Electrical Power Networks Engineer Technical Interview Guidance

Control Engineer

Technical Interview Assessment Requirements

The final stage of the end-point assessment is a technical interview, based on a review of the apprentice's work log. It will be conducted by an independent industry technical expert accompanied by an employer technical expert from the apprentice's workplace.
The work log, compiled throughout the apprenticeship and completed before entry to the End Point Assessment must contain at least one piece of evidence which has been cross referenced to each of the knowledge, skill and behaviour criteria identified in annex A of the Electrical Power Network Engineer Apprenticeship Assessment Plan. The work log should contain written accounts of activities conducted, supported by appropriate photographic evidence and Company documentation such as work / safety instructions, company policies and procedures as appropriate.

The work log should also contain progress review documentation which details the apprentices progress and provides justification for the grades awarded. The apprentice's Manager/Mentor will typically support the development of the work log in accordance with company policy and procedures.

This technical interview which should be conducted under controlled conditions to assess the apprentice's ability to apply the knowledge skills and behaviours identified in annex A and typically will take around 2.75 hours to complete with a maximum duration of 3 hours.

Roles and Responsibilities of Assessment Staff

Appropriately qualified and experienced staff will conduct technical interview assessments and make the final grade decision as defined in the Electrical Power Network Engineer Assessment Plan. Requirements and responsibilities of these roles are detailed below:

Employer Technical Expert Requirements

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

The Employer Technical Expert can inform and support the discussions associated with the technical interview but will not be involved in the preliminary marking process.

Independent Industry Technical Expert Requirements

Independent Industry Technical Expert must have an electrical engineering qualification at a minimum of level 4 or equivalent and have a minimum of 5 years' experience as a practitioner in an appropriate work environment and be independent i.e. have no connection with the apprentice, their training provider or employer.

During the interview the apprentice's responses will be documented by the independent industry technical expert on the provided EUIAS documentation to record the answers and preliminary mark awarded.

Following the interview, the independent industry technical expert, after discussion with the employer technical expert, will assign a preliminary mark. In the case of disagreement, the independent industry technical expert has the casting vote.
The interview will be graded distinction, pass or fail. Criteria for assessing the technical interview is shown in table 3.

Independent Examiners Requirements

Independent Examiner's must have an electrical engineering qualification at a minimum of level 4 or equivalent and have a minimum of 5 years' experience as a practitioner in an appropriate work environment and be independent i.e. have no connection with the apprentice, their training provider or employer. In addition, they must use the evidence provided by the technical experts to make the final grading decision.

The independent examiner will combine the moderated grades from the knowledge test, practical observation and technical interview to determine the overall apprenticeship grade in line with the grading criteria.

Technical Interview Assessment Requirements

The technical interview 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.

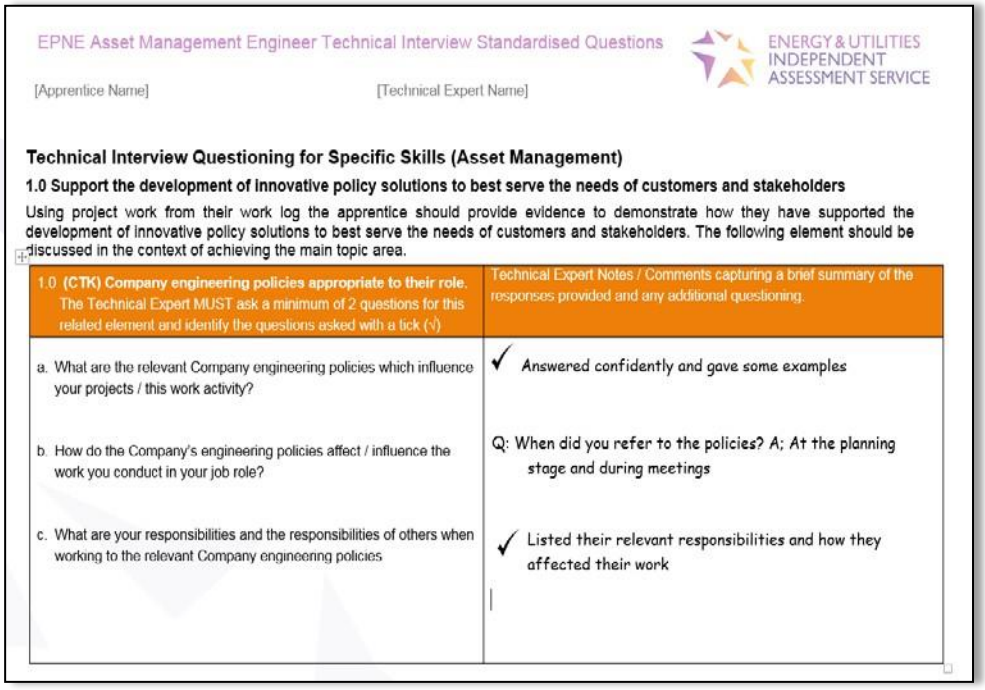
1. Company engineering policies appropriate to their role.
2. Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness.
3. Company business planning and resource control measures.
4. 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.
5. Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications.
6. Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders.
7. 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.
8. Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms.
9. Provide information to support business planning processes in relation to their role activities.

