



ENERGY &
ENVIRONMENT
AWARDS

Skills for a greener world

EEA Level 3 End-point Assessment for Maintenance and
Operations Engineering Technician
(Plant Operations)

Supporting Documents

QAN 610/6007/0
ST0154 V1.4

Supporting Documents for

EEA Level 3 End-point Assessment for Maintenance and Operations Engineering Technician (Plant Operations)

QAN 610/6007/0 V1.4

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Updates to the supporting documents

Since the first publication of Energy & Environment Awards Maintenance and Operations Engineering Technician Supporting Documents – Plant Operations, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v2.0	August 2025	Rebranded	All
v1.0	October 2024	First published	All

Appendix A: Glossary

Amplification – provides more detail on how individual knowledge, skills or behaviours statements should be interpreted. Where the KSB statements, themselves are deemed self-explanatory, no amplification is provided. Assessment may include questions on anything identified in the amplification

Behaviours (as part of KSBs) – specific mindsets, attitudes or approaches identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Elements – are the knowledge, skills and behaviours and what is needed to competently undertake the duties required for an occupational standard

Gateway - the stage of the apprenticeship where the apprentice, employer and training provider determine whether the apprentice is ready to undertake end-point assessment

Guidance – is only provided where it is required to support interpretation of the KSB statements

Knowledge (as part of KSBs) – specific information, technical detail, and ‘know-how’ identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Pathways – a specialist route within an apprenticeship standard that builds on the occupational competence for a new entrant to the occupation

Skills (as part of KSBs) – the practical application of knowledge identified as part of the apprenticeship standard that must be evidenced during end-point assessment

Standard – An occupational standard is a description of an occupation. It contains occupational profile, and describes KSBs needed for someone to be competent in the occupation’s duties. Occupational standards are developed by employers for occupations that meet the Institute for Apprenticeships and Technical Education current occupation criteria

Topic - is a collection of elements grouped into a theme e.g. Health and Safety

Appendix B: Gateway Eligibility Form

(Standard and Assessment Plan Version: ST0154/1.4)

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

Apprentice's details

Eligibility requirements:

The apprentice must confirm their achievement of the following:

Note: For apprentices aged 19+, if maths and/or English have been attempted but not achieved evidence of the attempt should be submitted.

Eligibility requirement	Achieved by the apprentice? Y/N	Evidence (Scans of certificates MUST be included)
Achieved Level 2 English		
Achieved Level 2 Maths		
Satisfactory completion of the formal training plan agreed with apprentice by the employer		
Compiled and submitted a portfolio of evidence, on which the technical interview will be based on		

Gateway Eligibility Declaration

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

1. The apprentice has completed the required on-programme elements of the apprenticeship and is ready for end-point assessment with Energy & Environment Awards.
2. The apprentice will only submit their own work as part of end-point assessment.
3. All parties agree that end-point assessment evidence may be recorded and stored by Energy & Environment Awards for quality assurance purposes.
4. The apprentice has been on-programme for a minimum duration of 365 days.
5. The apprentice has achieved English and maths Level 2 as detailed in this document.
6. The apprentice satisfactorily completed a formal training plan agreed by the employer.
7. The apprentice has produced compiled and submitted a portfolio of evidence, on which the technical interview will be based on.
8. The apprentice, if successful, gives permission for Energy & Environment

Awards to request the apprenticeship. certificate from the ESFA who issue the certificate on behalf of the Secretary of State.

9. The apprentice has been directed to Energy & Environment Awards Appeals Policy and Complaints Policy.
10. The employer/training provider has given Energy & Environment Awards at least three months' notice of requesting this EPA for this apprentice.
11. If the Gateway Eligibility Report is not completed in full, meeting all requirements, and submitted to Energy & Environment Awards, the end-point assessment cannot take place.

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

Energy & Environment Awards use only:	
Energy & Environment Awards Sign off:	
Comments/actions:	

Appendix C: Practice Knowledge Assessments: Plant Operations

Level: 3

Maintenance and Operations Engineering Technician

Pathway: Plant Operations

Paper Code: Practice Paper

This examination consists of 30 multiple-choice questions.

The Pass mark is 18 correct answers.

The Merit mark is 23 correct answers.

A mark of 26 or more is a Distinction.

The duration of this examination is 45 minutes.

You must use a **pencil** to complete the answer sheet - pens must NOT be used.

When completed, please leave the examination answer sheet and question paper on the desk.

For this paper the use of a scientific calculator (non-programmable) is permitted.

For each question, fill in ONE answer ONLY.

If you make a mistake, ensure you erase it thoroughly.

