statement about the Root Mean Square (r.m.s) value. The r.m.s value of an a.c. circuit is _____ of direct current which would have the same effect or energy change as the alternating current.		
Possible answers		**Answer**
a)	Equal to value	
b)	Twice the value	
c)	Half the value	
d)	The square value	

Question 4

Refer to the Power Factor diagram below. What do the letters A, B and C represent?



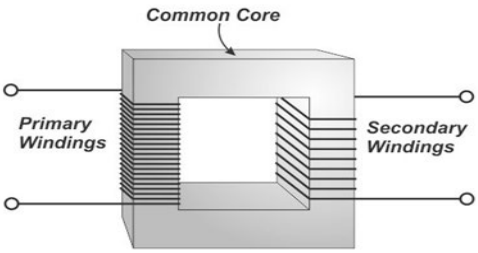
Possible answers		Answer
a)	A = Apparent Power, B = Real Power and C = Reactive Power	
b)	A = Reactive Power, B = Apparent Power and C = Real Power	
c)	A = Apparent Power, B = Reactive Power and C = Real Power	
d)	A = Reactive Power, B = Real Power and C = Apparent Power	

[Turn to next page for question 5]

Question 5

The number of secondary windings on a transformer connected to an alternating current (AC) has been decreased.

What effect will this have on the output voltage?



Possible answers		Answer
a)	Decrease the output voltage	
b)	Decrease the input voltage	
c)	Increase the output voltage	
d)	Increase the input voltage	

Question 6

For a balanced three-phase system, which ONE of the following is the formula for calculating the PHASE voltage of a STAR connected transformer?

Abbreviations below stand for:
V_P – Phase Voltage
V_L – Line Voltage
I_L – Line Current
I_p – Phase Current
√ - Root 3 (root of three)

Possible answers		Answer
a)	$V_P = V_L \div \sqrt{3}$	
b)	$V_P = V_L$	
c)	$V_P = I_L \div I_p$	
d)	$V_P = V_L - \sqrt{3}$	

Question 7		
In a balanced star-connected three-phase system the value of the phase current:		
Possible answers		**Answer**
a)	varies above and below the line current	
b)	is higher than the line current	
c)	is a third less than the line current	
d)	is equal to the line current	

Question 8		
In a balanced three-phase system with delta-connected load and 415 V line voltage, What would the value of the phase voltage be?		
Possible answers		**Answer**
a)	0 V	
b)	240 V	
c)	415 V	
d)	440 V	

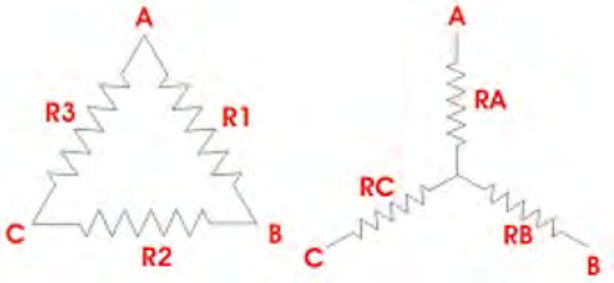
Question 9		
In a balanced three-phase system with a star-connected load and 10 A line current, what would be the value of the phase current?		
Possible answers		**Answer**
a)	5.77 A	
b)	10 A	
c)	17.3 A	
d)	30 A	

Question 10		
Which ONE of the following describes the effect of harmonics on a three-phase electrical network?		
Possible answers		**Answer**
a)	The networks current and voltage are distorted and deviate from their standard sinusoidal waveforms	
b)	The networks current and voltage are regulated and conform to their standard sinusoidal waveforms	
c)	The networks current is decreased, and the voltage increased proportionally to regulate their standard sinusoidal waveforms	
d)	The networks current and voltage is increased causing network problems and system faults	

Question 11		
Which harmonic typically causes neutral current to increase most significantly?		
Possible answers		**Answer**
a)	The third harmonic	
b)	The fifth harmonic	
c)	The seventh harmonic	
d)	The twelfth harmonic	

Question 12		
In a balanced three-phase system, what would be the value of the neutral current?		
Possible answers		**Answer**
a)	Zero	
b)	Line current	
c)	Phase current	
d)	3 x phase current	

