ENERGY & ENVIRONMENT AWARDS

Skills for a greener world

EEA Level 4 End-point Assessment for Electrical Power Networks Engineer
(Control Engineer; Electrical Project Engineer and Operational Delivery Engineer)

Specification

QAN 610/6008/2
ST0475 V1.0 AP01

Specification for

EEA Level 4 End-point Assessment for Electrical Power Networks Engineer

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Updates to this specification

Since the first publication of Energy & Environment Awards Electrical Power Networks Engineer Specification – Control Engineer; Electrical Project Engineer and Operational Engineer, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v4.0	August 2025	Rebranded	All
v3.0	10 October 2023	Rebranded and New IDs	All
v2.0	25 April 2023	New template and pathway specific criteria IDs	All
v1.0	2020	First published	All

Section 1: At a Glance EPA Summary

Qualification name	EEA Level 4 End-point Assessment for Electrical Power Networks Engineer
Ofqual qualification number	610/6008/2
Standard reference	ST0475
Assessment plan	AP01
Standard title	Electrical Power Networks Engineer
Pathways	Control Engineer Design Engineer Planning Engineer
Level	4
Gateway pre-requisites submitted to Energy & Environment Awards	Apprentice has: • achieved a minimum Level 2 English and maths • compiled and submitted a work log of evidence, which the technical interview will be based
On-programme duration	Typically 36 months
Gateway readiness	Apprentice has met all Gateway pre-requisites. Employer completes, signs and submits Gateway Eligibility Form (GER) form to Energy & Environment Awards. See Appendix B, EPNE Supporting Documents 'Gateway Eligibility Form.'
End-point assessment duration	Typically 6 months after the Gateway
End-point assessment methods and their order	• Knowledge Test • Practical Observation • Technical interview (based on work log of evidence)
End-point assessment methods and component grading	Knowledge Test: Fail; Pass; or Distinction Practical Observation: Fail; Pass; or Distinction Technical Interview based on the work log: Fail; Pass; or Distinction
Overall Grading	Fail; Pass; or Distinction

Certification	Energy & Environment Awards request Apprenticeship completion certificates from the ESFA

Objective

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

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

- Control Engineer
- Electrical Project Engineer
- Operational Engineer

Professional recognition

The apprenticeship standard meets the professional standards of the Engineering Council for registration as Engineering Technician (Eng Tech) by an appropriate Professional Engineering Institution.

Gateway Readiness

The employer must be satisfied that the apprentice is consistently working at, or above, the level of the occupational standard. Gateway pre-requisites are listed in the summary table above.

Recognition of prior learning (RPL)

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

Please refer to Energy & Environment Awards RPL and RPA policy at https://energyenvironmentawards.co.uk/policies-and-fees/

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

- each of the EPA components must be completed in full with Energy & Environment Awards
- where an apprentice transfers to Energy & Environment Awards from another EPAO they have to undertake the entire EPA with Energy & Environment Awards
- components of the EPA cannot be certificated in isolation
- evidence produced for the work log must be related to the time the apprentice is on their apprenticeship programme to demonstrate current practice
- examples used by the apprentice, during the interview, must relate to the time they were on their apprenticeship programme

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

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

Section 2: End-point Assessment Components

Component 1: Knowledge Test

Overview

The knowledge test is paper based. Apprentices have 60 minutes to complete the test. It consists of 40 multiple-choice questions.

The multiple-choice questions will have four possible answers of which one will be correct.

The Pass mark is 32 correct answers.

The Distinction mark is 36 correct answers.

For this paper:

- a scientific calculator is required
- access to the internet or intranet is NOT allowed
- apprentices can refer to the any material that they wish to consult while carrying out the test. This material may include:
    - training manuals
    - company policies and procedures
    - work logs

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

Knowledge Test Coverage

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

Number of Questions	Knowledge	Amplification and Guidance (where required)
7 - 9	**K1:** 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	• 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
7 - 9	**K2:** Three-phase systems with consideration being given to harmonics and their effects and the methods of power distribution	• 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

Number of Questions	Knowledge	Amplification and Guidance (where required)
7 - 9	**K3:** Electricity network design, capabilities, complexities, operations and topologies; operation and limitations of plant and equipment	• 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
7 - 9	**K4:** The operation of the electricity network in normal and fault conditions	• 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

Number of Questions	Knowledge	Amplification and Guidance (where required)
		• The principles of switching and controlling networks in normal and fault conditions
8 - 10	**K5:** 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	• 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

Number of Questions	Knowledge	Amplification and Guidance (where required)
4 - 6	**K10:** The key interfaces of the electricity network	• 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

Knowledge Test Roles and Responsibilities

Role	Responsibility
Invigilator	Is typically provided by the employer or training provider. Attend induction training as directed by Energy & Environment Awards.
Employer/Training Provider	Ensure that the knowledge test is scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared.
Energy & Environment Awards	Arrange for the knowledge test to take place, in consultation with the employer/training provider. Mark knowledge test answers accurately according to the mark scheme and procedures.

Component 2: Practical Observation

Overview

The apprentices who have successfully completed the knowledge test will move onto completing the practical observation.

In a practical observation, an employer assessor observes an apprentice completing a practical activity in a real working environment. Apprentices will be observed working in a realistic work situation on a live electrical network up to 400kV. The apprentice must be allowed to demonstrate the application of the relevant core and specific job role knowledge, skills and behaviours (KSBs). In the role of:

- **Control Engineer** the apprentice will be observed safely managing a 'network desk,' in-line with their Authorisation, in planned and unplanned situations demonstrating the control of network outages and their implications, identifying risks and how they have been minimised
- **Electrical Project Engineer** the apprentice will be observed undertaking engineering activities on a 'live' project demonstrating that it will meet safety, time, budget and stakeholder requirements including how project designs have been implemented, any changes made with the rationale for them and produce final construction plans
- **Operational Delivery Engineer** the apprentice will be observed working in-line with Authorisation requirements for network, plant and apparatus. Responsible for the planning, management and control of agreed operational and safety requirements in line with specified job tasks to include issue of "safety from the system documentation," engineering activities and control of working parties. On completion of task return network, plant and apparatus back to the control of the network owner following approved company protocols

The apprentice must be allowed to synoptically demonstrate the application of the relevant core and specific job role knowledge, skills and behaviours (KSBs) through naturally occurring evidence. The independent assessor will ask questions before or during the observation. To remain as unobtrusive as possible, the independent assessor will ask questions during natural breaks between tasks and after completion of work rather than disrupting the apprentice's flow.

Centres unfamiliar with this standard are strongly recommended to use Energy & Environment Awards Practical Observation Review service to help ensure the practical task is suitable for end-point assessment.

Step-by-Step Guide

The table below provides a step-by-step guide on how the practical observation will be carried out:

Assessors	1 employer assessor (must hold or have previously held an appropriate Company safety rule Authorisation), appointed by Energy & Environment Awards.
Practical structure	Typically no longer than one day, and the actual time allowed will be based on the comparable time that an industry competent worker would take to achieve successful task(s) completion. For example: • normal duration of 5 – 6 hours per apprentice depending on the activity(s) a maximum of 6 hours including time for questioning and must involve working on the role specific task; the location and the tasks must be appropriate • **See pages 18-31 for the full list of KSBs to be covered in the practical observation** Apprentices are assessed to confirm that they can apply their knowledge, skills, behaviours and role specific skills in an integrated way with minimum supervision. • 1 apprentice may be assessed at one time The practical observation will be: • managed and marked by an independent assessor • marked out of 100 The employer assessor will ask standardised open 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. There may be breaks during the practical observation to allow the apprentice to move from one location to another and for meal/comfort breaks.