You must mark your choice of answer by shading in ONE answer circle only. Please mark each choice like this

:

MARKING INSTRUCTIONS	
<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input checked="" type="radio"/>	ANSWER COMPLETED CORRECTLY
Examples of how NOT to mark your examination sheet. These will not be recorded	
<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/>	DO NOT partially shade the answer circle.
<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input checked="" type="radio"/>	DO NOT use ticks or crosses.
<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/>	DO NOT use circles.
<input type="radio"/> A <input type="radio"/> B <input checked="" type="radio"/> C <input checked="" type="radio"/>	DO NOT shade over more than one circle.

This paper must be returned to Energy & Environment Awards with the apprentice answer sheets.

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

Question 1

On what type of installation would a technician fit this design of washer?

Possible answers

a)	High corrosion
b)	High temperature
c)	High vibration
d)	High pressure


Question 2

When checking the pressure of a system the maintenance schedule stipulates that the system pressure should be 10 bar with a tolerance of +/- 0.05 bar, what are the minimum and maximum acceptable pressures?

Possible answers

a)	9.95 to 10.05 bar
b)	9.5 to 10.5 bar
c)	9.05 to 10.5 bar
d)	9.005 to 10.005 bar

Question 3

Safety critical equipment should be maintained:

Possible answers

a)	every twelve months
b)	more frequently than non-safety critical equipment
c)	less frequently than non-safety critical equipment
d)	at the same period as safety non-critical equipment

Question 4

Which statement best describes what is meant by the terminology “specification”?

Possible answers

a)	The capacity to endure continuous force
b)	The standard when measured against another object of similar design
c)	Detailed description of the design and materials of an object
d)	The specified point beyond which certification is invalid

Question 5

What type of maintenance is applied when something stops working?

Possible answers

a)	Planned
b)	Preventative
c)	Corrective
d)	Shutdown

Question 6

What do the initials IP followed by 2 numbers refer to when seen on a piece of equipment?

Possible answers

a)	Internal pressure
b)	Integrity protection
c)	Ingress protection
d)	Increased pressure

Question 7

Which of the following is commonly classed as safety critical?

Possible answers

a)	Control valve
b)	Fuse
c)	Steam trap
d)	Drain valve

Question 8

What does the coloured tag on a piece of rigging equipment mean?

Possible answers

a)	Certification period
b)	Safe working load
c)	Maximum working load
d)	Safe to use

Question 9

When seen on site, what does a green safety sign signify?

Possible answers

a)	Mandatory
b)	Prohibited
c)	Information
d)	Warning

Question 10

What document should be fixed to a scaffold before a technician uses it?

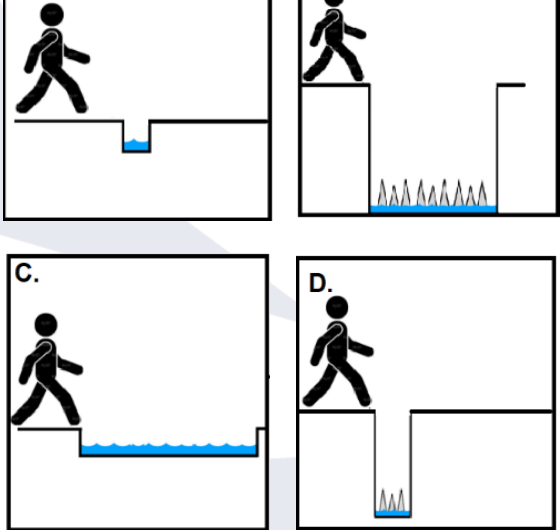
Possible answers

a)	Risk assessment
b)	Safety certificate
c)	Approved Scaffoldtag
d)	Permit to work

Question 11

Looking at the image provided and taking into consideration risk, which task would a technician say is low probability and low in impact?

Possible answers

a)	A	
b)	B	
c)	C	
d)	D	

[Turn to the next page for question 12]

Question 12

When personal protection equipment is identified on the work control document, which of the following statements is correct?

Possible answers

a)	PPE is recommended
b)	PPE is available
c)	PPE is good practice
d)	PPE is mandatory

Question 13

In accordance with HSE regulations, how would a technician know if a substance was regarded as hazardous?

Possible answers

a)	The container will be coloured red
b)	It will be contained in a glass receptacle
c)	It will have a label identifying the hazard
d)	It will give off a strong odour

Question 14

According to the Confined Space Regulations 1997, which of the following locations is not regarded as a confined space?

Possible answers

a)	Storage tank
b)	Termination cabinet
c)	Floor void
d)	Pipe trench

Question 15

In accordance with HSE guidelines, isolations can only be applied by:

Possible answers

a)	competent people
b)	training and authorised people
c)	skilled people
d)	experienced people

Question 16

Which manual handling statement is true?

