Electrical Power Networks Engineer Practical Observation Guidance

Electrical Project Engineer

Practical Observation Assessment Requirements

For the Practical Observation each apprentice will be observed completing a practical activity in a real working environment which is appropriate for their specific job role. In the role of an Electrical Project Engineer they may typically 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.

Roles and Responsibilities of Assessment Staff

Appropriately qualified and experienced staff will conduct practical observation 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.

Electrical Project Engineers will be observed by an employer technical expert. On completion of the observation, the employer technical expert will present their observation outcomes and preliminary grade in a format approved by the assessment organisation.

Independent Examiner 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.

Assessment 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.

1. Interpret the Company requirements with regard to project management tools, techniques and processes.
2. Interpret the Company business planning and resource control measures.
3. Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices.
4. Ensure that all safety considerations are incorporated and evident in all working practices.
5. Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities.
6. Use company IT systems to provide accurate and reliable data to support business decisions.
7. Use company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment.

In addition, for the role of an 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.

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

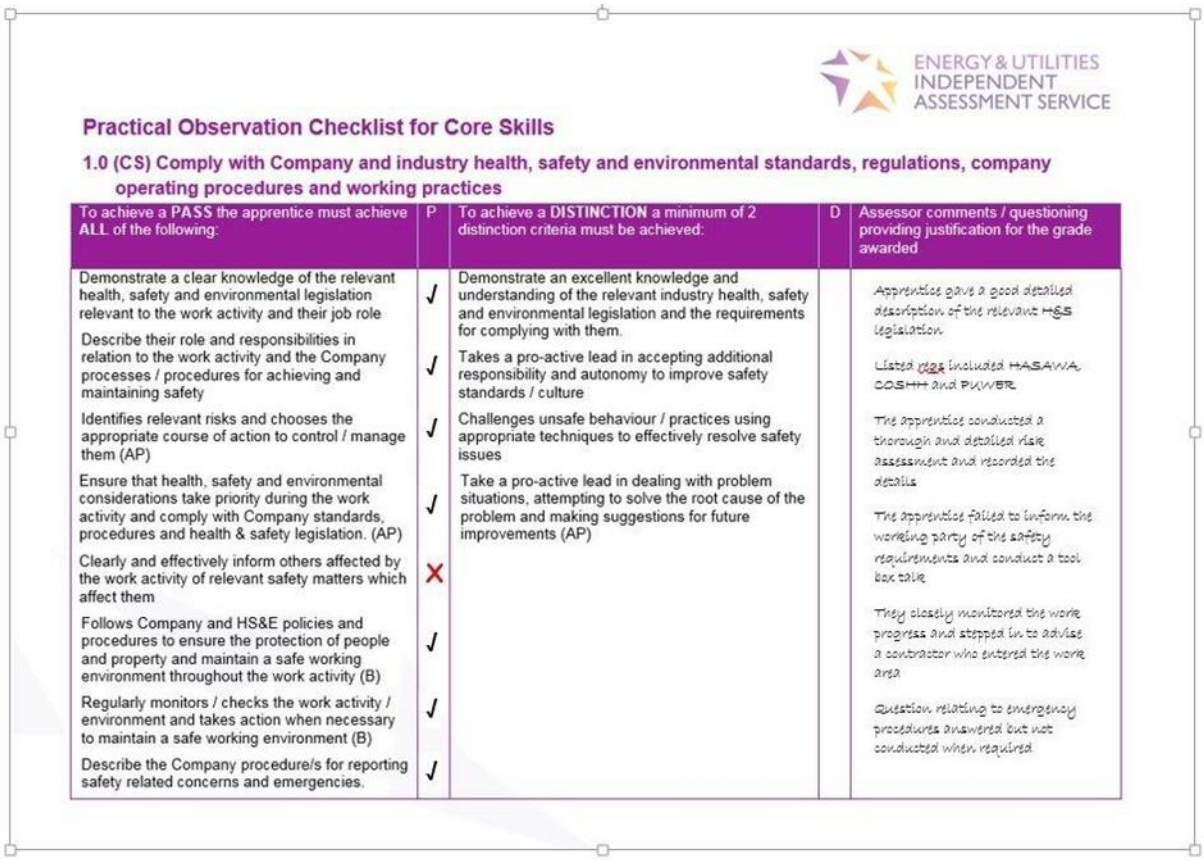
Assessment Guidance

1. The assessment must be conducted in a realistic work situation that reflects the typical hazards and risks of the work environment following the protocol issued by the EUIAS
2. The assessment must be designed to meet the requirements of the Electrical Power Networks Engineer (EPNE) standard.
3. Employer Technical Expert must have no direct connection with the apprentice or their training provider.
4. The assessment should be designed to incorporate the use of tools and techniques that allow the apprentice to demonstrate the more complex higher order level of skills required by their role.
5. The Employer Technical Expert conducting the assessment must remain in visual contact with the apprentice throughout the practical observation assessment.