	During these breaks, the clock will be stopped and then restarted to ensure that the assessment duration is not reduced.
Where will the assessment take place?	The practical observation must be conducted: • on actual plant and equipment in a real working environment • in the apprentice's normal place of work in a suitable area provided the apprentice can work unhindered and without gaining advantage from others
What are the tasks that will be covered?	The assessment task must allow the apprentice to undertake the activities. For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' below pages 18-31. The practical observation must also allow the apprentice to demonstrate the behaviours listed in the next section.
Who sets the task(s)?	Employer or training provider set the task based on the guidance provided in this Specification. Centres unfamiliar with the EPNE standard should use Energy & Environment Awards Practical Observation Review Service to review proposed practical tasks before end-point assessment takes place. The task must provide apprentices with the opportunity to achieve all the KSBs assessed in the practical observation. Energy & Environment Awards will work with the employer and/or training provider to review the practical task briefs/job task sheets which are based on the activities described above. The apprentice must be provided with both written and verbal instructions by the independent assessor on the tasks.
What resources can the apprentice use?	Equipment and resources needed for the observation must be: • provided by the employer or training provider • a suitable premises • the plant, machinery, equipment and PPE required for the job • in good and safe working condition

	Relevant work instructions/manuals must be available in hard copy or electronically.
How many questions will the apprentice be asked?	The employer assessor: • will ask standardised open questions to assess the related underpinning knowledge. There are no stipulated number of questions that will be asked • may ask follow-up questions in order to seek clarification
What will the questions focus on?	Underpinning knowledge and/or skills and behaviours where an opportunity to observe them has not occurred.
Grading	Fail, Pass or Distinction.

Practical Observation Knowledge, Skills and Behaviours (KSBs) coverage

The practical observation covers:

Practical Observation Elements: Core Knowledge	Amplification and Guidance (where required)
K6 Company requirements with regard to project management tools, techniques and processes	• 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
K9 Company business planning and resource control measures	• 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

Practical Observation Elements: Core Knowledge	Amplification and Guidance (where required)
	project plans they have developed which contain all necessary data including contingency plans

Practical Observation Elements: Core Skills	Amplification and Guidance (where required)
S1 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)	• How their design work complies with health, safety and environmental 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 health, safety and environmental policies and procedures. e.g., examples of how relevant legislation has influenced their projects • How to present health, safety and environmental information in a clear and concise manner to sufficient depth for the audience. e.g., brief a supervisor/manager on the health, safety and environmental considerations/requirements for an asset management project
S2 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)	• 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

Practical Observation Elements: Core Skills	Amplification and Guidance (where required)
	• 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
S4 Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities	• 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
S8 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)	• 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

Practical Observation Elements: Core Skills	Amplification and Guidance (where required)
	• 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
S11 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)	• 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

Practical Observation Elements: Core Behaviours	Amplification and Guidance (where required)
B1 Health, Safety and 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	• 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 health, safety and environmental 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 health, safety and environmental policies and procedures
B3 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	• 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
B5 Risk Awareness - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis	• Demonstrates they have an embedded desire to reduce risks through a systematic approach e.g., examples of risk registers risk analysis for projects

Practical Observation Elements: Core Behaviours	Amplification and Guidance (where required)
	• 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

Pathway: Control Engineer Role Specific Skills	Amplification and Guidance (where required)
CE1 Remotely control the electrical network, in accordance with operating procedures and safety rules to ensure the safe and efficient operation of the power system	• Demonstrates how they ensure health, safety and environmental considerations are taken into account and prioritised when carrying out operational procedures e.g., examples of network/switching risk assessments being conducted prior to operation • Demonstrates how their operational work links to the relevant company policies/ strategies e.g., examples of switching operations which follow company operational procedures • Presents technical information clearly and concisely demonstrating their plans for conducting operational procedures e.g., meetings/discussions with managers/senor control engineers to discuss and agree the sequence of operational procedures for an outage
CE2 Control all outages and network access requests ensuring risks to the network and system security are minimised	• Demonstrates how they are implementing the company health, safety and environmental policies and procedures during the planning and delivery of operational procedures e.g., examples of operational procedures being conducted on the network • Demonstrates how they are following the correct company policies/strategies during their operational procedures e.g., reference to

Pathway: Control Engineer Role Specific Skills	Amplification and Guidance (where required)
	the relevant company operational procedures for the operations being conducted • Demonstrates they can speak confidently and listen to others' views when taking requests to access the electrical network e.g., communicates with engineers on site and manages operations
CE3 Manage planned and fault operations and activities on the network to provide a safe and secure electricity supply	• Demonstrates how they are implementing the company health, safety and environmental policies and procedures during the delivery of planned and/or simulated fault conditions e.g., takes charge of operational procedures ensuring safety is maintained at all times • Demonstrates how they are following the correct company policies/ strategies during their operational procedures e.g., takes control of the operational procedures for the operation being conducted ensuring the relevant policies are being adhered to • Demonstrates they can speak confidently and listen to others' views when taking requests to access the electrical network e.g., communicates effectively and listens and supports the engineers conducting the operational procedure 2 and 3
CE4 Undertake work in complex, dynamic and reactive environments and provide technical/operational guidance to the rest of the business	• Demonstrates how they can present complex technical information to colleagues/field engineers clearly and concisely e.g., meeting/discussion with senior control engineers/field engineers • Demonstrates how the views of others have been considered during the assimilation of complex technical information e.g., meeting/discussion with senior control engineers to plan and agree an operational procedure/network outage

Pathway: Control Engineer Role Specific Skills	Amplification and Guidance (where required)
	• Speaks and listens to others and takes the correct action to conduct an operational procedure e.g., discussion with senior control engineer to agree the point/method of isolation for an outage
CE8 Work effectively under appropriate Control Engineer Authorisation in-line with company requirements	• Demonstrates how they have followed the appropriate company policy and procedures for their control of operations on the network e.g., operates the network competently following company procedures within the range of their authorisation • Demonstrates that others' views are taken into consideration when operating on the network e.g., listens, agrees and follows instruction from senior control engineers to conduct network operations • Speaks confidently, listens to other control room engineers and takes the required action when required e.g., demonstrates how they can discuss network operations and follow instructions given by senior control engineers

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (where required)
EP1 Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	• Demonstrates how they use the relevant company policies and procedures to plan and manage their projects e.g., demonstrate how their projects are processed following relevant company policies and procedures and capture timescales, budgets and stakeholder requirements

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (where required)
	• Demonstrates how they can present information in a clear and concise manner with sufficient depth for others e.g., project meetings where they have to present information/plans to stakeholders/managers to provide detail of the project they are working on • Identifies budget/resource considerations in their project plans and outcomes e.g., discussion/presentation of project plans to colleagues/stakeholders which take into account capital delivery budgets/planning of resources
EP2 Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures e.g., demonstrate how a work project/s they are working on follows company policies and procedures to support eliminate/reduce an environmental/safety hazard • Demonstrates how they can present information in a clear and concise manner with sufficient depth for others e.g., discussion/presentation to colleagues/stakeholders to explain specific safety/environmental considerations with their project • Demonstrates they can speak confidently, listen to others and take the required action e.g., project meetings where they have to brief stakeholders/managers in the detail of the project plans they have produced and deal with their enquiries