In addition, for the role of a Control 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.

1. Agree and co-ordinate the work of others to maximise network availability and minimise network risks.
2. Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system).
3. Ensure interface arrangements and the impact of embedded generation are considered where appropriate.

Technical Interview Assessment Guidance

1. The assessment must be conducted in a quiet and private environment where any distractions to the interview can be minimised, for example a meeting room.
2. The assessment must be designed to meet the requirements of the Electrical Power Networks Engineer (EPNE) standard and assessment plan.
3. Employer Technical Expert will be from the apprentice's employer but will not have been involved in the direct training or line management of the apprentice and may advise the Independent Industry Technical Expert on the Company specifics relevant to the interview discussions.
4. The technical interview should be based around the work log evidence provided for the specific skills identified for the apprentice's job role as detailed in Annex A of the Assessment Plan.
5. The Independent Industry Technical Expert will ask standardised questions relevant to each specific pathway developed and set by EUIAS. An example of which is shown in Fig 1 below.



EPNE Asset Management Engineer Technical Interview Standardised Questions

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

[Apprentice Name] [Technical Expert Name]

Technical Interview Questioning for Specific Skills (Asset Management)

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

Using project work from their work log the apprentice should provide evidence to demonstrate how they have supported the development of innovative policy solutions to best serve the needs of customers and stakeholders. The following element should be discussed in the context of achieving the main topic area.

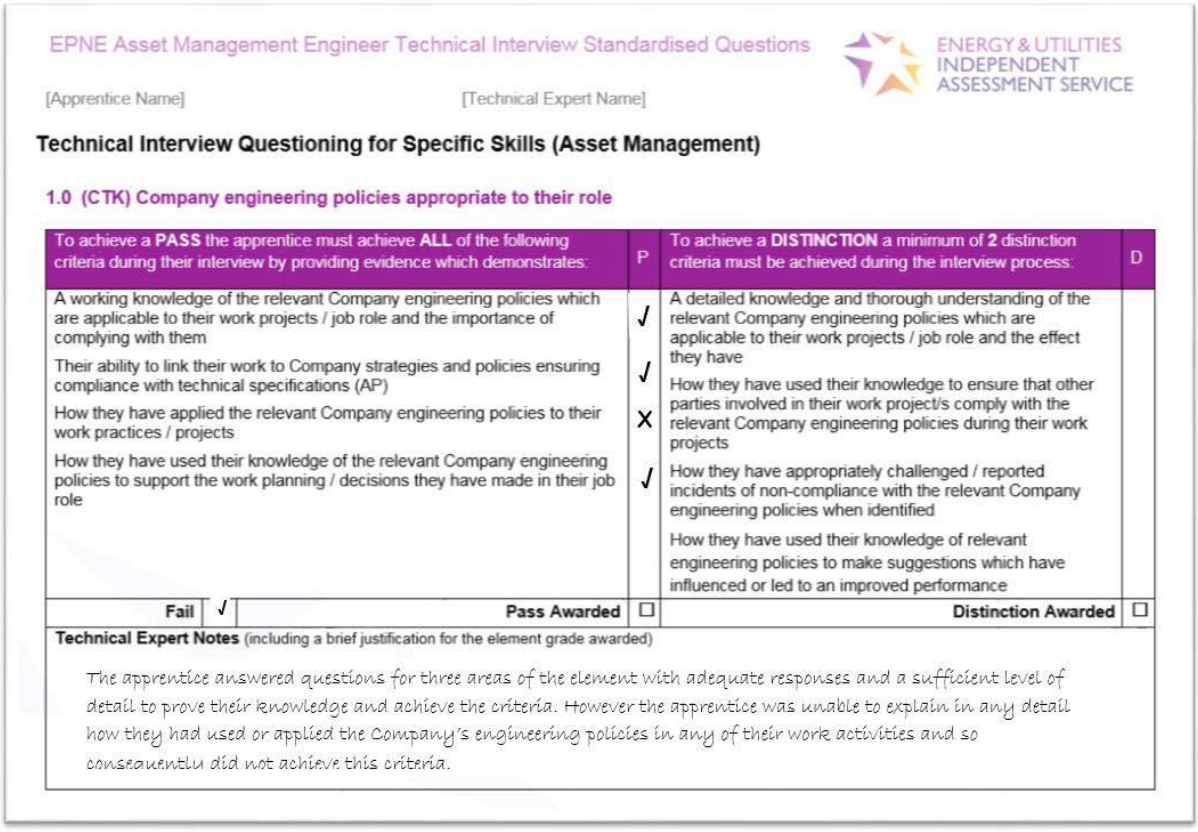
1.0 **(CTK) Company engineering policies appropriate to their role.** The Technical Expert MUST ask a minimum of 2 questions for this related element and identify the questions asked with a tick (√)	Technical Expert Notes / Comments capturing a brief summary of the responses provided and any additional questioning.
a. What are the relevant Company engineering policies which influence your projects / this work activity?	✓ Answered confidently and gave some examples
b. How do the Company's engineering policies affect / influence the work you conduct in your job role?	Q: When did you refer to the policies? A; At the planning stage and during meetings
c. What are your responsibilities and the responsibilities of others when working to the relevant Company engineering policies	✓ Listed their relevant responsibilities and how they affected their work