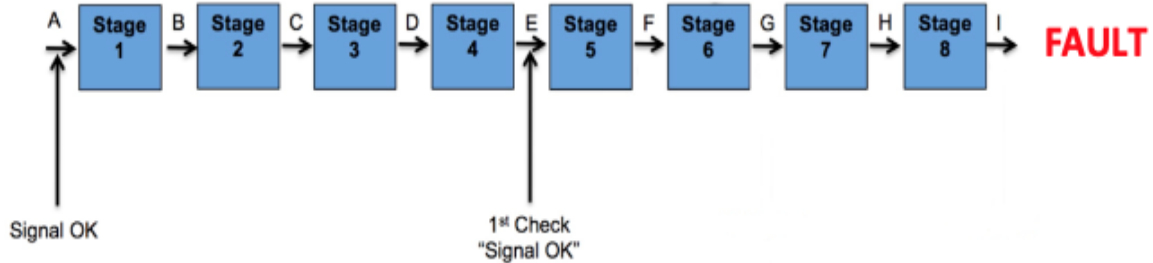
Possible answers

a)	Correct manual handling prevents all accidents
b)	Correct manual handling prevents damage to equipment
c)	Correct manual handling reduces the risk of human injury
d)	Correct manual handling should only be applied in the workplace

[Turn to the next page for question 17]

Question 17

Using the half split principle and referring to image below, at which position should a technician make the next check when fault finding?



Possible answers

a)	Point C
b)	Point F
c)	Point G
d)	Point I

Question 18

What regulation provides guidance on the use of handheld tools?

Possible answers

a)	PUWER
b)	COMAR
c)	LOLER
d)	COSHH

Question 19

What is being measured in this image?

Possible answers

a)	Temperature
b)	Vibration
c)	Pressure
d)	Speed


Question 20

When seen on a British Standard Piping and Instrumentation drawing, what does this symbol represent?

Possible answers

a)	Electrical signal
b)	Pneumatic signal
c)	Hydraulic signal
d)	Instrument signal



Question 21

What type of maintenance can be applied to check the long-term performance of equipment to identify problems before they occur?


Possible answers

a)	Preventative
b)	Risk based
c)	Condition based
d)	Corrective

Question 22

What service does this device apply to process fluids?

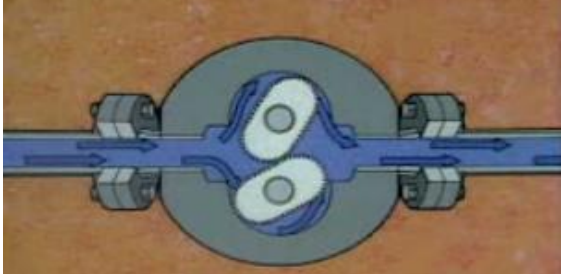
Possible answers

a)	Pressure drop	
b)	Filtration	
c)	Temperature exchange	
d)	Mixing	

Question 23

What operating principle is used here to measure the rate of flow?

Possible answers

a)	Differential pressure	
b)	Positive displacement	
c)	Venturi effect	
d)	Bourdon tube	

Question 24

The terminology LO/LC is often used when applying which set of procedures?

Possible answers

a)	Inhibit/override
b)	Isolation
c)	Risk assessment
d)	Manual handling

Question 25

What effect does a Non Return Valve (NRV) have when located in a process pipeline?

Possible answers

a)	Releases pressure at a given set point
b)	Acts as a self-regulating pressure control valve
c)	Restricts flow to one direction only
d)	Aerates the fluid flowing through the pipework

Question 26

Which ONE of the following statements best defines the terminology "viscosity"?

Possible answers

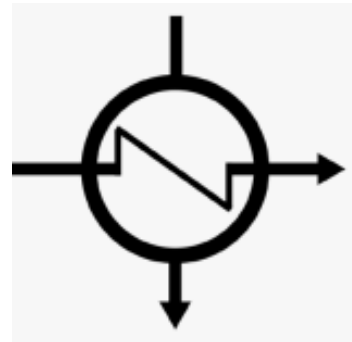
a)	The degree of compactness of a substance
b)	A substance that has no fixed shape
c)	The state of being thick in consistency
d)	Firm and stable in shape

Question 27

When seen on a piping and instrument drawing what does this symbol represent?

Possible answers

a)	Electric heater
b)	Heat exchanger
c)	Check valve
d)	Pressure safety valve


Question 28

If fluid A has a higher specific gravity than fluid B and they are both contained in the same environment, which statement is true?

Possible answers

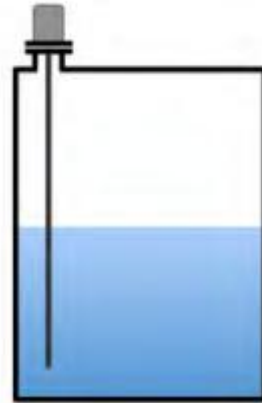
a)	Both liquids will mix together
b)	Fluid B will gravitate to below fluid A
c)	Fluid A will gravitate to below fluid B
d)	An explosive atmosphere will be created

Question 29

What operating principle does this instrument use to measure the level in the vessel?