6. The apprentice will be asked standardised questions from a set developed by the EUIAS with opportunity for follow up questions as appropriate, to confirm their understanding of the rationale for actions taken and the choices made to complete the tasks. EUIAS will provide a template containing sets of standardised questions. The apprentice's responses to these questions will be recorded on this document. The standardised questions can be found on the Practical Observation Checklist.
7. The practical observation should be designed by the apprentice's employer to assess a broad range of the higher order skills, knowledge and behaviours developed over the period of the apprenticeship. However, as a minimum the employer technical expert will need to assess and record how the apprentice completed the practical observation criteria provided in their role as an Electrical Project Engineer.
8. During the practical observation the Employer Technical Expert will take into consideration core behaviours demonstrated by the apprentice. These core behaviours should underpin the skills and knowledge demonstrated by the apprentice during the practical observation of the core and role specific skills and have been built into the relevant element criteria.

Practical Observation Element Grading

Element FAIL – The recommendation of an element "FAIL" grade will be given in cases where the apprentice does not meet the minimum standards set for a safe and competent performance identified in the "PASS" criteria, which could be exhibited through a lack of knowledge, skill and / or suitable behaviour.

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 demonstrates a series of minor poor performance issues or alternatively where the apprentice infringes any critical safety issues such as any deviation from the company safety rules or operational procedures. In cases where the apprentice makes an error that is likely to cause harm to themselves or others or where serious damage is likely to be caused the Employer Technical Expert must intervene immediately to stop the action and the assessment will be terminated.



ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

Practical Observation Checklist for Core Skills

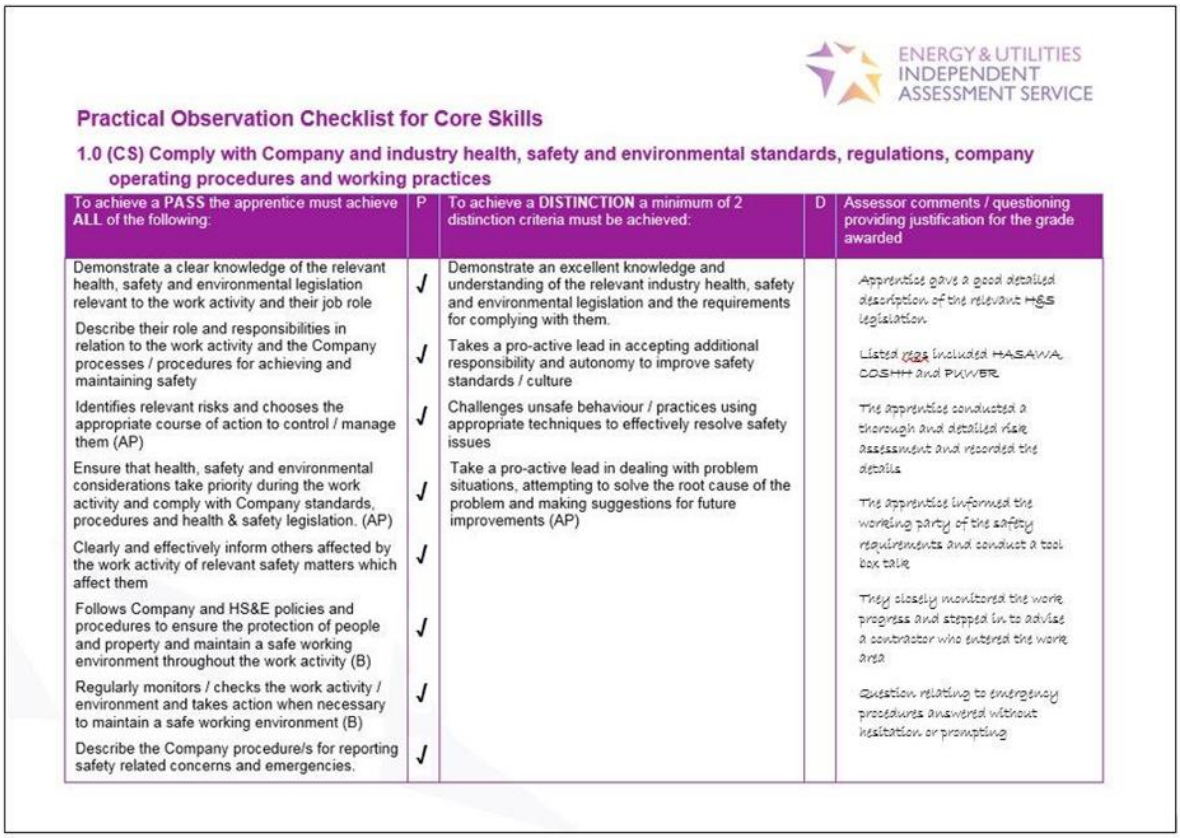
1.0 (CS) Comply with Company and industry health, safety and environmental standards, regulations, company operating procedures and working practices