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (where required)
EP3 Manage stakeholder relations and produce final construction plans	• Demonstrates how they can present information in a clear and concise manner with sufficient depth for others e.g., discussion/presentation to stakeholders to explain project detail or agree final plans • Demonstrates that other views have been taken into consideration and support offered where needed e.g., project meetings with stakeholders to their requirements and agree actions • Demonstrates they can speak confidently, listen to others and take the required action e.g., project meetings where they have to brief stakeholders/managers in the detail of the project plans they have produced and deal with their enquiries
EP5 Be Authorised to work on the electricity network in-line with company/asset owner requirements	• Demonstrates how they use the relevant company policies and procedures to plan and record their project plans e.g., demonstrate how their projects are processed and recorded using company processes • Demonstrates how they can present information in a clear and concise manner with sufficient depth for others e.g., demonstrate how they communicate their project requirements to relevant stakeholders/working parties • Demonstrates they can speak confidently, listen to others and take the action required e.g. demonstrate how they brief stakeholders/managers/working parties in the detail of the project and deal with their enquiries/queries

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (where required)
EP6 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures e.g., demonstrate how a work project/s they are working on follows company policies and procedures to provide safe systems of work for the work to be carried out • Demonstrates they can speak confidently, listen to others and take the required action e.g., demonstrate how they brief working parties in the detail of project/outage, confirm their understanding and deal with their enquiries • Demonstrates how they recognise risks and choose appropriate courses of action to deal with them e.g., demonstrate how they have conducted a risk assessment for the work to be carried out and identified and dealt with identified hazards
EP7 Ensure the completion of final hand back documentation to the agreed specifications and timescales	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures e.g., demonstrate how they safely confirm completion of their project/outage and ensure all company policies and procedures are followed during the hand back process of the system • Demonstrates how they use the relevant company policies and procedures to complete and finalise their project e.g., demonstrate how they follow the company processes and procedures to safely take back control of the project work/outage • Demonstrates they can speak confidently, listen to others and take the required action e.g., demonstrate how they confidently take back control

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (where required)
	of the project work/outage, ensuring they communicate clearly and effectively to all involved

Pathway: Operational Delivery Engineer Role Specific Skills	Amplification and Guidance (where required)
OD1 Plan, manage and undertake a range of engineering activities and operations to the electricity network, to meet design, safety, time and commercial requirements	• Use and interpret a range of technical information provided to plan and conduct operational activities on the electrical network • Produce and gain approval of all documentation and demonstrate a clear understanding of its purpose for safe systems of work • Carry out a site-specific network inspection prior to commencing network operations and confirm the necessary network operations and issue appropriate safety documentation in line with company policies and procedures • Use and refer to the technical information provided to check/confirm the completed work on the network meets the required company standards/specifications
OD2 Be Authorised to work on the electricity network in-line with company/asset owner requirements	• Demonstrate a core knowledge of their role and responsibilities as an "authorised" person for the work being conducted on the electricity network • Provide evidence to demonstrate they hold a current relevant level of Company authorisation to carry out the operational work activity • Comply and adhere to all relevant company policies, procedures and safety rules throughout the operational work

Pathway: Operational Delivery Engineer Role Specific Skills	Amplification and Guidance (where required)
OD4 Take responsibility for and control others who may be working on the network	• Produce a work plan which ensures that health, safety and environmental (HS&E) considerations take priority and processes and practices comply with company standards, procedures and HS&E legislation • Communicate information confidently in a clear and concise manner with sufficient depth to control others working on the network e.g. timescales, intended outcomes and any additional requirements • Demonstrate their ability to recognise risks and take appropriate action to reduce them through systematic monitoring and checking of information/conditions
OD5 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	• Demonstrate their ability to review and agree a safe system of work for the intended activities and issue either verbally or in writing the relevant safe system of work in line with company policies and procedures • Demonstrate their ability to present information in a clear and concise manner with sufficient depth and confirm the recipients understand critical safety/technical information given in relation to the planned work • Demonstrate their ability to reduce/manage risks through systematic monitoring and checking of information and monitor and review the safe system of work as the activity progresses
OD6 Ensure the completion of final hand back documentation to the agreed specifications and timescales	• Demonstrate their ability to conduct the final handover in line with the company/stakeholder's requirements and standards

Pathway: Operational Delivery Engineer Role Specific Skills	Amplification and Guidance (where required)
	• Demonstrate their ability to deal effectively with questions/issues that arise during the hand back process • Demonstrate their ability to complete the required records of the hand back process to meet the quality standards required by the company

Practical Observation Roles and Responsibilities

Role	Responsibility
Employer Assessor	Must hold or have previously held an appropriate Company safety rule Authorisation Provide written and verbal instructions for the practical observation. Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Independent Examiner	Will use the evidence provided by the employer assessor to make the final grading decision.
Employer/Training Provider	The training provider must liaise effectively with the employer to ensure the apprentice is prepared for the practical observation. Provide the venue for the practical observation which must be suitably equipped to allow the apprentice to attempt all aspects of the practical observation. Provide all necessary tools and equipment for the apprentice. Ensure the apprentice has access to the resources used on a daily basis. Use Energy & Environment Awards Practical Observation review Service to review fitness for purpose of the assessment task.
Energy & Environment Awards	Arrange for the practical observation to take place, in consultation with the employer/training provider and independent assessor.

Component 3: Technical Interview (based on the work log of evidence)

Overview

The technical interview is based on the apprentice's work log of evidence and focuses on the KSBs. The interview allows for testing of responses where there are a range of potential answers.

The work log, compiled throughout the apprenticeship and completed by Gateway must be submitted to Energy & Environment Awards.

Step-by-Step Guide

The table below provides a step-by-step guide on how the technical interview based on the work log of evidence will be carried out:

Assessors	1 independent assessor approved by Energy & Environment Awards will conduct the technical interview. 1 representative from the apprentice's employer or training provider is allowed to be present in the room whilst the technical interview is being conducted which would normally be the employer assessor who conducted the practical observation. The employer assessor: • **must not** amplify or clarify points made by the apprentice • role is to provide context for the independent assessor with clarifications around specific company policies and procedures • following the interview, will be asked by the independent assessor to join in a discussion about the interview and the independent assessor will assign a preliminary mark
Technical Interview (based on the work log) structure	**Types of questions:** • The assessor will ask a set of questions to explore the apprentice's level of knowledge, skills and behaviours • Standardised open questions will be asked based on the contents of the evidence in the work log • Additional follow up questions are allowed, to seek clarification.

	Locations: Employer's premises or a suitable venue for example a training provider's premises. **Time:** The technical interview must last 2.75 hours and a maximum of 3 hours. **The Technical Interview will be:** • conducted by 1 independent assessor accompanied by the employer assessor, see 'Assessors' above • face to face or remote, as agreed • recorded in writing using the technical interview record template provided by Energy & Environment Awards • video recorded using relevant technology such as Microsoft Teams or an audio recording device • conducted under examination conditions The apprentice will have access to their work log of evidence throughout the technical interview. **Work log:** • The apprentice's Manager/Mentor will typically support the development of the evidence work log in accordance with company policy and procedures • See 'Work Log of Evidence Requirements' guidance below on the content of evidence • The work log must contain sufficient quality evidence relating to each element of the standard covered by the technical interview. Typically, this will be contained in small number of job write-ups produced towards the end of the training periods • Although questioning will cover ALL the elements of the standard (listed below in this section of the Specification), they will prioritise areas according to what they see in the work log **Marks allocated:** The technical interview will be marked out of 100.