Question 13		
Three-phase transformers should only be connected in parallel under which ONE of the following conditions?		
Possible answers		**Answer**
a)	When they are identical in all respects	
b)	When they have exactly the same losses	
c)	When permission is obtained from the manufacturer	
d)	When they have the same secondary voltages	

Question 14		
Refer to the diagram below. In the order shown, which transformer wiring configurations does this diagram represent? 		
Possible answers		**Answer**
a)	Single-phase star, single-phase delta	
b)	Three-phase star, three-phase delta	
c)	Single-phase delta, single-phase star	
d)	Three-phase delta, three-phase star	

Question 15		
The UK's electricity is typically generated in large commercial power stations. At what voltage is it generated?		
Possible answers		**Answer**
a)	11 kV	
b)	25 kV	
c)	132 kV	
d)	400 kV	

Question 16		
At what voltage is the transmission of electricity across the UK primarily conducted?		
Possible answers		**Answer**
a)	11 kV	
b)	132 kV	
c)	415 V	
d)	400 kV	

Question 17		
What are the typical voltage tolerances for high voltage (up to 132 kV) power networks?		
Possible answers		**Answer**
a)	High voltage ± 3% of nominal voltage	
b)	High voltage ± 6% of nominal voltage	
c)	High voltage +6% to -10% of nominal voltage	
d)	High voltage ± 10% of nominal voltage	

Question 18		
Which statement describes the typical method for controlling the output voltage on a 33/11 kV transformer to keep it within its statutory limits?		
Possible answers		**Answer**
a)	An automatic voltage control relay monitors the transformers output voltage and regulates the voltage via a tap changer	
b)	A control engineer monitors the transformers output voltage and regulates the voltage via an automated tap changer	
c)	A current transformer (CT) monitors the transformers output voltage and regulates the voltage via a tap changer	
d)	An automated tap changer monitors the transformers output and regulates the voltage via an automatic voltage control relay	

Question 19		
An engineer needs to determine the electrical rating of a switchgear, that will be used on a power network. What critical factor should the engineer consider?		
Possible answers		**Answer**
a)	The manufacturer of the switchgear to be used	
b)	The location of the switchgear in the electrical circuit	
c)	The proximity of commercial and domestic buildings	
d)	The ability to operate the switchgear manually or remotely	

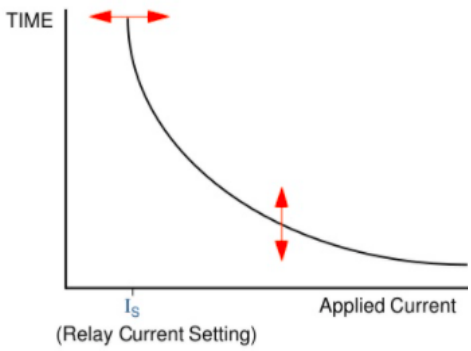
Question 20		
‘A low voltage network which has the neutral bonded to earth at several different points in the system.’ What type of earthing system is the above known as?		
Possible answers		**Answer**
a)	Terra Neutral Split system	
b)	Terra Neutral Terra Firma system	
c)	Protective Multiple Earthing system	
d)	Earth Loop Impedance system	

Question 21		
A transformer which consists of a single winding and is used to step up or step down a constant supply voltage. What type of transformer is this known as?		
Possible answers		**Answer**
a)	Current transformer	
b)	Voltage transformer	
c)	Earthing transformer	
d)	Auto-transformer	

Question 22		
What would be the effect of a fault on the protection of a low voltage network with a low earth loop impedance value?		
Possible answers		**Answer**
a)	The fault current would take longer to activate the protection, the lower the value	
b)	The fault current would activate the protection faster, the lower the value	
c)	The fault current would activate the protection at the same time regardless of the value	
d)	The fault current would not activate the protection if the value was below the UK standard	

Question 23		
When considering network protection there are devices that provide an advantage of being able to support overcurrent for a period of time and be reset. Which device would provide this advantage?		
Possible answers		**Answer**
a)	High Rupturing Capacity (HRC) fuses	
b)	Rewireable fuses	
c)	Contactor relays	
d)	Rewireable relays	