Fig 1

6. The Technical Expert should select a minimum of **ONE** of each of the element questions and ask these in the context of the main topic area in addition to any of their own specific questioning of the discussed activity.
7. The Independent Industry Technical Expert will record a brief account of the apprentice's responses to the questions on the EUIAS documentation.

Technical Interview Element Grading

During the interview the Independent Industry Technical Expert will check the apprentices responses against each of the elements associated criteria and mark each one based on the response given. An example of which is shown in (Fig 2)



EPNE Asset Management Engineer Technical Interview Standardised Questions

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

[Apprentice Name] [Technical Expert Name]

Technical Interview Questioning for Specific Skills (Asset Management)

1.0 (CTK) Company engineering policies appropriate to their role

To achieve a **PASS** the apprentice must achieve **ALL** of the following criteria during their interview by providing evidence which demonstrates:	P	To achieve a **DISTINCTION** a minimum of **2** distinction criteria must be achieved during the interview process:	D
A working knowledge of the relevant Company engineering policies which are applicable to their work projects / job role and the importance of complying with them	√	A detailed knowledge and thorough understanding of the relevant Company engineering policies which are applicable to their work projects / job role and the effect they have	
Their ability to link their work to Company strategies and policies ensuring compliance with technical specifications (AP)	√	How they have used their knowledge to ensure that other parties involved in their work project/s comply with the relevant Company engineering policies during their work projects	
How they have applied the relevant Company engineering policies to their work practices / projects	X	How they have appropriately challenged / reported incidents of non-compliance with the relevant Company engineering policies when identified	
How they have used their knowledge of the relevant Company engineering policies to support the work planning / decisions they have made in their job role	√	How they have used their knowledge of relevant engineering policies to make suggestions which have influenced or led to an improved performance	
Fail √	**Pass Awarded** ☐		**Distinction Awarded** ☐

Technical Expert Notes (including a brief justification for the element grade awarded)