What topics will be covered?	For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage below pages 36 - 47.
When will the work log of evidence be referred to?	**The work log of evidence**: • will be reviewed by the independent assessor before the technical interview • can be referred to by the apprentice to illustrate their answers **Note:** the work log of evidence is not directly assessed.
Grading	Fail, Pass or Distinction

Work Log Evidence Requirements

The requirements are as follows:

Work Log Mapping Document

The apprentice must map their work log of evidence to the KSBs as this evidence will be used by the independent assessor to assess the apprentice during the technical interview. The work log mapping document must be clearly referenced and included at the front of the work log.

For further guidance on mapping refer to:

- Section 5 Practice Guidance on work log of evidence and apprentice mapping
- Appendix G, EPNE Supporting Documents 'Work Log Mapping Document.'

How will the training provider submit the apprentice's Work Log to Energy & Environment Awards?

As part of the pre-requisite Gateway requirements the apprentice must have compiled and submitted a work log of evidence that includes a work log mapping document (placed at the front of the work log), which the technical interview will be based on.

Technical Interview Knowledge, Skills and Behaviours (KSBs) coverage

The Technical Interview based on work log of evidence covers:

Technical Interview Elements: Core Knowledge	Amplification and guidance (where required)
K7 Company engineering policies appropriate to their role	• 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
K8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness	• 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

Technical Interview Elements: Core Knowledge	Amplification and guidance (where required)
	• 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
K9 Company business planning and resource control measures	• 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

Technical Interview Elements: Core Skills	Amplification and Guidance (where required)
S3 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)	• 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
S5 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)	• 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

Technical Interview Elements: Core Skills	Amplification and Guidance (where required)
	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
S6 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
S7 Develop and agree project plans to undertake their activities. These plans will contain clear objectives, budgets, desired outcomes and	• How they have gathered and analysed relevant information in order to develop and agree project plans e.g., examples of project plans

Technical Interview Elements: Core Skills	Amplification and Guidance (where required)
timescales. Also included will be implementation criteria, monitoring process controls and evaluation records	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
S9 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)	• 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

Technical Interview Elements: Core Skills	Amplification and Guidance (where required)
S10 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)	• 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

Pathway: Control Engineer Role Specific Skills	Amplification and Guidance (Where required)
CE5 Agree and co-ordinate the work of others to maximise network availability and minimise network risks	• Demonstrates how they can gather and present complex technical information to colleagues/senior control engineers to effectively plan and deliver network operational outages e.g., presents evidence of meetings to present their outage planning and agree the operational actions • Demonstrates how they have identified the key resources/stakeholders during their outage planning e.g., presents evidence of meetings to discuss and agree the required outcomes of the outage and the arrangements • Demonstrates how they have identified problems/faults and made suggestions to rectify the situation e.g., presents evidence of identifying a network fault and putting in place a plan of action to resolve the issue
CE6 Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system	• Demonstrates how they have gathered and analysed network information to report a network incident and monitor its effect on the system e.g., presents evidence of reporting a network incident in line with Company procedures and monitoring its impact on the network • Explains how their control of the network and reporting of incidents supports the company's regulatory incentive mechanisms e.g., presents evidence of how their control of incidents has improved the performance of the network and supports the company's operational

Pathway: Control Engineer Role Specific Skills	Amplification and Guidance (Where required)
	targets • Demonstrates how they have identified network incidents/faults and made suggestions to rectify the situation e.g., presents evidence of identifying a network fault/incident and putting in place a plan of action to resolve the issue
CE7 Ensure interface arrangements and the impact of embedded generation are considered where appropriate	• Demonstrates how they have gathered and analysed relevant information to identify the effect of embedded generation on the network e.g., provides examples of documents/reports analysed to gauge the effects of embedded generation • Demonstrates how they have identified the key stakeholders which may be affected by embedded generation on the network e.g., provides documents/data which identifies key stakeholders affected by embedded generation on the network • Explains how they have identified problems with embedded generation on the network and made suggestions to resolve the issue/conflict e.g., provide evidence of actions taken to identify and deal with embedded generation on the network

Pathway: Electrical Project Engineer Role Specific Skills	Amplification and Guidance (Where required)
EP4 Undertake contractor management of external parties, agreeing work specifications, variations and acceptance of work completion in-line with company processes and procedures	• Demonstrates how they have gathered and analysed information to plan projects which involve the work of third-party contractors e.g., provide examples of projects using groundworks/traffic control/third party contractors where they have managed the process effectively • Clearly identifies the stakeholders involved in the planned activity, their requirements and the desired outcomes e.g., provide examples of projects using groundworks/traffic control/third party contractors where they have planned and agreed the outcomes of the work with the third party • Demonstrates how they have recognised and defined problems which they have tackled in a logical way, making suggestions for improvement e.g., provide examples of projects using groundworks/traffic control/third party contractors where they have identified problems and resolved the situation to an effective outcome

Pathway: Operational Delivery Engineer Role Specific Skills	Amplification and Guidance (Where required)
OD3 Understand and take control of reactive activities including testing, inspection and maintenance of appropriate plant and equipment to meet operational requirements	• Produce a work plan which ensures that health, safety and environmental (HS&E) considerations take priority and processes and practices comply with company standards, procedures and HS&E legislation • Communicate information confidently in a clear and concise manner and provide others with a sufficient depth of information e.g. timescales, intended outcomes and any additional requirements • Demonstrate their ability to identify and recognise risks and take appropriate action to reduce them through systematic monitoring and checking of information/conditions

Elements: Core Behaviours	Amplification and Guidance (Where required)
B2 Stakeholder management - is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely	• 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
B4 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	• 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
B6 Planning and 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	• 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

Elements: Core Behaviours	Amplification and Guidance (Where required)
	supervisor/manager to plan project development and agree contingency measures

Technical Interview Roles and Responsibilities

Role	Responsibility
Independent Assessor	Record and report assessment outcome decisions for each apprentice, following instructions and using assessment recording documentation provided by Energy & Environment Awards.
Employer Assessor	(Optional) Selects an appropriately qualified employee or suitable representative to attend the technical interview to ensure accuracy of the apprentice's statements and to clarify any issues where requested by the independent assessor.
Employer/Training Provider	The technical interview must be scheduled with Energy & Environment Awards for a date and time which allow the apprentice to be well prepared. Ensure the apprentice has access to their work log before and on the day of the technical interview.
Energy & Environment Awards	Arrange for the technical interview to take place, in consultation with the employer/training provider and independent assessor.

Section 3: Grading and Grading Criteria

Component 1: Knowledge Assessment

The following grade boundaries apply to the knowledge assessment:

Grade	Minimum mark	Maximum mark
Fail	0	31
Pass	32	35
Distinction	36	40

Component 2: Practical Observation

The apprentice must demonstrate core KSBs and pathway specific skills for either Asset Management Engineer; Planning Engineer or Design Engineer in an integrated way for their pathway.