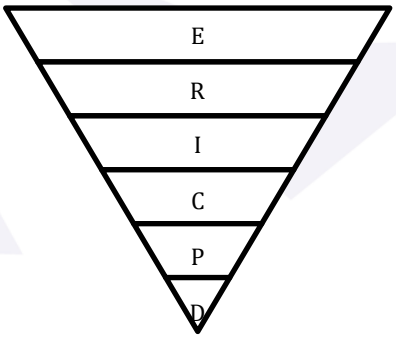
Question 24		
Which ONE of the following is an example of a 'Rise in Earth Potential' (ROEP)?		
Possible answers		**Answer**
a)	A ROEP is created by increasing the number of earth electrodes in a substation to prevent system faults	
b)	A ROEP is a phenomenon which occurs during long periods of high voltage switching in a substation which stresses the earth system	
c)	A ROEP is created by bonding all auxiliary steelwork to earth in a substation together to prevent system faults	
d)	A ROEP occurs when a large current flows to earth through the effects of a high voltage fault	

Question 25		
A relay operates by the principle that the higher the current value the lesser time it will take the relay to operate. What protocol does this follow?  		
Possible answers		**Answer**
a)	Immediate Delay Measured Sequence (IDMS) protocol	
b)	Inverse Definite Minimum Time (IDMT) protocol	
c)	Inverse Decision Time Measure (IDTM) protocol	
d)	Individual Delayed Time Sequence (IDTS) protocol	

Question 26		
Which piece of network equipment does the following sentence describe? 'It reduces earth fault current and limits the amount of fault current returning to the transformer'.		
Possible answers		**Answer**
a)	A voltage transformer	
b)	A switch fuse	
c)	A neutral earthing resistor	
d)	A protective multiple earth	

Question 27		
Voltage transformers (VT) can be used for circuit control, safety protection and measurement. Which ONE of the following describes the principle of VTs operation?		
Possible answers		**Answer**
a)	A VT can be used to step down the voltage of the system to a value which is acceptable to the lower rating of meters and relays	
b)	A VT can be used to step up the voltage of the system to a value which is acceptable to the higher rating of meters and relays	
c)	A VT can be used to convert the alternating waveform of the system to a direct waveform to supply meters and relays	
d)	A VT can be used to accept the voltage of the system and connect it directly to the higher rated meters and relays	

Question 28		
Which ONE of the following describes the typical capabilities of a high voltage switch?		
Possible answers		**Answer**
a)	The switch is load making but not load breaking or fault making	
b)	The switch is non-load making but is load breaking and fault making	
c)	The switch is load making and breaking, and fault making	
d)	The switch is non-load making or breaking but is fault making	

Question 29		
ERICPD is an acronym used by health and safety organisations as a risk assessment model to help prioritise health and safety measures in the workplace. What does ERICPD stand for?  		
Possible answers		**Answer**
a)	Eliminate, Report, Investigate to Control Potential Danger	
b)	Eliminate, Remove, Insulate, Caution, Protect and Discipline	
c)	Eliminate, Reduce, Isolate, Control, PPE and Discipline	
d)	Eliminating Risks Insures Complete Protection from Danger	

Question 30		
Which ONE of the following identifies the primary purpose of a risk management strategy?		
Possible answers		**Answer**
a)	A risk management strategy provides a cost efficient approach to identifying, assessing, and managing the Company's financial risk	
b)	A risk management strategy provides a timely and effective method of measuring the exposure to risk in the event of an incident	
c)	A risk management strategy provides a structured and coherent approach to identifying, assessing, and managing risk	
d)	A risk management strategy provides an auditable process which protects a Company from any liability in the event of an incident	

Question 31		
Which ONE of the following describes the primary purpose of the Electricity at Work Regulations 1989?		
Possible answers		**Answer**
a)	They aim to prevent the loss of time or production in the process of maintaining an electrical supply in a work environment	
b)	They aim to prevent death or injury to any person from electrical causes while working or in a work environment	
c)	They aim to improve electrical working practices to provide a more efficient use of tools and equipment in a work environment	
d)	They aim to reduce death or injury to an acceptable level to any person from electrical causes while working or in a work environment	

Question 32		
A 'permit-to-work' system is a formal written system used to control certain types of work that are potentially hazardous. Identify the elements which must be included on a 'permit-to-work' document?		
Possible answers		**Answer**
a)	Date of issue, description of work, points of contact, signature of document receiver	
b)	Date and time of issue, location of work, points of isolation, signatures of issuer and receiver	
c)	Date and time of issue, cost of work, points of switching, signature of Company director	
d)	Date and time of issue, description of work, points of switching, signatures of the working party	