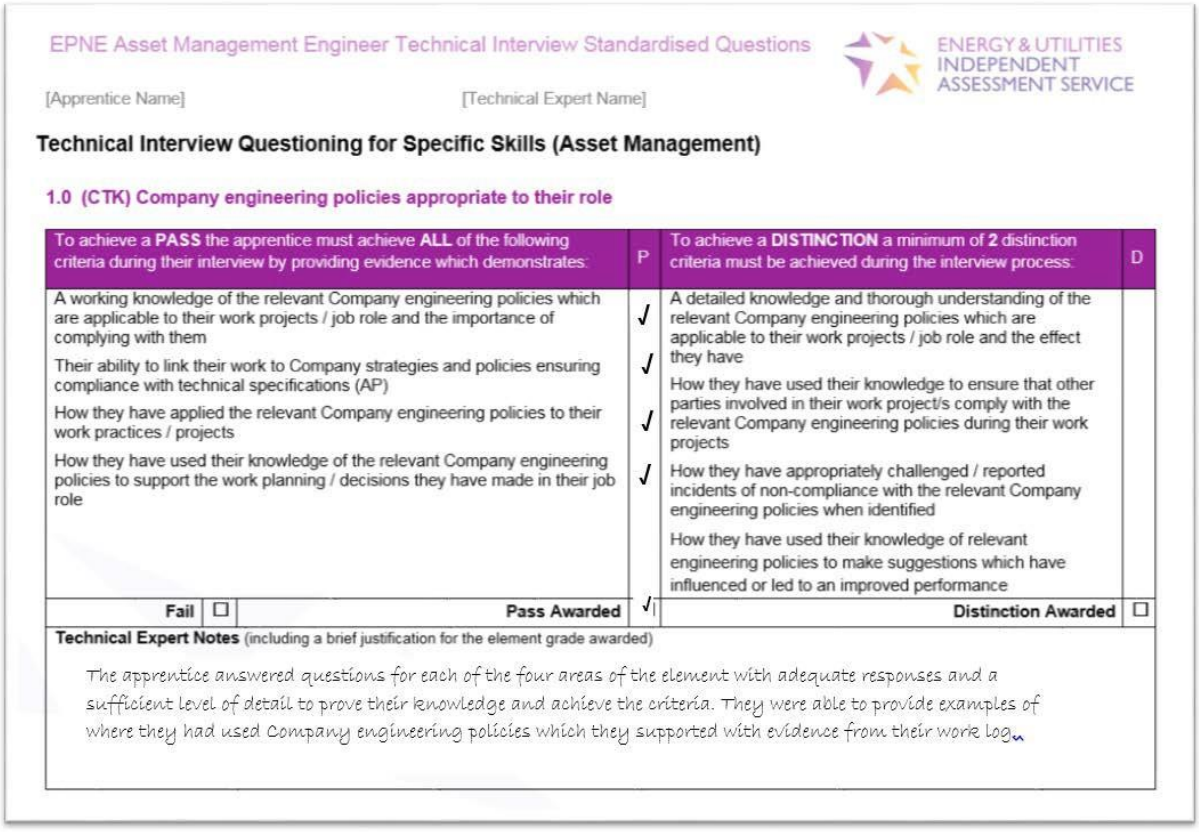
The apprentice answered questions for three areas of the element with adequate responses and a sufficient level of detail to prove their knowledge and achieve the criteria. However the apprentice was unable to explain in any detail how they had used or applied the Company's engineering policies in any of their work activities and so consequently did not achieve this criteria.

Fig 2

Element FAIL – The recommendation of an element "FAIL" grade will be given in cases where the apprentice does demonstrate the required knowledge, performance or behaviour identified in the "PASS" criteria.
The decision to recommend an element "FAIL" will result where an apprentice fails to meet any one or more of the elements "PASS" criteria. This may occur for any element criteria where the apprentice fails to demonstrate the required evidence or knowledge of the interview topic criteria.

In the example provided (Fig 2) the Independent Industry Technical Expert concluded that the apprentice did not provide sufficient evidence of a safe and competent performance against the "PASS" criteria of element three, and therefore a "FAIL" grading was awarded.

Element PASS - The recommendation of an element “PASS” grade will be given in cases where the apprentice meets the minimum standards set for a competent performance in the element “PASS” column i.e. achieves all the pass criteria.



EPNE Asset Management Engineer Technical Interview Standardised Questions

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

[Apprentice Name] [Technical Expert Name]

Technical Interview Questioning for Specific Skills (Asset Management)