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

Core Knowledge	**K6**	**K9**
Demonstrate	✓	✓

Core Skills	**S1**	**S2**	**S4**	**S8**	**S11**
Demonstrate	✓	✓	✓	✓	✓

Core Behaviours	**B1**	**B3**	**B5**
Demonstrate	✓	✓	✓

Pathway Specific Skills

Control Engineer	**CE1**	**CE2**	**CE3**	**CE4**	**CE8**
Demonstrate	✓	✓	✓	✓	✓

or

Electrical Project Engineer	**EP1**	**EP2**	**EP3**	**EP5**	**EP6**	**EP7**
Demonstrate	✓	✓	✓	✓	✓	✓

or

Operational Delivery Engineer	**OP1**	**OP2**	**OP4**	**OP5**	**OP6**
Demonstrate	✓	✓	✓	✓	✓

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

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

To achieve a **Distinction** an apprentice must successfully achieve **all** the Pass criteria and **one** of the criteria from each of the distinction boxes.

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:

- 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 Energy & Environment Awards 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 all of the elements have been observed and the marks awarded the Independent Assessor will recommend a preliminary grade for the independent examiner.

Practical Observation KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
Core Knowledge **K6** Company requirements with regard to project management tools, techniques and processes **Core Behaviour** **B3 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	• Chooses and uses the appropriate company project/engineering management tools, techniques and processes in their project work • 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

Practical Observation KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
K9 Company business planning and resource control measures	• Chooses and uses the appropriate company business planning and resource control measures in their work • Presents business planning/resource control measures information in a clear and concise manner to sufficient depth for the audience • Identifies the risks of inadequate business planning/resource control measures in their project/s • 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
Core Skills **S1** Comply with company and industry health, safety and environmental standards, regulations, company operating procedures and working practices **Core Behaviour** **B1 Health, Safety and 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	• Takes actions to ensure their project work complies with the health, safety and environmental considerations which affect their projects • Chooses and uses the appropriate company health, safety and environmental policies and procedures • Presents health, safety and environmental information in a clear and concise manner to sufficient depth for the audience • Demonstrates how they follow health, safety and environmental policies and procedures in their designs and where necessary challenge unsafe behaviour/practices using appropriate techniques • Demonstrates high levels of concentration and the desire to reduce risks through regular monitoring and checking of information in their designs

Practical Observation KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information	
S2 Ensure that all safety considerations are incorporated and evident in all working practices **B5 Risk awareness** - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis	• Uses and follows the appropriate company health, safety and environmental policies and procedures • Recognises and identifies specific risks associated with their designs 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
S4 Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities **B3 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	• 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

Practical Observation KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
	• Demonstrates how they take others' needs and concerns into account and supports them to accomplish an activity safely and on time
S8 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 project work • Uses IT systems to present information in a clear and concise manner to sufficient depth for the audience
S11 Uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment **B3 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	• Chooses and uses the appropriate company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment used in their planning designs • 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

Pathway: Control Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
CE1 Remotely control the electrical network, in accordance with operating procedures and safety rules to ensure the safe and efficient operation of the power system **B5 Risk awareness** - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis	• Ensures Health, Safety and Environmental considerations are taken into account and prioritised when carrying out operational procedures • Follows company policies and procedures for the operational work being undertaken • Presents technical information clearly and concisely explaining their plans for conducting operational procedures • 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
CE2 Control all outages and network access requests ensuring risks to the network and system security are minimised **B1 Health, Safety and 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	• Implements the company health, safety and environmental policies and procedures during the planning and delivery of their operational procedures • Follows the correct company policies/strategies during their operational activities • Speaks confidently and listen to others' views when taking requests to access the electrical network • Demonstrates high levels of concentration and the desire to reduce risks through regular monitoring and checking of information

Pathway: Control Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
CE3 Manage planned and fault operations and activities on the network to provide a safe and secure electricity supply **B3 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	• Carries out and follows the company health, safety and environmental policies and procedures during the delivery of their planned/unplanned operational activities • Follows the correct company policies/strategies during their planned/unplanned operational procedures • Speaks confidently and listen to others' views when giving and receiving instructions during their planned/unplanned work activities • Demonstrates how they work well with people with different disciplines and expertise, taking their needs/concerns into account and supporting them to accomplish activities safely and on time
CE4 Undertake work in complex, dynamic and reactive environments and provide technical/operational guidance to the rest of the business **B3 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	• Presents complex technical information to colleagues/field engineers clearly and concisely • Considers the views of others during technical discussions for operational work on the network • Speaks and listens to others' views during operational activities and takes the appropriate action/s to conduct their operational procedures • Demonstrates how they work well with people with different disciplines and expertise, taking their needs/concerns into account and supporting them to accomplish activities safely and on time

Pathway: Control Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
CE8 Work effectively under appropriate Control Engineer Authorisation in-line with company requirements **B3 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	• Follows the appropriate company policy and procedures within the range of their authorisation for control activities on the network • Listens and takes others' views into consideration when discussing technical matters for network operations • Speaks and communicates confidently during operational procedures and takes the required action when required • Demonstrates how they work well with people with different disciplines and expertise, taking their needs/concerns into account and supporting them to accomplish activities safely and on time

Pathway: Electrical Project Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
EP1 Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements **B3 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	• Demonstrates how they use the relevant company policies and procedures to plan and manage their work • Demonstrates how they can present information in a clear and concise manner with sufficient depth for others • Identifies budget/resource considerations in their project plans and outcomes • Demonstrates how they can work well with people from different disciplines, backgrounds and expertise taking their needs and concerns into account to develop their projects
EP2 Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in **B5 Risk awareness** - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates how they can present information in a clear and concise manner with sufficient depth for others • Demonstrates they can speak confidently, listen to others and take the required action • 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
EP3 Manage stakeholder relations and produce final construction plans	• Demonstrates how they can present information in a clear and concise manner with sufficient depth for others

Pathway: Electrical Project Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
B3 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	• Demonstrates that other views have been taken into consideration and support offered where needed • Demonstrates they can speak confidently, listen to others and take the required action • Demonstrates how they can work well with people from different disciplines, backgrounds and expertise taking their needs and concerns into account to develop their projects
EP5 Be Authorised to work on the electricity network in-line with **B1 Health, Safety and 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	• Demonstrates how they have gathered and analysed information to plan projects which involve the work of third-party contractors • Clearly identifies the stakeholders involved in the planned activity, their requirements and the desired outcomes • Demonstrates how they have recognised and defined problems which they have tackled in a logical way, making suggestions for improvement • Demonstrates how they follow health, safety and environmental policies and procedures and where necessary challenge unsafe behaviour using appropriate techniques
EP6 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures

Pathway: Electrical Project Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
B1 Health, Safety and 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	• Demonstrates they can speak confidently, listen to others and take the required action • Demonstrates how they recognise risks and choose appropriate courses of action to deal with them • Demonstrates high levels of concentration and the desire to reduce risks through monitoring and checking of network information
EP7 Ensure the completion of final hand back documentation to the agreed specifications and timescales **B1 Health, Safety and 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	• Demonstrates how they have ensured their project plans consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates how they use the relevant company policies and procedures to complete and finalise their project • Demonstrates they can speak confidently, listen to others and take the required action • 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

Pathway: Operational Delivery Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
OD1 Plan, manage and undertake a range of engineering activities and operations to the electricity network, to meet design, safety, time and commercial requirements **B3 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	• Demonstrates how they use the relevant company policies and procedures to plan and manage their work • Demonstrates how they can present information in a clear and concise manner with sufficient depth for others • Identifies budget/resource considerations in their project plans and outcomes • Demonstrates how they can work well with people from different disciplines, backgrounds and expertise taking their needs and concerns into account to develop their projects
OD2 Be Authorised to work on the electricity network in-line with company/asset owner requirements **B1 Health, Safety and 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	• Demonstrates how they ensure their planned operations consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates how they use the relevant company policies and procedures during their planned operations • Demonstrates how they recognise risks and choose appropriate courses of action to deal with them • Demonstrates how they follow health, safety and environmental policies and procedures and where necessary challenge unsafe behaviour using appropriate techniques