To achieve a **PASS** the apprentice must achieve **ALL** of the following:	P	To achieve a **DISTINCTION** a minimum of 2 distinction criteria must be achieved:	D	Assessor comments / questioning providing justification for the grade awarded
Demonstrate a clear knowledge of the relevant health, safety and environmental legislation relevant to the work activity and their job role	✓	Demonstrate an excellent knowledge and understanding of the relevant industry health, safety and environmental legislation and the requirements for complying with them.		Apprentice gave a good detailed description of the relevant H&S legislation
Describe their role and responsibilities in relation to the work activity and the Company processes / procedures for achieving and maintaining safety	✓	Takes a pro-active lead in accepting additional responsibility and autonomy to improve safety standards / culture		Listed regs included HASAWA, COSHH and PUWER
Identifies relevant risks and chooses the appropriate course of action to control / manage them (AP)	✓	Challenges unsafe behaviour / practices using appropriate techniques to effectively resolve safety issues		The apprentice conducted a thorough and detailed risk assessment and recorded the details
Ensure that health, safety and environmental considerations take priority during the work activity and comply with Company standards, procedures and health & safety legislation. (AP)	✓	Take a pro-active lead in dealing with problem situations, attempting to solve the root cause of the problem and making suggestions for future improvements (AP)		The apprentice failed to inform the working party of the safety requirements and conduct a tool box talk
Clearly and effectively inform others affected by the work activity of relevant safety matters which affect them	✗			They closely monitored the work progress and stepped in to advise a contractor who entered the work area
Follows Company and HS&E policies and procedures to ensure the protection of people and property and maintain a safe working environment throughout the work activity (B)	✓			Question relating to emergency procedures answered but not conducted when required
Regularly monitors / checks the work activity / environment and takes action when necessary to maintain a safe working environment (B)	✓			
Describe the Company procedure/s for reporting safety related concerns and emergencies.	✓			

Fig 1

In the example provided (Fig 1) the Employer Technical Expert concluded that the apprentice did not provide sufficient evidence of a safe and competent performance against the "PASS" criteria of element five, 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 safe and competent performance in the element "PASS" column i.e. achieves all the pass criteria.



ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

Practical Observation Checklist for Core Skills

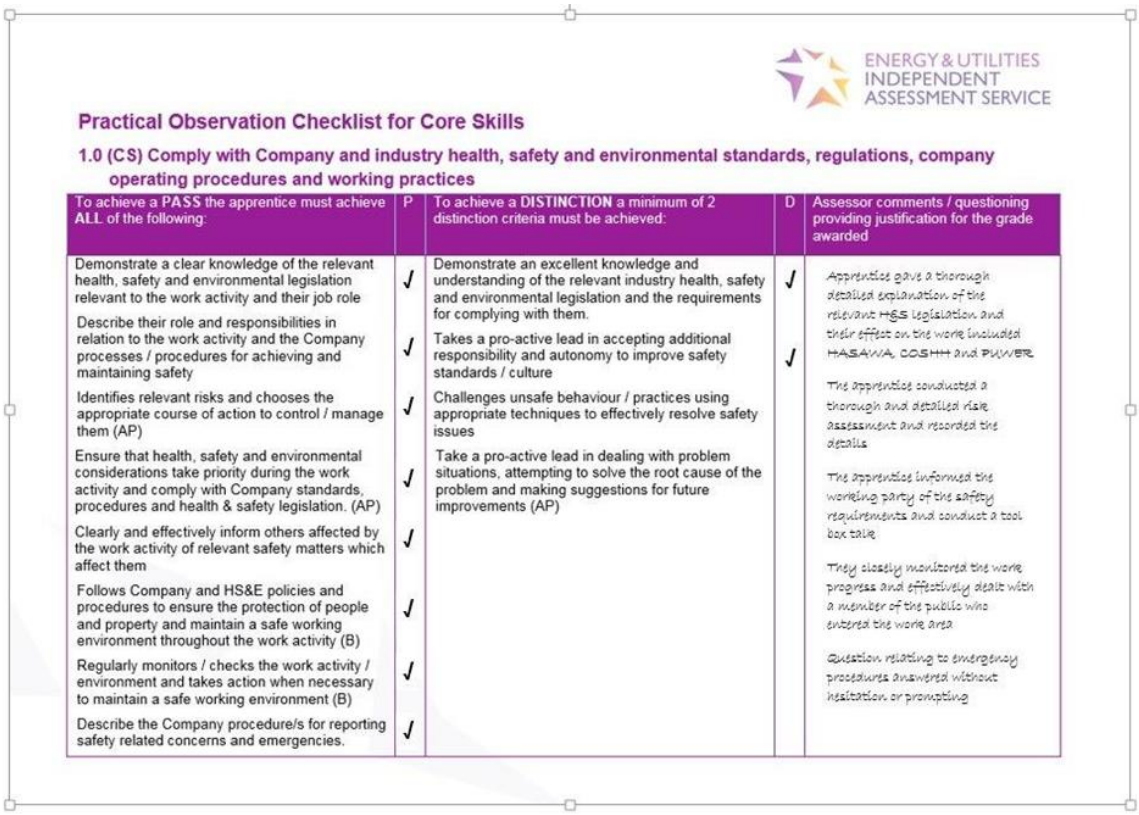
1.0 (CS) Comply with Company and industry health, safety and environmental standards, regulations, company operating procedures and working practices

To achieve a **PASS** the apprentice must achieve **ALL** of the following:	P	To achieve a **DISTINCTION** a minimum of 2 distinction criteria must be achieved:	D	Assessor comments / questioning providing justification for the grade awarded
Demonstrate a clear knowledge of the relevant health, safety and environmental legislation relevant to the work activity and their job role	✓	Demonstrate an excellent knowledge and understanding of the relevant industry health, safety and environmental legislation and the requirements for complying with them.		Apprentice gave a good detailed description of the relevant H&S legislation.
Describe their role and responsibilities in relation to the work activity and the Company processes / procedures for achieving and maintaining safety	✓	Takes a pro-active lead in accepting additional responsibility and autonomy to improve safety standards / culture		Listed regs included HASAWA, COSHH and PUWER.
Identifies relevant risks and chooses the appropriate course of action to control / manage them (AP)	✓	Challenges unsafe behaviour / practices using appropriate techniques to effectively resolve safety issues		The apprentice conducted a thorough and detailed risk assessment and recorded the details.
Ensure that health, safety and environmental considerations take priority during the work activity and comply with Company standards, procedures and health & safety legislation. (AP)	✓	Take a pro-active lead in dealing with problem situations, attempting to solve the root cause of the problem and making suggestions for future improvements (AP)		The apprentice informed the working party of the safety requirements and conduct a tool box talk.
Clearly and effectively inform others affected by the work activity of relevant safety matters which affect them	✓			They closely monitored the work progress and stepped in to advise a contractor who entered the work area.
Follows Company and HS&E policies and procedures to ensure the protection of people and property and maintain a safe working environment throughout the work activity (B)	✓			Question relating to emergency procedures answered without hesitation or prompting.
Regularly monitors / checks the work activity / environment and takes action when necessary to maintain a safe working environment (B)	✓			
Describe the Company procedure/s for reporting safety related concerns and emergencies.	✓			