1.0 (CTK) Company engineering policies appropriate to their role

To achieve a **PASS** the apprentice must achieve **ALL** of the following criteria during their interview by providing evidence which demonstrates:	P	To achieve a **DISTINCTION** a minimum of **2** distinction criteria must be achieved during the interview process:	D
A working knowledge of the relevant Company engineering policies which are applicable to their work projects / job role and the importance of complying with them	✓	A detailed knowledge and thorough understanding of the relevant Company engineering policies which are applicable to their work projects / job role and the effect they have	
Their ability to link their work to Company strategies and policies ensuring compliance with technical specifications (AP)	✓	How they have used their knowledge to ensure that other parties involved in their work project/s comply with the relevant Company engineering policies during their work projects	
How they have applied the relevant Company engineering policies to their work practices / projects	✓	How they have appropriately challenged / reported incidents of non-compliance with the relevant Company engineering policies when identified	
How they have used their knowledge of the relevant Company engineering policies to support the work planning / decisions they have made in their job role	✓	How they have used their knowledge of relevant engineering policies to make suggestions which have influenced or led to an improved performance	
Fail ☐	**Pass Awarded** ✓	**Distinction Awarded**	☐

Technical Expert Notes (including a brief justification for the element grade awarded)

The apprentice answered questions for each of the four areas of the element with adequate responses and a sufficient level of detail to prove their knowledge and achieve the criteria. They were able to provide examples of where they had used Company engineering policies which they supported with evidence from their work log.

Fig 2

In the example provided (Fig 2) the apprentice provided evidence of a competent performance against ALL the criteria in the “PASS” column and therefore an element “PASS” grading was recommended.

Element DISTINCTION –In addition to achieving the required element “PASS” criteria the apprentice may achieve a “DISTINCTION” grade for an element where he / she demonstrates exceptional performance during the technical interview. This will typically be through demonstrating their higher levels of knowledge, skills and / or behaviours for the activity evidenced and / or discussed. To achieve an element “DISTINCTION” the apprentice must achieve a minimum of 2 criteria in the “DISTINCTION” column.

EPNE Asset Management Engineer Technical Interview Standardised Questions

[Apprentice Name] [Technical Expert Name]

Technical Interview Questioning for Specific Skills (Asset Management)

1.0 (CTK) Company engineering policies appropriate to their role

To achieve a **PASS** the apprentice must achieve **ALL** of the following criteria during their interview by providing evidence which demonstrates:	P	To achieve a **DISTINCTION** a minimum of **2** distinction criteria must be achieved during the interview process:	D
A working knowledge of the relevant Company engineering policies which are applicable to their work projects / job role and the importance of complying with them	✓	A detailed knowledge and thorough understanding of the relevant Company engineering policies which are applicable to their work projects / job role and the effect they have	✓
Their ability to link their work to Company strategies and policies ensuring compliance with technical specifications (AP)	✓	How they have used their knowledge to ensure that other parties involved in their work project/s comply with the relevant Company engineering policies during their work projects	✓
How they have applied the relevant Company engineering policies to their work practices / projects	✓	How they have appropriately challenged / reported incidents of non-compliance with the relevant Company engineering policies when identified	
How they have used their knowledge of the relevant Company engineering policies to support the work planning / decisions they have made in their job role	✓	How they have used their knowledge of relevant engineering policies to make suggestions which have influenced or led to an improved performance	
Fail ☐	**Pass Awarded** ☐	**Distinction Awarded**	✓

Technical Expert Notes (including a brief justification for the element grade awarded)

The apprentice each of the four pass criteria of the element with detailed responses and a high level of detail to prove their knowledge and achieve the criteria. They were also able to provide additional detailed information for two of the distinction criteria which was well supported with evidence from their work log. Based on the level of detailed knowledge and supporting evidence provided, the apprentice was awarded a preliminary distinction grade for this element

Fig 3

In the example provided (Fig 3) the apprentice provided evidence of a competent performance against ALL the criteria in the “PASS” column and 2 of the criteria in the “DISTINCTION” column and therefore an element “DISTINCTION” grading was recommended.

Technical Interview Overall Grading

Once the Technical Interview has been completed and the marks awarded, the Independent Industry Technical Expert will calculate the overall recommended grading by totalling the marks awarded on the EUIAS Grading Document.

Overall FAIL - Should the apprentice fail to provide evidence for any of the criteria identified in the "PASS" column then the minimum "PASS" mark of 60% will not have been achieved. In the example provided (Fig 4) the Independent Industry Technical Expert will be required to recommend the award of FAIL.