Pathway: Operational Delivery Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
desire to reduce risks through regular monitoring and checking information	
OD4 Take responsibility for and control others who may be working on the network **B5 Risk awareness** - has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis	• Demonstrates how they have ensured their planned operations consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates how they can present operational information in a clear and concise manner with sufficient depth for others • Demonstrates they can speak confidently, listen to others and take the required action where required • 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
OD5 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out **B1 Health, Safety and 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 how their planned operational activities consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates they can speak confidently, listen to others and take the required action • Demonstrates how they recognise risks and choose appropriate courses of action to deal with them • Demonstrates high levels of concentration and the desire to reduce risks through monitoring and checking of operational information

Pathway: Operational Delivery Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information	
OD6 Ensure the completion of final hand back documentation to the agreed specifications and timescales **B1 Health, Safety and 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	• Demonstrates how their operational plans consider health, safety and environmental factors and comply with company policies and procedures • Demonstrates how they use the relevant company policies and procedures to complete and finalise network operations • Demonstrates they can speak confidently, listen to others and take the required action • 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

Indicative ‘distinction’ criteria for the practical observation

Practical Observation KSBs	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
K6 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 projects • Demonstrates how they are able to transmit difficult technical operational information in an understandable manner
K9 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 planning process • Demonstrates how they are able to transmit difficult planning and/or resource information in an understandable manner
S1 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

Practical Observation KSBs	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
S2 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 • Assesses the impact of an operational problem and seeks out solutions by making suggestions to remedy or resolve the situation safely
S4 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
S8 Use company IT systems to provide accurate and reliable data to support business decisions	
S11 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

Pathway: Control Engineer Role Specific Skills	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
CE1 Remotely control the electrical network, in accordance with operating procedures and safety rules to ensure the safe and efficient operation of the power system	• Consults and involves other control room engineers to safely carry out complex operational procedures and achieve a safe and effective outcome • Identifies and assesses the impact of an operational problem and seeks out and finds a solution/s to resolve the situation to an effective outcome
CE2 Control all outages and network access requests ensuring risks to the network and system security are minimised	• Communicates complex operational information in an understandable manner to others reliant on clear and accurate information • Identifies and assesses the impact of an operational problem and seeks out and finds a solution/s to resolve the situation to an effective outcome
CE3 Manage planned and fault operations and activities on the network to provide a safe and secure electricity supply	• Consults and involves other control room engineers to safely manage planned/fault operations on the network and achieve a safe and effective outcome • Communicates complex planned/fault operational information in an understandable manner to others reliant on clear and accurate information
CE4 Undertake work in complex, dynamic and reactive environments and provide technical/operational guidance to the rest of the business	• Consults and involves other control room engineers to provide technical/operational guidance to safely manage operations on the network • Communicates complex technical operational information in an understandable manner to other control engineers for operations on the network

Pathway: Control Engineer Role Specific Skills	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
CE8 Work effectively under appropriate Control Engineer Authorisation in-line with company requirements	• Consults and involves other control room engineers to provide support in operational procedures outside of their level of authorisation • Passes complex technical information onto more senior authorised control engineers in an understandable manner to allow them to conduct operations on the network

Pathway: Electrical Project Engineer Role Specific Skills	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
EP1 Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	• Demonstrates they are able to consult and involve appropriate people from other areas to capitalise on different skills/perspectives/experience and/or knowledge to improve their project development/delivery • Demonstrates they are able to assimilate complex project information and transmit it in an understandable manner
EP2 Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	• Demonstrates they are able to consult and involve appropriate people from other areas to capitalise on different skills/experience and/or knowledge to improve their project development/delivery • Demonstrates they can evaluate and predict the impact of project problems, seek out solutions and make suggestions which result in improvement
EP3 Manage stakeholder relations and produce final construction plans	• Demonstrates they are able to resolve conflict/disagreement with stakeholders to reach a positive outcome

Pathway: Electrical Project Engineer Role Specific Skills	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
	• Demonstrates they are able to assimilate complex project information and transmit it in an understandable manner to gain project approval/agreement
EP5 Be Authorised to work on the electricity network in-line with company/asset owner requirements	• Demonstrates they are able to assimilate complex project / operational information and transmit it in an understandable manner to allow work on the network to be conducted safely • Demonstrates they can assess the impact of potential problems for work on the network, seek out solutions and make suggestions which resolve the situation
EP6 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	• Demonstrates they are able to assimilate complex project/operational information and transmit it in an understandable manner to allow work on the network to be conducted safely • Demonstrates they can assess the impact of potential problems for work on the network, seek out solutions and make suggestions which resolve the situation
EP7 Ensure the completion of final hand back documentation to the agreed specifications and timescales	• Demonstrates they are able to assimilate complex project/operational information and transmit it in an understandable manner to allow the network to be operationally returned safely • Demonstrates they can assess the impact of problems for receipt of the network, seek out solutions and make suggestions which resolve the situation

Pathway: Operational Delivery Engineer Role Specific Skills	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
OD1 Plan, manage and undertake a range of engineering activities and operations to the electricity network, to meet design, safety, time and commercial requirements	• Demonstrates 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 outcome/delivery of the operation • Demonstrates they are able to assimilate complex operational information and transmit it in an understandable manner
OD2 Be Authorised to work on the electricity network in-line with company/asset owner requirements	• Demonstrates they are able to consult and involve appropriate people to capitalise on different skills/perspectives/experience and/or knowledge to deliver a successful operational outcome • Demonstrates they are able to assimilate complex operational information and transmit it in an understandable manner
OD4 Take responsibility for and control others who may be working on the network	• Demonstrates they are able to consult and involve appropriate people to capitalise on different skills/perspectives/experience and/or knowledge to deliver a successful operational outcome • Demonstrates they are able to assimilate complex operational information and transmit it in an understandable manner
OD5 Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	• Demonstrates they are able to assimilate complex operational information and transmit it in an understandable manner to allow work on the network to be conducted safely • Demonstrates they can assess the impact of potential problems for work on the network, seek out solutions and make suggestions which resolve the situation

OD6 Ensure the completion of final hand back documentation to the agreed specifications and timescales	• Demonstrates they are able to assimilate complex project / operational information and transmit it in an understandable manner to allow the network to be operationally returned safely • Demonstrates they can assess the impact of problems for receipt of the network, seek out solutions and make suggestions which resolve the situation

Component 3: Technical Interview based on the work log of evidence

The apprentice must demonstrate core KSBs and pathway specific skills for either Asset Management Engineer; Planning Engineer or Design Engineer in an integrated way for their pathway.

The following table explains the criteria that the apprentice **must** demonstrate:

Core Knowledge	**K7**	**K8**	**K9**
Demonstrate	✓	✓	✓

Core Skills	**S3**	**S5**	**S6**	**S7**	**S9**	**S10**
Demonstrate	✓	✓	✓	✓	✓	✓

Core Behaviours	**B2**	**B4**	**B6**
Demonstrate	✓	✓	✓

Pathway Specific Skills

Control Engineer	**CE5**	**CE6**	**CE7**
Demonstrate	✓	✓	✓

or

Electrical Project Engineer	**EP4**
Demonstrate	✓

or

Operational Delivery Engineer	**OD3**
Demonstrate	✓

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

To achieve a Distinction, an apprentice must successfully achieve **all** of the Pass assessment criteria and **one** criteria from each of the distinction boxes.