Possible answers

a)	Differential pressure
b)	Ultrasound
c)	Radio waves
d)	Capacitance


Question 30

A pump is showing symptoms of higher than normal levels of both noise and vibration. What would commonly be the cause of this condition?

Possible answers

a)	Increased pressure in line
b)	Blockage in the discharge line
c)	Higher than normal temperatures
d)	Cavitation in pump

End of Questions

Practice Knowledge Assessment

Plant Operations- Answer scheme

Question	Answer
1	C
2	A
3	B
4	C
5	C
6	C
7	B
8	A
9	C
10	C
11	A
12	D
13	C
14	B
15	B

Question	Answer
16	C
17	C
18	A
19	B
20	B
21	C
22	B
23	A
24	C
25	C
26	C
27	B
28	C
29	D
30	D

SAMPLE ANSWER SHEET


Candidate ID	Attempt
Last Name	
First Name	
Exam Date	Paper
Centre Name	
Centre Number	

MARKING INSTRUCTIONS

Answers should be completed using a HB pencil.

☐ ☐ ☐ ☒ **ANSWER COMPLETED CORRECTLY**

Examples of how NOT to mark your examination sheet. **These will not be recorded**

☐ ☐ ☐ ☐ **DO NOT** partially shade the answer circle.

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30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																																																																																																																																																				

Appendix D - Practical Observation and Planning Form

The practical observation must be designed to meet the requirements of the Maintenance and Operations Engineering Technician standard.

- The apprentice will complete a practical observation during which they will be asked questions by the assessor to confirm their understanding of the rationale for actions taken and choices made during the practical observation
- The content of this practical observation will relate to the specific role they are working towards
- The duration of this activity will typically be no longer than 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
- The employer/training provider must devise a practical observation task(s) sufficiently complex to allow the apprentice to demonstrate the required knowledge and skills

Note that the apprentice is only required to demonstrate the main specialist specific skill covered by the practical, and the observation task must be chosen carefully to ensure that the apprentice has opportunity to cover all aspects of the skill.

The activities will need to be able to provide the evidence identified in the checklist in the form below.

Energy & Environment Awards must review the employer/training provider's practical assessment design. To do this complete the 'Level 3 Practical Observation and Planning Form' and submit to the Service Delivery team, for review 1 month before the start of the end-point assessment.

Level 3 Practical Observation and Planning Form

Employer name and site address	
Training provider (if applicable) name and site address	
Standard	Maintenance and Operations Engineering Technician
Pathway	Plant Operations
Level	3
Location of practical	
Contact Details: Employer/training provider representative, email address and contact number overseeing the setup of the practical (documents and site).	
Energy & Environment Awards Date of review:	

Description of the proposed complex task(s):

Special requirements (for example: access arrangements and PPE):

Equipment/tools required:

Resources required:

Practical Observation Checklist

This checklist will assist the employer and/or training provider with planning the activity. Please confirm all required elements are covered:

Core Skills	Covered on activity
S1 Comply with industry health, safety and environmental working practices and regulations	<input type="checkbox"/>
S2 Communicate with and provide information to stakeholders in line with personal role and responsibilities	<input type="checkbox"/>
S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities	<input type="checkbox"/>
S4 Assess and test the performance and condition of plant and equipment	<input type="checkbox"/>
S5 Locate, and rectify faults on plant and equipment	<input type="checkbox"/>
S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation	<input type="checkbox"/>
S7 Inspect and maintain appropriate plant and equipment to meet operational requirements	<input type="checkbox"/>
S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification	<input type="checkbox"/>
Core Behaviours	Covered on activity
B1 Health and Safety - Follows health and safety policies and procedures and be prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with appropriate supervision	<input type="checkbox"/>
B2 Quality focused - Ensures that work achieves quality standard both occupationally and personally	<input type="checkbox"/>
B3 Working with others - Has the ability to work well with people from different disciplines, backgrounds and expertise to accomplish an activity safely and on time	<input type="checkbox"/>
B4 Interpersonal skills - Gets along well with others and takes into account their needs and concerns	<input type="checkbox"/>

B6 Sustainability and ethical behaviour - Behaves ethically and undertakes work in a way that contributes to sustainable development	<input type="checkbox"/>
B7 Risk awareness - Demonstrates high concentration, the desire to reduce risks, ability to be compliant and awareness of change, through regular monitoring and checking of information	<input type="checkbox"/>
PLUS select the MAIN Specialist Skill covered by the practical	Covered on activity
Pathway: Plant Operations Specialist Skills	
PO1 Carry out planned operating procedures on plant and equipment	<input type="checkbox"/>
PO2 Monitor the performance of the plant and equipment	<input type="checkbox"/>
PO3 Handover and accept responsibility for plant and equipment	<input type="checkbox"/>
Estimated total duration of practical (must be a minimum of 4 hours)	