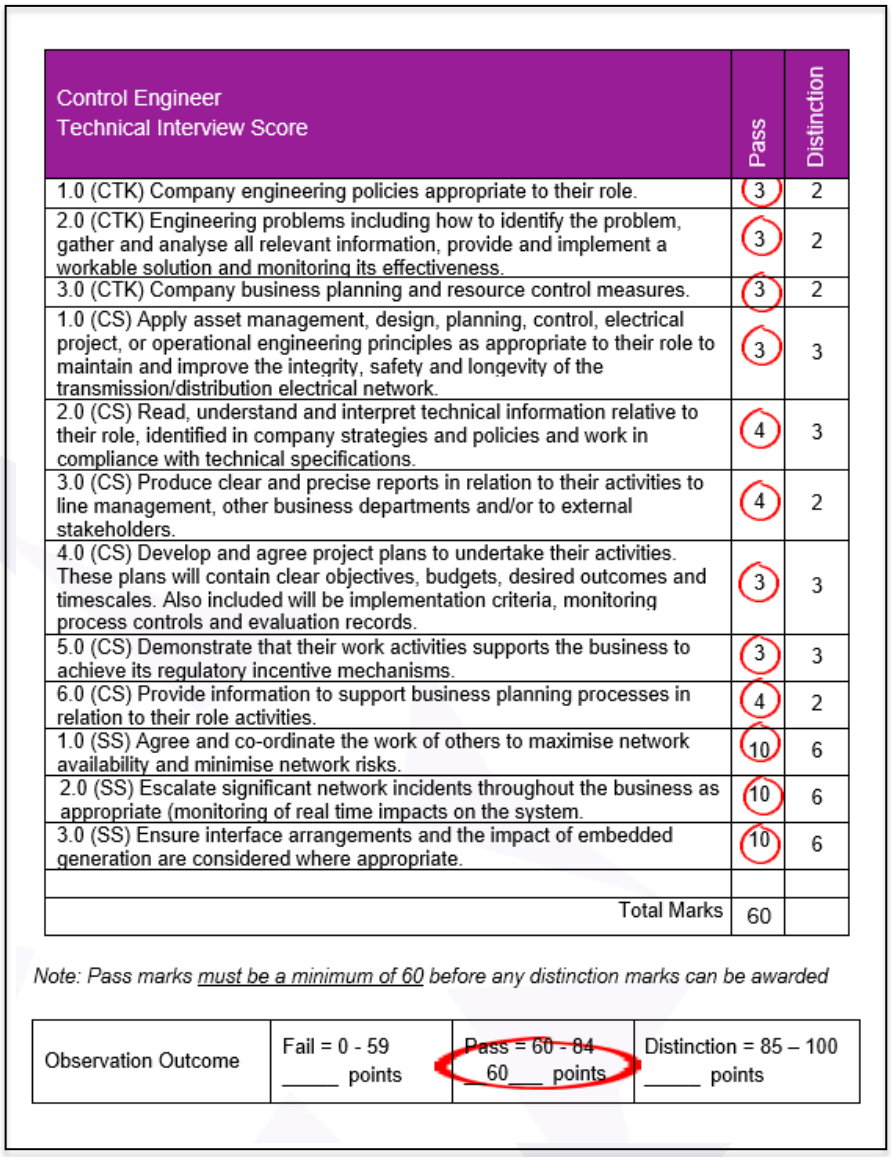
Control Engineer Technical Interview Score	Pass	Distinction
1.0 (CTK) Company engineering policies appropriate to their role.	3	2
2.0 (CTK) Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness.	3	2
3.0 (CTK) Company business planning and resource control measures.	3	2
1.0 (CS) 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.	3	3
2.0 (CS) Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications.	4	3
3.0 (CS) Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders.	4	2
4.0 (CS) 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.	3	3
5.0 (CS) Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms.	3	3
6.0 (CS) Provide information to support business planning processes in relation to their role activities.	4	2
1.0 (SS) Agree and co-ordinate the work of others to maximise network availability and minimise network risks.	10	6
2.0 (SS) Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system.	10	6
3.0 (SS) Ensure interface arrangements and the impact of embedded generation are considered where appropriate.	10	6
Total Marks	56	

Note: Pass marks must be a minimum of 60 before any distinction marks can be awarded

Observation Outcome	Fail = 0 - 59 56 points	Pass = 60 - 84 _____ points	Distinction = 85 – 100 _____ points

Fig 4

Overall PASS - A “PASS” grading will be recommended in cases where the apprentice meets the minimum standards set for a safe and competent performance in the element “PASS” column. In the example provided (Fig 5) the Independent Industry Technical Expert calculated that the total marks recommended met the minimum “PASS” mark of 60% and therefore a “PASS” grading was recommended.