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:

- 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** the elements the Distinction marks for each element will be totalled by the Independent Industry Technical Expert and recorded on Energy & Environment Awards 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 all of the elements have been observed and the marks awarded the Independent Assessor will recommend a preliminary grade for the independent examiner.

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
Core Knowledge **K7** 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
K8 Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness **Core Behaviour** **B4 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	• 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 business • Explain how operational analysis they have undertaken supports the company strategies and policies ensuring compliance with technical requirements

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
K9 Company business planning and resource control measures **B6 Planning and 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	• 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
Core Skills **S3** 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 **Core Behaviour** **B6 Planning and Organising** - takes a forward-looking perspective when considering	• 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 achieve regulatory incentive mechanisms

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
the delivery of decisions, activities and projects and ensure plans are in place to manage anticipated issues, considers contingency planning	• 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
S5 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
S6 Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders	• 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

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
B2 Stakeholder management - is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely	• 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 • 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
S7 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 **B6 Planning and 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	• 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

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
S9 Demonstrate that their work activities support the business to achieve its regulatory incentive mechanisms **B2 Stakeholder management** - – is proactive in identifying their stakeholders and managing their expectations, presenting appropriate information to them clearly and concisely	• 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 • Identifies the relevant regulatory stakeholders and how the business manage their expectations by presenting appropriate information to them clearly and concisely
S10 Provide information to support business planning processes in relation to their role activities **B6 Planning and 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	• 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 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 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

Technical Interview KSBs	To achieve a Pass the apprentice must achieve **ALL** of the following:
	• Demonstrate how their project planning has managed anticipated operational issues and considered contingency planning

Pathway: Control Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
CE5 Agree and co-ordinate the work of others to maximise network availability and minimise network risks **B6 Planning and 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	• Demonstrate how they have gathered and analysed relevant operational information in order to plan and agree the operational work required • Demonstrate how they have developed operational plans that maximise network availability and minimise network risks • Identify the relevant stakeholders required for the operational activity, their requirements and the desired outcomes of the work • Takes a forward-looking perspective when considering the delivery of decisions, activities and projects and ensure plans are in place to manage anticipated issues and considers contingency planning
CE6 Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system) **B2 Stakeholder management** – is proactive in identifying their stakeholders and managing	• Demonstrate how they have gathered and analysed relevant operational information to identify potential network incidents/faults and escalated them in line with operational procedures • Identify the relevant stakeholders affected by the potential network incidents/faults and how they will/could be affected • Demonstrate how they have dealt with network incidents in a logical way and made suggestions which supported the course of action taken

Pathway: Control Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
their expectations, presenting appropriate information to them clearly and concisely	• Proactive identifies the relevant stakeholders and manages their expectations, presenting appropriate information to them clearly and concisely
CE7 Ensure interface arrangements and the impact of embedded generation are considered where appropriate **B4 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	• Demonstrate how they have gathered and analysed relevant operational information in order to make interface arrangements and considered the effects embedded generation where appropriate • Identify the relevant stakeholders affected by the interface arrangements and effects of embedded generation • Demonstrate how they have dealt with interface/embedded generation problems in a logical way and made suggestions which supported the course of action taken • Takes responsibility for solving problems by identifying and analysing the issues and drawing logical, sound solutions that benefit customers and the business

Pathway: Electrical Project Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
EP4 Undertake contractor management of external parties, agreeing work specifications, variations and acceptance of work completion in line with company processes and procedures **B6 Planning and 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	• Demonstrate how they have gathered and analysed relevant information in order to manage contractors/external parties • Identifies the contractors/external parties which were affected by their project and how they gained agreement to achieve the desired outcomes • Explain how they identified and dealt with project problems in a logical way and made suggestions for resolution which resulted in a successful outcome • 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

Pathway: Operational Delivery Engineer Role Specific Skills	To achieve a Pass the apprentice must achieve **ALL** of the following:
OD3 Understand and take control of reactive activities including testing, inspection and maintenance of appropriate plant and equipment to meet operational requirements **B4 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	• Demonstrate how they have gathered and analysed relevant information in order to make operational decisions • Explain how their operational activities link to the Company strategies and policies and how they ensure compliance with technical specifications • Explain how they have identified and dealt with network problems in a logical way and made suggestions or taken action which has led to a successful outcome • Takes responsibility for solving problems by identifying and analysing the issues and drawing logical, sound solutions that benefit customers and the business

Indicative ‘distinction’ criteria for the technical interview

Technical Interview KSBs	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
K7 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 projects
K8 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
K9 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
S3 Apply asset management, design, planning, control, electrical project, or operational engineering principles as appropriate to their role to maintain and	• 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

Technical Interview KSBs	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
improve the integrity, safety and longevity of the transmission/distribution 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
S5 Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications	• 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 new technologies or innovations which have been implemented in their work projects
S6 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

Technical Interview KSBs	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
S7 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
S9 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
S10 Provide information to support business	• Explains how they have monitoring/evaluated projects produced which has led to learning points to support future planning processes • 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

Pathway: Control Engineer Role Specific Skills	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
CE5 Agree and co-ordinate the work of others to maximise network availability and minimise network risks	• Demonstrates how they have used their knowledge gained from the monitoring and the evaluation of operational activities/data to agree and co-ordinate operational activities which demonstrate overall improvement • Demonstrates how they have gathered and analysed information/data and considered differing approaches to operational activities which has led to an improved performance
CE6 Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system)	• Demonstrates how they have used their knowledge gained from previous network incidents to inform their decisions and allow accurate the reporting to stakeholders • Demonstrates how they have gathered and analysed operational information/data to report network incidents and have made suggestions to improve/rectify the situation
CE7 Ensure interface arrangements and the impact of embedded generation are considered where appropriate	• Confidently explains the company's interface arrangements and the effects and engineering principles of embedded generation on the operational network • Confidently explains how the company's inclusion of new technologies and engineering innovations are used to support network interface arrangements and/or the impact of embedded generation

Pathway: Electrical Project Engineer Role Specific Skills	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
EP4 Undertake contractor management of external parties, agreeing work specifications, variations and acceptance of work completion in-line with company processes and procedures	• Confidently explains how they have used the company's engineering principles/policies to agree and manage the work of contractors/external parties in their work projects • Discusses projects produced which demonstrate their skills in assessing the impact of different approaches to resolve problems and agree the work of contractors/external parties

Pathway: Operational Delivery Engineer Role Specific Skills	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
OD3 Understand and take control of reactive activities including testing, inspection and maintenance of appropriate plant and equipment to meet operational requirements	• Confidently explains how they have used the company's engineering principles/policies to plan and manage their operational projects to improve the integrity, safety or longevity of the network • Discusses projects produced which demonstrate their skills in assessing the impact of different approaches to resolve operational problems and make suggestions for improvement

Overall grading

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

In order to gain a pass, an apprentice must achieve a minimum of a pass in each EPA component. A pass represents full competence against the standard. To achieve a distinction grade, an apprentice must achieve a distinction in each EPA component.

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

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:

Component	Distinction	Pass	Fail
Knowledge Test	90% or greater	80 – 89%	79% or less
Practical Observation	85% or greater	60 – 84%	59% or less
Technical Interview	85% or greater	60 – 84%	59% or less

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

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

- Distinction – If a Distinction is awarded in all 3 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

Section 4: Resits and retakes

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

The employer and Energy & Environment Awards agree the timescale for a re-sit or re-take. Failed EPA components must be re-sat or re-taken within the 6-month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

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

An apprentice will get a maximum EPA grade of pass for a re-sit or re-take unless there are exceptional circumstances confirmed with Energy & Environment Awards.