Fig 2

In the example provided (Fig 2) the apprentice provided evidence of a safe and 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 observation of their work activity. This will typically be through demonstrating their higher levels of knowledge, skills and / or behaviours for the activity being observed. To achieve an element “DISTINCTION” the apprentice must achieve a minimum of 2 criteria in the “DISTINCTION” column.



ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

Practical Observation Checklist for Core Skills

1.0 (CS) Comply with Company and industry health, safety and environmental standards, regulations, company operating procedures and working practices

To achieve a **PASS** the apprentice must achieve **ALL** of the following:	P	To achieve a **DISTINCTION** a minimum of 2 distinction criteria must be achieved:	D	Assessor comments / questioning providing justification for the grade awarded
Demonstrate a clear knowledge of the relevant health, safety and environmental legislation relevant to the work activity and their job role	✓	Demonstrate an excellent knowledge and understanding of the relevant industry health, safety and environmental legislation and the requirements for complying with them.	✓	Apprentice gave a thorough detailed explanation of the relevant H&S legislation and their effect on the work included HASAWA, COSHH and PUWER The apprentice conducted a thorough and detailed risk assessment and recorded the details The apprentice informed the working party of the safety requirements and conduct a tool box talk They closely monitored the work progress and effectively dealt with a member of the public who entered the work area Question relating to emergency procedures answered without hesitation or prompting
Describe their role and responsibilities in relation to the work activity and the Company processes / procedures for achieving and maintaining safety	✓	Takes a pro-active lead in accepting additional responsibility and autonomy to improve safety standards / culture	✓	
Identifies relevant risks and chooses the appropriate course of action to control / manage them (AP)	✓	Challenges unsafe behaviour / practices using appropriate techniques to effectively resolve safety issues		
Ensure that health, safety and environmental considerations take priority during the work activity and comply with Company standards, procedures and health & safety legislation. (AP)	✓	Take a pro-active lead in dealing with problem situations, attempting to solve the root cause of the problem and making suggestions for future improvements (AP)		
Clearly and effectively inform others affected by the work activity of relevant safety matters which affect them	✓			
Follows Company and HS&E policies and procedures to ensure the protection of people and property and maintain a safe working environment throughout the work activity (B)	✓			
Regularly monitors / checks the work activity / environment and takes action when necessary to maintain a safe working environment (B)	✓			
Describe the Company procedure/s for reporting safety related concerns and emergencies.	✓			

Fig 3

In the example provided (Fig 3) the apprentice provided evidence of a safe and 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.

Practical Observation Overall Grading

Once all elements have been observed and the marks awarded the Employer 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 Employer Technical Expert will be required to recommend the award of FAIL.

Electrical Project Engineer Core and Specific Skill Elements	Pass	Distinction
1.0 (CTK) Interpret the Company requirements with regard to project management tools, techniques and processes	4	1
2.0 (CTK) Interpret the Company business planning and resource control measures	4	1
1.0 (CS) Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices including Health, Safety & Environment core behaviour	6	4
2.0 (CS) Ensure that all safety considerations are incorporated and evident in all working practices including risk awareness core behaviour	6	4
3.0 (CS) Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities including interpersonal skills core behaviour	6	3
4.0 (CS) Use company IT systems to provide accurate and reliable data to support business decisions	4	N/A
5.0 (CS) Use company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment	X	3
1 to 6 (SS) Skill-specific activities will include:		
1. Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	4	5
2. Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	4	4
3. Manage stakeholder relations and produce final construction plans	4	5
4. Be authorised to work on the electricity network in-line with company / asset owner requirements	4	N/A
5. Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	4	5
6. Ensure the completion of final hand back documentation to the agreed specifications and timescales	4	5
Total Marks	54	

