

End-Point Assessment Engineering Power Networks Engineer – Electrical Project Engineer

Practical Task Guidance

Level 4

Practical Task Guidance

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

This end-point assessment should allow the apprentice to demonstrate the competence required to follow work instructions in order to 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.

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

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

What does this guidance look like?

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

What does the assessment include?

Electrical Power Networks Engineer – Electrical Project Engineer apprentices will be expected to:

- undertake 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.
- work in a realistic work situation on a live electrical network up to 400 kV
- work safely at all times
- **CTK6** – know and interpret the company business planning and resource control measures
- **CTK9** – know and interpret the company business planning and resource control measures

- **CS1** – comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices
- **CS2** – ensure that all safety considerations are incorporated and evident in all working practices
- **CS4** – produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities
- **CS8** – use company IT systems to provide accurate and reliable data to support business decisions
- **CS11** - uses company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment
- **CB1** – Health, Safety & Environment – follows health, safety and environmental policies and procedures and is prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with teams. Demonstrates high concentration and the desire to reduce risks through regular monitoring and checking information
- **CB3** – Interpersonal skills - works well with people from different disciplines, backgrounds and expertise. Takes others' needs and concerns into account and supports them to accomplish an activity safely and on time
- **CB5** - Risk awareness – has the embedded desire to reduce risks through systematic monitoring and checking of information identifying mitigation actions on an on-going basis
- **SS1** – Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements
- **SS2** – Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in
- **SS3** – Manage stakeholder relations and produce final construction plans
- **SS5** – Be Authorised to work on the electricity network in-line with company/asset owner requirements
- **SS6** - Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out

- **SS7** - Ensure the completion of final hand back documentation to the agreed specifications and timescales

Realistic Working Situation (RWS) Centre Requirements

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

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

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

Practical Assessment Centre Requirements

The assessment requirements are in the following areas:

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

The assessment area must be designed to allow the apprentice to demonstrate the knowledge, skills and behaviours as prescribed in Section 5.2 of this Specification. Evidence for the practical aspects should be observed in a realistic work situation conducting network operations on a live electrical network up to 400 kV. Due to the technical nature and hazards involved in the operation of a 'live' network, it is permissible that a realistic work environment may be used, providing it can realistically require the apprentice to conduct the operations, duties and responsibilities of a 'Electrical Project Person' as closely as possible to the real life experience. The use of a simulated environment will be agreed with the EUIAS beforehand.

The assessment area must allow or be designed to provide the apprentice to conduct network operations on a network desk, in planned and unplanned situations demonstrating the control of network outages and their implications, identifying risks and how they have been minimised.

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

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

Apprentice Requirements

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

Core technical knowledge

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

Core Skills

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

Core behaviours

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

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

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

- **SS1** - Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements
- **SS2** - Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in
- **SS3** - Manage stakeholder relations and produce final construction plans
- **SS5** - Be Authorised to work on the electricity network in-line with company/asset owner requirements
- **SS6** – Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out. PO ensure
- **SS7** - ensure the completion of final hand back documentation to the agreed specifications and timescales

Technical Expert Requirements

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

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

- Practical experience and knowledge gained through work experience
- Technical questioning related to aspects of 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
- A variety of "what if" scenarios to determine problem solving skills
- Comprehension of basic operations or electrical principles related to plant and equipment

- Ability of apprentice to elaborate in their field of expertise
- General attitude and enthusiasm of the apprentice

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

Permissible allowances and reasons for immediate failure

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

Grading

This assessment is graded as distinction, pass or fail by the employer technical expert who will determine successful completion of the practical tasks and assign a preliminary mark.

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

Where an apprentice fails a practical task or a component thereof this must be recorded on the EUIAS documentation. The apprentice must re-sit or retake the practical task within the 6 month end-point assessment window. A new practical task checklist **must** be used for each subsequent attempt and the outcomes recorded using EUIAS approved record and the independent industry technical expert must state which attempt is being undertaken and this must be recorded on the checklist.

Apprentice Feedback

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

Assessment Documentation and Duration

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