Remember:

- The specific detail of the tasks to be undertaken should be **kept confidential from the apprentices**
- You will require differing tasks where you have more than one apprentice to be assessed

Practical Task: Include relevant photographs to illustrate task(s)



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Energy & Environment Awards Office use only

Date received	
Date signed off	

Appendix E: Practice Practical Observation Template

This document is for use by the person from the employer/training provider playing the role of the assessor during the practice practical observation. It is designed to help replicate the live assessment experience and to enable feedback to be provided to the apprentice.

Full Name of Apprentice	
Location(s) of Practice Practical Observation	
Full Name of Assessor	
Date of Practice Practical Observation	
Start Time	
End Time	
Assessor - Additional comments:	

Please indicate the apprentice's practice practical observation grade (F/P/M/D):	Grade

Please Note:

Pass: Each criteria must be met to achieve a pass.

Merit or Distinction: All Pass criteria must be achieved PLUS a minimum number of merit and distinction as described in Section 3 in this specification.

Fail: The apprentice does not demonstrate the pass criteria.

S1 Comply with industry health, safety and environmental working practices and regulations

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • Demonstrate a clear understanding of their own health, safety and environmental responsibilities and that of others • Comply with the required health, safety and environmental working practices and regulations • Conduct a suitable risk assessment and proactively identify workplace hazards • Inspect and wear the correct personal protective equipment (PPE) required to carry out the activity • Inform other relevant parties of matters affecting them where required • Comply with and apply safe systems of work and 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate a deeper understanding of the health, safety and environmental implications of the work e.g. potential effect of failure to comply, environmental, social, financial, company impact • Take a lead role in managing the site safety of self and others • Consistently demonstrate compliance with safety requirements and make suggestions to reduce risks • Identify poor/bad practice in relation to work activities and address the situation 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate exemplary health, safety and environmental knowledge and performance throughout the activity • Identify health, safety and environmental deficiencies and implement appropriate solutions • Challenge unsafe behaviour/ practices using appropriate techniques • Pre-empt risks prior to task commencement and puts actions in place to prevent them occurring • Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to improve safety standards 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

S1 Comply with industry health, safety and environmental working practices and regulations					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
maintain a safe working environment • Inspect and use the appropriate tools and equipment • Regularly re-assess the site conditions and take action when necessary to maintain site safety • Check to ensure the site is left in a safe/secure condition for others	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

S2 Communicate with and provide information to stakeholders in line with personal role and responsibilities					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • Read and correctly interpret a range of technical information provided to plan and conduct the work 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate a detailed knowledge of the range and purpose of the technical information available 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate their ability to effectively communicate technical information across a wide range of stakeholders e.g. colleagues, management, briefings/meetings, external clients 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Demonstrate a clear understanding of the purpose and use of the technical information provided for the work 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Identify inaccuracies/deficiencies in the technical information provided and resolve/report the situation 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Consult and involve team members and/or other relevant persons to achieve greater understanding and improved performance 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Use and refer to the technical information provided to check/confirm the work conducted meets the required company standards/specifications 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Challenge in a professional manner any areas of concern to clarify understanding 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate the ability to build positive relationships and actively address conflict with positive outcomes 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Where necessary, question/clarify any information which is not clearly understood 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Identify/suggest methods of improving the system/use of information 	<input type="checkbox"/>		
<ul style="list-style-type: none"> • Complete any technical or supporting documentation in line with company policies/procedures 	<input type="checkbox"/>				

S2 Communicate with and provide information to stakeholders in line with personal role and responsibilities

Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Demonstrate an understanding of the importance of good preparation and the potential outcomes of poor preparation 	<input type="checkbox"/>	<ul style="list-style-type: none"> Take a lead role in the preparation of the work area proactively informing others on matters which affect them 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a deeper understanding of the implications of good and poor work preparation. e.g. In terms of cost, time, value, company reputation etc 	<input type="checkbox"/>
<ul style="list-style-type: none"> Inspect and prepare the work area and equipment to be worked on in line with company policies/procedures 	<input type="checkbox"/>	<ul style="list-style-type: none"> Produce a detailed work plan to support the organisation of the work, including measures to deal with contingencies 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken 	<input type="checkbox"/>
<ul style="list-style-type: none"> Identify and implement any special precautions required 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate their ability to develop positive professional relationships with individuals to support the work activity 	<input type="checkbox"/>		