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

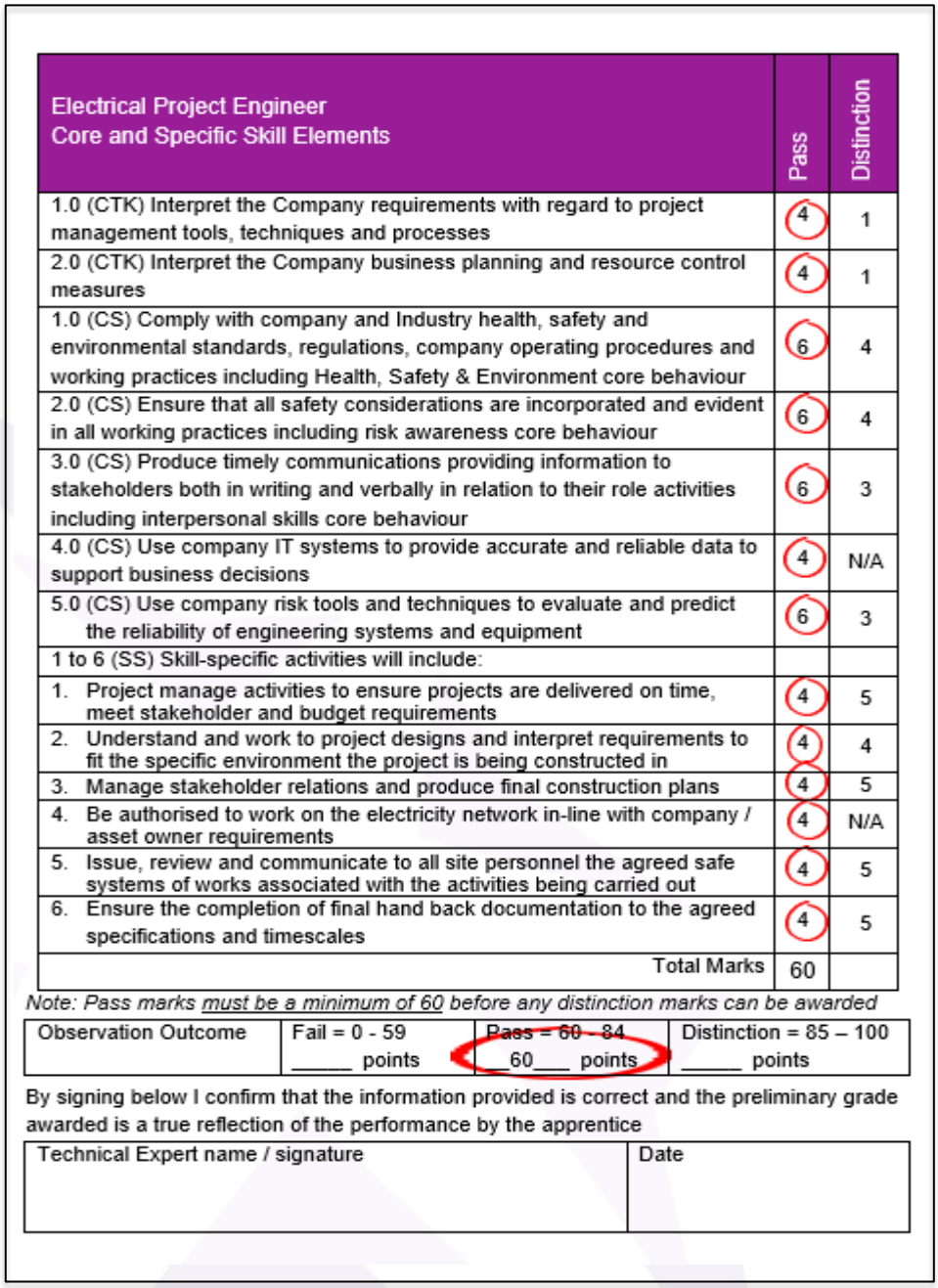
Observation Outcome	Fail = 0 - 59 __54__ points	Pass = 60 - 84 _____ points	Distinction = 85 – 100 _____ points

By signing below I confirm that the information provided is correct and the preliminary grade awarded is a true reflection of the performance by the apprentice

Technical Expert name / signature	Date

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 Employer Technical Expert calculated that the total marks recommended met the minimum “PASS” mark of 60% and therefore a “PASS” grading was recommended.