Control Engineer Technical Interview Score	Pass	Distinction
1.0 (CTK) Company engineering policies appropriate to their role.	3	2
2.0 (CTK) Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness.	3	2
3.0 (CTK) Company business planning and resource control measures.	3	2
1.0 (CS) 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.	3	3
2.0 (CS) Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications.	4	3
3.0 (CS) Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders.	4	2
4.0 (CS) 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.	3	3
5.0 (CS) Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms.	3	3
6.0 (CS) Provide information to support business planning processes in relation to their role activities.	4	2
1.0 (SS) Agree and co-ordinate the work of others to maximise network availability and minimise network risks.	10	6
2.0 (SS) Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system.	10	6
3.0 (SS) Ensure interface arrangements and the impact of embedded generation are considered where appropriate.	10	6
Total Marks	60	

Note: Pass marks must be a minimum of 60 before any distinction marks can be awarded

Observation Outcome	Fail = 0 - 59 _____ points	Pass = 60 - 84 __60___ points	Distinction = 85 – 100 _____ points

Fig 5

In the example below (Fig 6) the apprentice provided evidence of a safe and competent performance against ALL the criteria in the “PASS” column but with two of the exceptional levels of knowledge, skills and behaviours criteria in the “DISTINCTION” column and as the points awarded was 72 this was still under the threshold of 85 for the “DISTINCTION” therefore a grading of “PASS” was recommended.

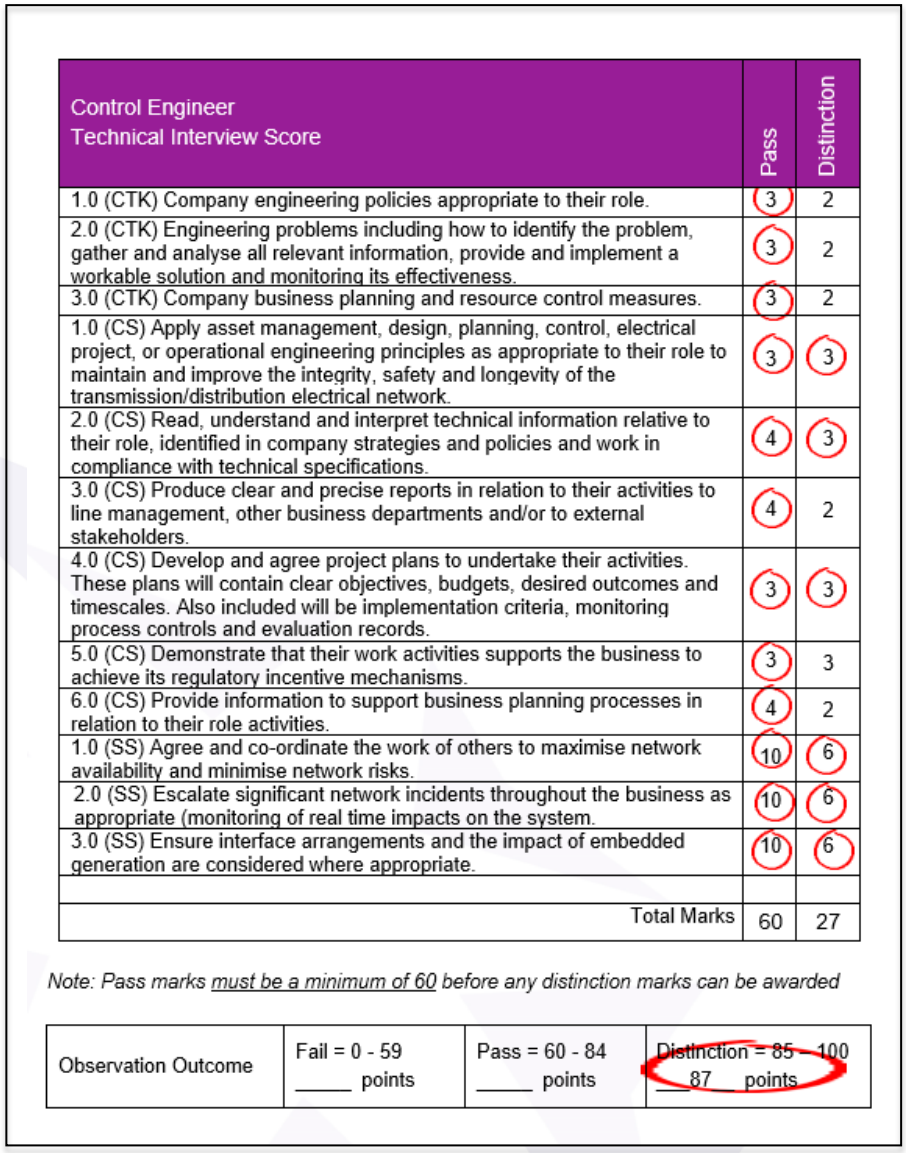
Control Engineer Technical Interview Score	Pass	Distinction
1.0 (CTK) Company engineering policies appropriate to their role.	3	2
2.0 (CTK) Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness.	3	2
3.0 (CTK) Company business planning and resource control measures.	3	2
1.0 (CS) 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.	3	3
2.0 (CS) Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications.	4	3
3.0 (CS) Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders.	4	2
4.0 (CS) 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.	3	3
5.0 (CS) Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms.	3	3
6.0 (CS) Provide information to support business planning processes in relation to their role activities.	4	2
1.0 (SS) Agree and co-ordinate the work of others to maximise network availability and minimise network risks.	10	6
2.0 (SS) Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system.	10	6
3.0 (SS) Ensure interface arrangements and the impact of embedded generation are considered where appropriate.	10	6
Total Marks	60	12