S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met
by the work activity or environment, where required		<ul style="list-style-type: none"> Make valid suggestions/recommendations to improve the planning/preparation of the work activity 	
<ul style="list-style-type: none"> Maintain good housekeeping practices and a safe working environment throughout the activity 	<input type="checkbox"/>		
<ul style="list-style-type: none"> Store tools, equipment, materials in a suitable/secure position and dispose of waste products in line with company policies and Health Safety and Environmental regulations 	<input type="checkbox"/>		
<ul style="list-style-type: none"> Reinstate the work area to ensure it is left in a safe and secure condition e.g. locks, notices, documentation 	<input type="checkbox"/>		

S3 Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities

Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

S4 Assess and test the performance and condition of plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Demonstrate a clear understanding of the company policies/procedures for the assessment and testing of plant and equipment to be worked on Demonstrate a clear understanding of the types and purpose of testing procedures for the plant and equipment to be worked on 	<input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a detailed technical knowledge of the range of tests available and their specific purpose Take a pro-active, leading role in the testing activity providing clear guidance on the results obtained Make recommendations/suggestions to improve testing efficiencies 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a deeper technical understanding of testing procedures and the analysis of results. e.g. testing parameters, performance indicators etc. Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken 	<input type="checkbox"/> <input type="checkbox"/>

S4 Assess and test the performance and condition of plant and equipment				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> Assess and test the plant/equipment to be worked on in line with company procedures Use the correct tools, equipment and techniques to conduct testing in line with company procedures Accurately interpret the results of the tests conducted Record/report the results of the testing in line with company procedures 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a detailed technical knowledge of the outcome of testing procedures and the implications of results obtained 	<input type="checkbox"/>	
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.			Recording timeline.
Questions <i>Develop some open ended questions</i>				Mark awarded.

S5 Locate, and rectify faults on plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • Demonstrate a clear understanding of their role and responsibilities for the fault location and rectification activity to be undertaken • Provide an accurate technical explanation of the company's fault location methods, processes and/or procedures • Competently use the correct tools, equipment and methods to locate the rectify the fault/s in a timely manner • Conduct the work in compliance with all relevant regulatory requirements and company policies and procedures 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate a detailed understanding of the theory and principles of fault location and rectification operations • Demonstrate a detailed understanding of cause and effect of faults and preventative measures • Pro-actively works with others to identify areas for improvement and follows through on agreed implementation • Make recommendations/suggestions to improve the location/rectification work activity 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate deeper technical knowledge of fault location and fault prevention e.g. costs, lost time, sustainability of equipment, company reputation • Identify and implement tangible changes that improve the efficiency of the work being conducted • Identify and take action to report or deal with issues of nonconformity/compliance • Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

S5 Locate, and rectify faults on plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Complete the required tests/checks to confirm the fault rectification has been successful 	<input type="checkbox"/>				
<ul style="list-style-type: none"> Record the results/outcomes of rectification work in line with company requirements 	<input type="checkbox"/>				
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Read and correctly interpret a range of technical 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a detailed knowledge of the range and 	<input type="checkbox"/>		

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
information provided to plan and conduct the work		purpose of the technical information available		
• Demonstrate a clear understanding of the purpose and use of the technical information provided for the work	<input type="checkbox"/>	• Identify inaccuracies/deficiencies in the technical information provided and resolve/report the situation	<input type="checkbox"/>	
• Use and refer to the technical information provided to check/confirm the work conducted meets the required company standards/specifications	<input type="checkbox"/>	• Challenge in a professional manner any areas of concern to clarify understanding	<input type="checkbox"/>	
• Where necessary, question/clarify any information which is not clearly understood	<input type="checkbox"/>	• Identify/suggest methods of improving the system/use of information	<input type="checkbox"/>	
• Complete any technical or supporting documentation in line with company policies/procedures	<input type="checkbox"/>			

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

S7 Inspect and maintain appropriate plant and equipment to meet operational requirements					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none">• Demonstrate a clear understanding of the company polices/procedures for the inspection of plant and equipment to be worked on	<input type="checkbox"/>	<ul style="list-style-type: none">• Demonstrate a detailed technical knowledge of the range of required inspections and maintenance procedures and their specific purpose	<input type="checkbox"/>	<ul style="list-style-type: none">• Demonstrate a deeper technical understanding of inspection/maintenance operations. e.g. In terms of cost, time, environmental impact, sustainability etc	<input type="checkbox"/>
<ul style="list-style-type: none">• Demonstrate a clear understanding of the company polices/procedures in relation to achieving the safe isolation of equipment	<input type="checkbox"/>	<ul style="list-style-type: none">• Pro-actively works with others to identify areas for improvement and follows through on agreed implementation	<input type="checkbox"/>	<ul style="list-style-type: none">• Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken	<input type="checkbox"/>