Question 33		
In relation to commercial projects, the Construction Design and Management (CDM) Regulations 2015, require that under certain circumstances construction work is notifiable in writing to the HSE. Which statement identifies ONE of those circumstances?		
Possible answers		**Answer**
a)	Where planned construction work will last longer than 20 working days	
b)	Where planned construction work will last longer than 30 working days	
c)	Where planned construction work will last longer than 40 working days	
d)	Where planned construction work will last longer than 50 working days	

Question 34		
The Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR) places duties to report certain incidents that may involve the safety of those not employed by the duty holder. Which of the following identifies ONE of these incidents?		
Possible answers		**Answer**
a)	Any single interruption of supply of 5 megawatts or more at the time of the interruption for a period of one hour or longer	
b)	Any single interruption of supply of 1 megawatt or more at the time of the interruption for a period of five hours or longer	
c)	Any multiple interruption of supply of 20 megawatts or more for more than two 5 minutes periods	
d)	Any single interruption of supply of 20 megawatts or more at the time of the interruption for a period of one hour or longer	

Question 35		
Which statement states the principles of maintenance as defined by the Electricity at Work Regulations 1989?		
Possible answers		**Answer**
a)	As may be financially viable to prevent danger, all systems shall be maintained so as to prevent, so far as is reasonably practicable, such danger	
b)	As may be necessary to improve performance, all systems shall be maintained on an annual basis to prevent any loss of power to the system	
c)	As may be convenient to prevent danger, all systems shall be isolated to prevent injury to operatives working on the system, based on the time and cost of the maintenance operation	
d)	As may be necessary to prevent danger, all systems shall be maintained so as to prevent, so far as is reasonably practicable, such danger	

Question 36		
What is meant by the term achieving 'Safety from the System'?		
Possible answers		**Answer**
a)	Safeguards that all equipment shall be made dead, prior to any work activities being permitted on the electrical system	
b)	The condition which safeguards tools and equipment from the dangers of work being conducted on the electrical system	
c)	The condition which safeguards persons working on or near to equipment from the dangers which are inherent in that system	
d)	The condition which safeguards persons, tools, equipment, and plant when working near the electrical system	

Question 37		
Ofgem set price controls on the revenues of Transmission and Distribution Companies using the RIIO model to encourage Companies to consider a number of factors. What factors do the initials RIIO stand for?		
Possible answers		**Answer**
a)	Revenue = Ideas + Implementation + Outlay	
b)	Reward = Input + Investment + Outlay	
c)	Reward = Innovation + Ideas + Outputs	
d)	Revenue = Incentives + Innovation + Outputs	

Question 38		
The Electricity Safety, Quality and Continuity Regulations 2002 (ESQCR) place duties on persons to report certain instances. Which ONE of the following is reportable under ESQCR?		
Possible answers		**Answer**
a)	More interruptions to the electricity supply	
b)	Major interruptions to the electricity supply	
c)	All interruptions to the electricity supply	
d)	All planned interruptions to the electricity supply	

Question 39		
The Construction Design and Management Regulations 2015 (CDM) place certain responsibilities on duty holders involved in the work project to improve health and safety. Which ONE of following states an aim of the CDM regulations?		
Possible answers		**Answer**
a)	To appropriately cost the work so the tasks involved are managed to achieve financial success	
b)	To carefully plan the work so the risks involved are kept to a minimum and recorded for audit purposes	
c)	To plan the work to ensure the project is delivered within the set timescales	
d)	To sensibly plan the work so the risks involved are managed from start to finish	

Question 40		
The regulator Ofgem set targets for the Energy Network Companies. Which ONE of the following identifies three of the targets?		
Possible answers		**Answer**
a)	Consumer value, economical network design and good waste disposal	
b)	Customer service, network reliability and environmental performance	
c)	Customer communication, network performance and cost reduction	
d)	Consumer interaction, network monitoring and reduced wastage	

End of Practice Assessment Questions

Answers

Question	Answer	Question	Answer
1	C	**21**	D
2	B	**22**	B
3	A	**23**	C
4	C	**24**	D
5	A	**25**	B
6	A	**26**	C
7	D	**27**	A
8	C	**28**	C
9	B	**29**	C
10	A	**30**	B
11	A	**31**	B
12	A	**32**	B
13	D	**33**	B
14	D	**34**	A
15	B	**35**	D
16	D	**36**	C
17	B	**37**	D
18	A	**38**	B
19	B	**39**	D
20	C	**40**	B

End-Point Assessment
Engineering Power Networks Engineer – Asset Management Engineer

Practical Task Guidance

Level 4

Practical Task Guidance

This practical task guidance has been developed as part of the Electrical Power Networks Engineer (EPNE) – Asset Management Engineer Standard. This guidance provides details of the required knowledge, skills and behaviours on all the key aspects of the EPNE –Asset Management activity.