Note: Pass marks must be a minimum of 60 before any distinction marks can be awarded

Observation Outcome	Fail = 0 - 59 _____ points	Pass = 60 - 84 72 points	Distinction = 85 – 100 _____ points

Fig 6

Overall DISTINCTION – The addition of "DISTINCTION" points can only be recommended against elements where a "PASS" has already been achieved. A "DISTINCTION" grading will be recommended in cases where the minimum "DISTINCTION" mark of 85% is reached (see Fig 7). In the example provided the total points awarded was 87%.



Control Engineer Technical Interview Score	Pass	Distinction
1.0 (CTK) Company engineering policies appropriate to their role.	3	2
2.0 (CTK) Engineering problems including how to identify the problem, gather and analyse all relevant information, provide and implement a workable solution and monitoring its effectiveness.	3	2
3.0 (CTK) Company business planning and resource control measures.	3	2
1.0 (CS) 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.	3	3
2.0 (CS) Read, understand and interpret technical information relative to their role, identified in company strategies and policies and work in compliance with technical specifications.	4	3
3.0 (CS) Produce clear and precise reports in relation to their activities to line management, other business departments and/or to external stakeholders.	4	2
4.0 (CS) 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.	3	3
5.0 (CS) Demonstrate that their work activities supports the business to achieve its regulatory incentive mechanisms.	3	3
6.0 (CS) Provide information to support business planning processes in relation to their role activities.	4	2
1.0 (SS) Agree and co-ordinate the work of others to maximise network availability and minimise network risks.	10	6
2.0 (SS) Escalate significant network incidents throughout the business as appropriate (monitoring of real time impacts on the system.	10	6
3.0 (SS) Ensure interface arrangements and the impact of embedded generation are considered where appropriate.	10	6
Total Marks	60	27

Note: Pass marks must be a minimum of 60 before any distinction marks can be awarded

Observation Outcome	Fail = 0 - 59 _____ points	Pass = 60 - 84 _____ points	Distinction = 85 - 100 ___87___ points

Fig 7

Technical Interview Grade Decision

Following the technical interview, and after discussion with the Employer Technical Expert, the Independent Industry Technical Expert will assign a preliminary mark of a PASS, DISTINCTION or FAIL grading in a format approved by the assessment organisation to the Independent Examiner. In the case of disagreement, the independent industry technical expert has the casting vote.

Overall Grade Decision

An independent examiner will combine the recommended moderated grades from the knowledge test, practical observation and technical interview to determine the overall apprenticeship grade in line with the grading criteria below.

Grading Criteria

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

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

The following table shows the grading boundaries for each end-point assessment method:

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

Notification of Grading

All apprentices will be notified of their moderated final grade within 3 weeks of completing all assessment methods and will have the right to appeal the decision through the EUIAS appeals procedure.

Evidence Requirements

The assessment evidence must be retained by the EUIAS for a minimum period of three years after the completion of the apprenticeship.
Relevant evidence and document of the apprentice's work must be retained by the employer for a minimum period of six years after the completion of the apprenticeship.