S7 Inspect and maintain appropriate plant and equipment to meet operational requirements

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
from relevant sources of energy		<ul style="list-style-type: none"> Demonstrate the ability to develop positive professional relationships with individuals to support the work activity Identify areas for work improvement and implement actions to improve work efficiencies 	<input type="checkbox"/> <input type="checkbox"/>		
<ul style="list-style-type: none"> Identify and inspect the plant/equipment to be worked on in line with company procedures Correctly use tools, equipment and techniques to achieve the quality standards required by company policies/procedures Demonstrate consistent application of policies and procedures during the work activity Record/report the results of the inspection in line with company procedures 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>				

S7 Inspect and maintain appropriate plant and equipment to meet operational requirements

Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • Demonstrate a clear understanding of their role and responsibilities in returning the system/equipment back to operational service 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate a detailed understanding of the factors which can support and influence a smooth handover of equipment 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the handover process 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Provide an accurate technical explanation of the company's handover procedure 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Take a pro-active lead in effectively communicating the detail of handover arrangements with stakeholders 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Consult and involve team members and/or other relevant persons to achieve greater understanding and improved performance 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Complete the required checks/tests to confirm the equipment meets the 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate their ability to develop positive professional 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate the ability to build positive relationships and actively address 	<input type="checkbox"/>

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
company operational requirements for handover		relationships with individuals to support handover process		conflict/resolve problems with positive outcomes	
• Conduct the handover in compliance with all relevant policies and procedures	<input type="checkbox"/>	• Confidently lead the handover process taking charge of the operation and resolving any issues within their role responsibility	<input type="checkbox"/>	• Demonstrate their ability to effectively communicate technical information across a wide range of stakeholders e.g. colleagues, management, briefings/meetings, external clients	<input type="checkbox"/>
• Clearly communicate the details of the handover including any additional requirements to the relevant parties	<input type="checkbox"/>	• Adapts the method and style of communications to changing circumstances and need	<input type="checkbox"/>		
• Complete all relevant reporting/recording documentation in line with company procedures	<input type="checkbox"/>				
• Leave the work area in a safe/secure condition for others	<input type="checkbox"/>				

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

B1 Health and Safety			
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> Follows health and safety policies and procedures and be prepared to challenge unsafe behaviour using appropriate techniques to ensure the protection of people and property when working alone and/or with appropriate supervision 	<input type="checkbox"/>		

B1 Health and Safety			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

B2 Quality focused			
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Ensures that work achieves quality standard both occupationally and personally 	<input type="checkbox"/>		
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>			

B3 Working with others				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Has the ability to work well with people from different disciplines, backgrounds and expertise to accomplish an activity safely and on time 	<input type="checkbox"/>			
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>				Mark awarded.

B4 Interpersonal skills				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Gets along well with others and takes into account their needs and concerns 	<input type="checkbox"/>			

B4 Interpersonal skills			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

B6 Sustainability and ethical behaviour			
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Behaves ethically and undertakes work in a way that contributes to sustainable development 	<input type="checkbox"/>		
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>			

B7 Risk awareness				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Demonstrates high concentration, the desire to reduce risks, ability to be compliant and awareness of change, through regular monitoring and checking of information 	<input type="checkbox"/>			
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>				Mark awarded.

Pathway: Plant Operations Role Specialist Skills

PO1 Carry out planned operating procedures on plant and equipment				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met	Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Demonstrate a clear understanding of their role and responsibilities in 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a detailed technical knowledge of the 	<input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate deeper technical/commercial knowledge of the

P01 Carry out planned operating procedures on plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
relation to the work to be conducted		methods and processes used to conduct the work		equipment/operation e.g. installation costs, technical requirements planning, sustainability of equipment etc	
• Demonstrate a clear plan for the work to be undertaken and an understanding of any safety/technical information given	<input type="checkbox"/>	• Pro-actively works with others to identify areas for improvement and follows through on agreed implementation	<input type="checkbox"/>	• Identify and implement tangible changes that improve the efficiency of the work being conducted	<input type="checkbox"/>
• Competently carry out procedures to achieve the quality standards required by the company in a timely manner	<input type="checkbox"/>	• Make recommendations/suggestions to improve work efficiencies	<input type="checkbox"/>	• Identify and take action to report or deal with issues of nonconformity/compliance	<input type="checkbox"/>
• Conduct the work in compliance with all relevant regulatory requirements and company policies and procedures	<input type="checkbox"/>	• Produce a detailed work plan to support the work delivery including measures to deal with contingencies	<input type="checkbox"/>	• Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken	<input type="checkbox"/>
• Where necessary, deal effectively with any issues within their role responsibilities, where necessary	<input type="checkbox"/>				

PO1 Carry out planned operating procedures on plant and equipment						
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met		
<ul style="list-style-type: none">Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required	<input type="checkbox"/>					
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>						