Electrical Project Engineer Core and Specific Skill Elements	Pass	Distinction
1.0 (CTK) Interpret the Company requirements with regard to project management tools, techniques and processes	4	1
2.0 (CTK) Interpret the Company business planning and resource control measures	4	1
1.0 (CS) Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices including Health, Safety & Environment core behaviour	6	4
2.0 (CS) Ensure that all safety considerations are incorporated and evident in all working practices including risk awareness core behaviour	6	4
3.0 (CS) Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities including interpersonal skills core behaviour	6	3
4.0 (CS) Use company IT systems to provide accurate and reliable data to support business decisions	4	N/A
5.0 (CS) Use company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment	6	3
1 to 6 (SS) Skill-specific activities will include:		
1. Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	4	5
2. Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	4	4
3. Manage stakeholder relations and produce final construction plans	4	5
4. Be authorised to work on the electricity network in-line with company / asset owner requirements	4	N/A
5. Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	4	5
6. Ensure the completion of final hand back documentation to the agreed specifications and timescales	4	5
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

By signing below I confirm that the information provided is correct and the preliminary grade awarded is a true reflection of the performance by the apprentice

Technical Expert name / signature	Date

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 although they scored four 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.

Electrical Project Engineer Core and Specific Skill Elements	Pass	Distinction
1.0 (CTK) Interpret the Company requirements with regard to project management tools, techniques and processes	4	1
2.0 (CTK) Interpret the Company business planning and resource control measures	4	1
1.0 (CS) Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices including Health, Safety & Environment core behaviour	6	4
2.0 (CS) Ensure that all safety considerations are incorporated and evident in all working practices including risk awareness core behaviour	6	4
3.0 (CS) Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities including interpersonal skills core behaviour	6	3
4.0 (CS) Use company IT systems to provide accurate and reliable data to support business decisions	4	N/A
5.0 (CS) Use company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment	6	3
1 to 6 (SS) Skill-specific activities will include:		
1. Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	4	5
2. Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	4	4
3. Manage stakeholder relations and produce final construction plans	4	5
4. Be authorised to work on the electricity network in-line with company / asset owner requirements	4	N/A
5. Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	4	5
6. Ensure the completion of final hand back documentation to the agreed specifications and timescales	4	5
Total Marks	60	12