This end-point assessment should allow the apprentice to demonstrate the competence required to follow work instructions in order to develop aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns.

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

Successful completion of this assessment should provide evidence that the apprentice has the required knowledge, skills and behaviours (KSBs).

What does this guidance look like?

To achieve the practical observation the apprentice must demonstrate their achievement of all assessment outcomes. The KSBs will be evidenced through the practical assessment, these being delivered in a realistic work situation on a live electrical network up to 400 kV. Evidence of the apprentice's achievement must be included in their work log.

What does the assessment include?

Electrical Power Networks Engineer – Asset Management Engineer apprentices will be expected to complete a practice activity that will be observed. This activity will be appropriate for their role and as detailed in Annex A of the Assessment Plan and in Section 5.2 of this Specification. This practical observation will assess the apprentice synoptically against core and specific knowledge, skills and behaviours in a real working environment as follows:

- developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns
- work safely at all times
- **CTK6** – know and interpret company requirements with regard to project management tools, techniques and processes

- **CTK9** – know and interpret the company business planning and resource control measures

- **CS1** – comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices
- **CS2** – ensure that all safety considerations are incorporated and evident in all working practices
- **CS4** – produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities
- **CS8** – use company IT systems to provide accurate and reliable data to support business decisions
- **CS11** - uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment
- **CB1** – Health, Safety & Environment – follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information
- **CB3** – Interpersonal skills - works well with people from different disciplines, backgrounds and expertise. Takes others' needs and concerns into account and supports them to accomplish an activity safely and on time
- **CB5** - Risk awareness – has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis
- **SS2** – plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements
- **SS3** – understand and interpret Regulatory requirements and business plans and contribute to the production of Regulatory technical returns
- **SS4** – assimilate complex external information to inform company decisions
- **SS5** – evaluate plant and equipment proposals and recommend company approaches

- **SS6** – instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis

Realistic Working Situation (RWS) Centre Requirements

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

The practical task must be designed following the guidance and requirements given in this document and in Section 5.2 of this Specification. The employer technical expert checklist must be adhered to and cannot be altered without prior written consent from the EUIAS.

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

Practical Assessment Centre Requirements

The assessment requirements are in the following areas:

An independent technical expert who is independent of the apprentice and approved by the EUIAS must assess the practical task. Please refer to Section 5.2 of this Specification for further details.

The assessment area must be designed to allow the apprentice to demonstrate the knowledge, skills and behaviours as prescribed in this section, Annex A of the Assessment Plan and in Section 5.2 of this Specification. Evidence for the practical aspects must be observed by an independent industry technical expert in a real working environment developing aspects of network reinforcement plans that include making plant and equipment proposals as well as including the plan information in regulatory returns. The use of a real working environment and tasks must be reviewed with the EUIAS beforehand by completing and submitting the 'Practical Assessment Review From', see Section 7 'Supporting documents' of this Specification.

Centres may create workbooks that will allow the apprentice to demonstrate their underpinning knowledge, skills and behaviours, see Section 2 'Mapping the Standard' of this Specification.