Energy & Environment Awards resit and re-take policy can be found at: https://energyenvironmentawards.co.uk/policies-and-fees/

Section 5: Practical Guidance

Electrical Power Networks Engineer Technician Practical Observation and Planning Form

Purpose

Energy & Environment Awards provide an optional Practical task(s) review service to assist with planning with planning for all employers/training providers with apprentices registered on this standard. To access the service, see Appendix D, EPNE Supporting Documents 'Level 4 Electrical Power Networks Engineer Practical Observation and Planning Form.'

The purpose of the review service is to provide support in ensuring that the practical task(s), test facilities, necessary equipment, tools and examination conditions are in place to allow the practical task(s) to take place. The review helps ensure the proposed practical task(s) are sufficiently complex to allow the apprentice to demonstrate the required knowledge, skills and behaviours against the relevant elements of EPNE specification. Details of the relevant elements are included in Section 2 of the Specification.

Tasks should be designed to allow variation to be introduced, reducing predictability.

Practical observation must be conducted in real working environments.

The employer/training provider must ensure:

- the practical observation enables the assessment of core and specific knowledge, skills and behaviours in a real working environment
- it makes use of existing test facilities, which will be familiar to the apprentice and therefore allow them to perform at their best
- the equipment and tools are available

The employer/training provider must ensure that the practical task(s) is developed to allow the independent assessor to observe the apprentice synoptically demonstrate core and specific KSBs.

Submitting the form to Energy & Environment Awards

The employer/training provider should complete and submit the 'Level Electrical Power Networks Engineer Practical Observation with Planning Form' to Energy &

Environment Awards Service Delivery Team for approval 1 month before the Practical Observation. The form should be accompanied by photographs and/or video(s) of the plant, machinery, equipment areas, including practical tasks/briefs which the apprentice will be working on.

Energy & Environment Awards Review Process

Once the approval form has been received the review process will be conducted by Energy & Environment Awards. The outcomes will be shared with the employer/training provider no later than 5 working days following the review.

Please be aware:

- Practical task/briefs review does not guarantee that the apprentice will pass the practical task
- No health and safety risk assessment has been carried out by Energy & Environment Awards
- Energy & Environment Awards review does not remove any of the training provider obligations to ensure full coverage of the standard, and full compliance with relevant legislation
- Energy & Environment Awards review is based only on information supplied and is not a guarantee that the practical tasks/briefs, selected plant/machinery/equipment on the day of the practical will be sufficient for an EPA practical task
- The information provided in this Level 4 Electrical Power Networks Engineer Practical Observation and Planning Form must not be shared with the apprentice

Preparing for the Practical Observation

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

The employer/training provider should prepare a practical task similar to (but not identical to) the tasks being used for the live assessment. A suitable person should be chosen to play the part of the assessor.

A template is provided to help ensure that the activities assessed during the practical observation will give complete coverage of the standard. See Appendix E, EPNE Supporting Documents 'Practice Practical Observation Template.'

Preparing for the Technical Interview

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

Guidance on Work Log of Evidence

The work log is not assessed. It serves the following purpose:

- Provides the opportunity to demonstrate the core and specific KSBs required across the standard
- The assessor reviews the work log before the technical interview to help focus and contextualise their questions
- A carefully prepared mapped work log supports the apprentice during the technical interview

Quality vs Quantity

The apprentice should be supported in selecting and mapping evidence for their work log in the mapping document. They must gather evidence on the full range of KSBs required by the standard and be assessed on particular tasks or procedures or items of equipment during their practical observation.

The work log must be sufficient to evidence the apprentice can apply the KSBs required in a variety of tasks.

In theory one comprehensive job-write up could cover all the required KSBs. In practice, this is more likely to be in several job write-ups plus a few smaller pieces of evidence targeting specific elements of the standard.

Choose the best pieces of evidence that have been mapped for each KSB covered by the technical interview based on the work log. An independent assessor will look for one suitable piece of evidence for each KSB. To be confident of meeting the

standard, apprentices should aim to have two pieces of evidence mapped to each KSB. Progress review documents should also be included.

What to include in the Work Log?

The work log evidence:

- must contain a mapping document where evidence is mapped against the KSBs. A template has been produced to help the apprentices with collecting and mapping their evidence. A copy of the template is included. See Appendix G, EPNE Supporting Documents 'Work Log Mapping Document.'
- must contain **at least one piece of quality evidence relating to each KSB**. This piece of quality evidence must demonstrate the KSBs as outlined in Section 2 of this Specification which will be assessed by the technical interview based on the work log
- must include 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
- will contain quality pieces of evidence
- will be available, during the technical interview, allowing the apprentice to refer to it
- must contain demonstrations of work carried out over a period of time and must include evidence of work carried out within the last three months of the on-programme period
- must contain a minimum of 2 and no more than 3 activities carried out by the apprentice that demonstrates the higher order knowledge, skills and behaviours
- where practicable this should include:
    - photographs
    - images

- diagrams
- job descriptions and witness evidence/testimony
- situations that have been difficult and challenging, and how these have been overcome e.g. equipment breakdown which has results in a change in working practice while still adhering to company procedures
- any employer contributions must focus on direct observation of evidence (e.g. review/witness statements) of competence rather than opinions

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

Evidence must be:

- produced by the apprentice (authentic)
- relevant to the standard (K, S or B) that it is mapped to
- produced during the time the apprentice is carrying out their on-programme training

What can the apprentice do?

The apprentice should:

- be familiar with the structure of their work log
- know the KSBs covered by the technical interview
- know the grading criteria
- ensure there is evidence to cover every KSB in the technical interview
- practise mapping evidence and completing the evidence mapping grid

The role of the employer/training provider

Employer/training providers are expected to support the apprentice in preparing their work log by:

- clarifying responsibility for supporting the apprentice to select and map evidence for the work log, including employer coaches/mentors where applicable
- advising on which pieces of evidence to select to ensure that when looked at as a whole, they provide coverage of all the required elements of the standard assessed in the technical interview

- supporting the mapping of evidence and production of a mapping document
- authenticating evidence as valid
- signing off the work log
- submitting the work log to Energy & Environment Awards as part of Gateway

What to expect in the practice technical interview?

The practice technical interview will be based on the work log which will provide the apprentice with the opportunity to practice discussing their KSBs gained throughout their on-programme and by referring to the evidence from their work log using the work log mapping document. A suitable person should be chosen to play the part of the assessor.

A practice technical interview based on the work log template is provided for use to prepare the appropriate questions to ask and to record the apprentices' performance. See Appendix F, EPNE Supporting Documents 'Practice Technical Interview Template.'
As part of the practice exercise, apprentices should have access to their work log to support their responses.

Preparing 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 2 in this specification. It is good practice to identify the areas within the learning programme where the relevant knowledge is delivered, ensuring that apprentices are aware that elements of these might come up in the test.

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

In readiness for end-point assessment, the apprentice should complete a practice knowledge test. This should be undertaken in advance of the live knowledge test, with enough time to mark the test, and provide feedback to the apprentices. See Appendix C, EPNE Supporting Documents 'Practice Knowledge Test.'

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

Section 6: Authenticity and security of apprentice work

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

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

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

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