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

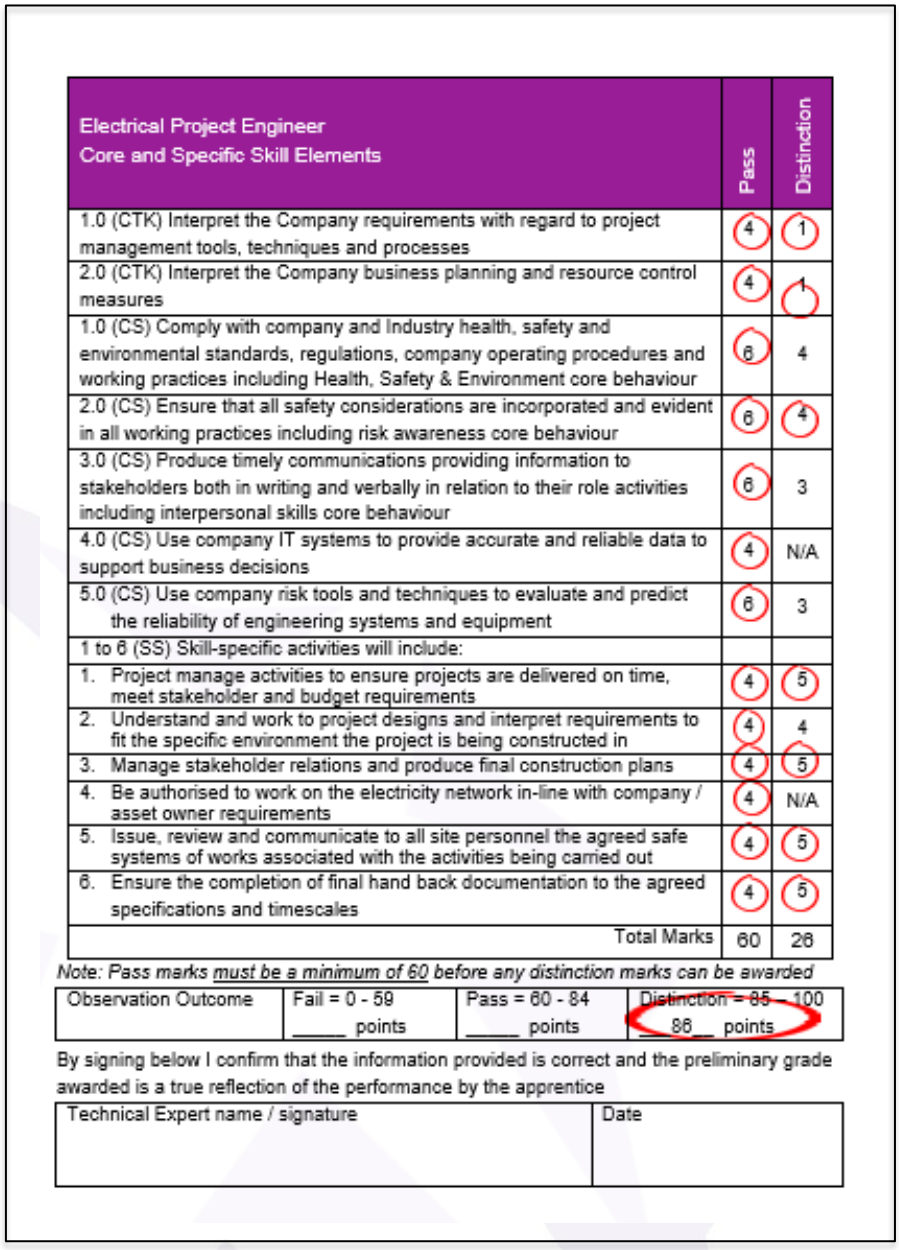
Observation Outcome	Fail = 0 - 59 _____ points	Pass = 60 - 84 __72___ points	Distinction = 85 – 100 _____ points

By signing below I confirm that the information provided is correct and the preliminary grade awarded is a true reflection of the performance by the apprentice

Technical Expert name / signature	Date

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 86.



Electrical Project Engineer Core and Specific Skill Elements	Pass	Distinction
1.0 (CTK) Interpret the Company requirements with regard to project management tools, techniques and processes	4	1
2.0 (CTK) Interpret the Company business planning and resource control measures	4	1
1.0 (CS) Comply with company and Industry health, safety and environmental standards, regulations, company operating procedures and working practices including Health, Safety & Environment core behaviour	6	4
2.0 (CS) Ensure that all safety considerations are incorporated and evident in all working practices including risk awareness core behaviour	6	4
3.0 (CS) Produce timely communications providing information to stakeholders both in writing and verbally in relation to their role activities including interpersonal skills core behaviour	6	3
4.0 (CS) Use company IT systems to provide accurate and reliable data to support business decisions	4	N/A
5.0 (CS) Use company risk tools and techniques to evaluate and predict the reliability of engineering systems and equipment	6	3
1 to 6 (SS) Skill-specific activities will include:		
1. Project manage activities to ensure projects are delivered on time, meet stakeholder and budget requirements	4	5
2. Understand and work to project designs and interpret requirements to fit the specific environment the project is being constructed in	4	4
3. Manage stakeholder relations and produce final construction plans	4	5
4. Be authorised to work on the electricity network in-line with company / asset owner requirements	4	N/A
5. Issue, review and communicate to all site personnel the agreed safe systems of works associated with the activities being carried out	4	5
6. Ensure the completion of final hand back documentation to the agreed specifications and timescales	4	5
Total Marks	60	26

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 86 points

By signing below I confirm that the information provided is correct and the preliminary grade awarded is a true reflection of the performance by the apprentice

Technical Expert name / signature	Date

Fig 7

Practical Observation Grade Decision

Following the assessment the Employer Technical Expert will assign a preliminary mark of a PASS, DISTINCTION or FAIL grading and present the outcome to the assessment organisation in readiness the Final Grade Decision.

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.