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

Apprentice Requirements

The practical observation must in all cases assess each apprentice synoptically against the core knowledge, skills and behaviours shown below, as detailed in this document, in Annex A of the Assessment Plan and in Section 5.2 of this Specification:

Core technical knowledge

- **CTK9** - Interpret the Company business planning and resource control measures
- **CTK6** – know and interpret company requirements with regard to project management tools, techniques and processes

Core Skills

- **CS1** - Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices
- **CS2** - Ensure that all safety considerations are incorporated and evident in all working practices
- **CS4** – produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities
- **CS8** – use company IT systems to provide accurate and reliable data to support business decisions
- **CS11** - uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment

Core behaviours

- **CB1** – Health, Safety & Environment – follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information
- **CB3** – Interpersonal skills - works well with people from different disciplines, backgrounds and expertise. Takes others' needs and concerns into account and supports them to accomplish an activity safely and on time
- **CB5** - Risk awareness – has the embedded desire to reduce risks through systematic

monitoring and checking of information identifying mitigation actions on an on-going basis

In addition, for the role of an Asset Management Engineer, each apprentice must also be assessed on **EACH** of the specific skill requirements shown below, as detailed in Annex A of the Assessment Plan and in Section 5.2 of this Specification.

- **SS2** – plan, develop and produce long term network reinforcement plans taking into account emerging technologies and projected future load requirements
- **SS3** – understand and interpret Regulatory requirements and business plans and contribute to the production of Regulatory technical returns
- **SS4** – assimilate complex external information to inform company decisions
- **SS5** – evaluate plant and equipment proposals and recommend company approaches
- **SS6** – instigate, as appropriate, investigations into asset, systems or process failures as well as undertaking network performance analysis

Technical Expert Requirements

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

The independent industry technical expert will question the apprentice as they are carrying out the practical task, but the employer technical expert **must** remain unobstructive whilst the apprentice is carrying out tasks. Questions asked must be included in the feedback section of each assessment document and may cover the following areas:

- Practical experience and knowledge gained through work experience
- Technical questioning related to aspects of network reinforcement plans that include plant and equipment proposals as well as including the plan information in regulatory returns
- A variety of “what if” scenarios to determine problem solving skills
- Comprehension of basic operations or electrical principles related to plant and equipment
- Ability of apprentice to elaborate in their field of expertise

- General attitude and enthusiasm of the apprentice

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

Permissible allowances and reasons for immediate failure

- Apprentice fails to provide evidence to meet skill and behavioural requirements as detailed in the Standard, Annex A and in Section 5.2 of this specification
- Apprentices should ensure that the tasks are completed safely. It is permissible not to have identified all tools and safety equipment prior to the task starting but the additional requirements must be identified and acted upon appropriately as the task progresses
- Apprentices may not be able to return the equipment to service or check its operation at the end of the task due to other issues identified during the course of the work. If this occurs an assessment of the apprentice's competence in those areas can be made via technical questioning and professional discussion
- Apprentices must select and wear the correct PPE for the task
- Apprentices must follow safe control measures as set out in the risk assessment
- Apprentices must not put themselves or anyone else at danger
- Where an apprentice fails a component of the practical task this will not necessarily invalidate any other practical task or assessment components successfully completed

Grading

This assessment is graded as distinction, pass or fail by the independent industry technical expert, after discussion with the employer technical expert and will assign a preliminary mark. In the case of disagreement, the independent industry technical expert has the casting vote.

The independent industry technical expert must use EUIAS's approved documentation to record the outcomes and submit the documents to the Service Delivery team within 3 working days.

Where an apprentice fails a practical task or a component thereof this must be recorded on the EUIAS documentation. The apprentice must re-sit or retake the practical task within the 6

month end-point assessment window. A new practical task checklist **must** be used for each subsequent attempt and the outcomes recorded using EUIAS approved record and the independent industry technical expert must state which attempt is being undertaken and this must be recorded on the checklist.

Apprentice Feedback

If an apprentice fails a practical task or a component the independent industry technical expert **must not** provide feedback, with or without corrective actions to be taken, to the apprentice. The independent industry technical expert should provide detailed feedback to the EUIAS and record the Standards not met in the EUIAS documentation including real time examples and submit to the Service Delivery team. Should an independent industry technical expert or the employer technical expert provide detailed feedback to the apprentice, this would be considered a conflict of interest and the entire practical task must be re-assessed by a different independent industry technical expert accompanied by a different employer technical expert.

Assessment Documentation and Duration

The duration of the practical observation will typically be one day i.e., between 5 and 6 hours depending on the activity(s) and a maximum of 6 hours. The actual time allowed will be based on the comparable time an industry competent worker would take to achieve successful task(s) completion. Therefore, the EUIAS will set the time allowed for the practical observation in consultation with the employer representative, by reviewing the 'Practical Assessment Review Form', see Section 7 'Supporting Documents', of this Specification.