PO2 Monitor the performance of the plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
• Demonstrate a clear understanding of their role and responsibilities in relation to the work to be conducted	<input type="checkbox"/>	• Demonstrate a detailed understanding of the process and principles of preventative maintenance	<input type="checkbox"/>	• Demonstrate deeper technical/commercial knowledge of the maintenance operation being undertaken e.g. installation costs, technical requirements,	<input type="checkbox"/>
• Identify and give explanations of the main	<input type="checkbox"/>	• Pro-actively works with others to identify areas for improvement and follows	<input type="checkbox"/>		

PO2 Monitor the performance of the plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
monitoring points of the process		through on agreed implementation		planning, corrective/preventative	
• Demonstrate a clear plan for the work to be undertaken and an understanding of any safety / technical information given	<input type="checkbox"/>	• Make recommendations/ suggestions to improve work efficiencies	<input type="checkbox"/>	• Identify and implement tangible changes that improve the efficiency of the work being conducted	<input type="checkbox"/>
• Competently monitor the performance of the plant/ equipment to achieve the quality standards required by the company in a timely manner	<input type="checkbox"/>	• Produce a detailed work plan to support the maintenance operation including measures to deal with contingencies	<input type="checkbox"/>	• Identify and take action to report or deal with issues of non-conformity/compliance	<input type="checkbox"/>
• Where necessary, take actions to rectify any deviations from normal operations in a timely and effective manner	<input type="checkbox"/>			• Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken	<input type="checkbox"/>
• Complete the required checks and tests to confirm the work meets the	<input type="checkbox"/>				

PO2 Monitor the performance of the plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
accuracy, finish and quality standards required					
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.			Recording timeline.
Questions <i>Develop some open ended questions</i>					

PO3 Handover and accept responsibility for plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> Demonstrate a clear understanding of their role and responsibilities in relation to the handover procedure Confirm the level of detail to be handed over 	<input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate a detailed understanding of the technical principles of the handover process Demonstrate a detailed understanding of the potential limits/restrictions of the handover process 	<input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> Demonstrate deeper technical / commercial analysis of the handover process e.g. efficiencies, cost savings, process improvement Identify and implement tangible changes that improve 	<input type="checkbox"/> <input type="checkbox"/>

PO3 Handover and accept responsibility for plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • Demonstrate a clear understanding of the point at which the handover must be facilitated 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Pro-actively works with others to identify areas for improvement in the handover process 	<input type="checkbox"/>	<ul style="list-style-type: none"> the efficiency of the handover process 	
<ul style="list-style-type: none"> • Competently take responsibility for conducting the handover process in a controlled and timely manner 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Makes formal proposals to improve the handover process 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Identify and take action to report or deal with issues of non-conformity/compliance which affect the handover 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Keep all relevant parties informed with information that concerns them 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Produce a detailed work plan to support the handover process including measures to deal with contingencies 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to support the handover process 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Conduct the work in compliance with all relevant regulatory requirements and company policies 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • Complete the required records of the handover process to meet the quality standards required by the company 	<input type="checkbox"/>				

PO3 Handover and accept responsibility for plant and equipment			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

Appendix F: Practice Technical Interview Template

This document is for use by the employer/provider person playing the role of the assessor during a practice technical interview. It is designed to help replicate the live assessment experience and to enable feedback to be provided to the apprentice. The practice technical interview must be conducted under examination conditions and recorded. The apprentice must be asked questions.

There are a maximum of **100 marks** for the interview.

To achieve a Pass for the technical interview, a Pass is required in ALL relevant elements, including all skills from the specialist pathway.

To achieve a Merit or Distinction for the technical interview, all Pass criteria must be achieved PLUS a minimum number of merit and distinction marks as described in Section 3 in the Specification 'Grading and Grading Criteria – Component 3: Technical Interview.'

Apprentice Full Name:					
Employer and location:					
Assessor Full Name:					
Date of Interview:		Start time:		Finish time:	

K1 First principles relating to the operation and maintenance of appropriate plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> A working knowledge of the principles of operation for the range of plant/equipment they are responsible for The primary purpose of the range of plant/equipment worked on e.g. what the plant / equipment worked on does How the plant/equipment interacts within the overall system The typical characteristics of healthy and unhealthy operation for the range of plant/equipment worked on and how to identify the difference How they have used their knowledge of plant and equipment operating/maintenance principles to support their work decisions/activities 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> A detailed understanding by explaining additional technical detail of the operating principles of the plant/equipment they are responsible for e.g. operating limits, tolerances, restrictions, effects on system A detailed understanding by explaining additional technical detail of the function / interaction of the plant/equipment within the overall system e.g. synchronisation, effects on system How they have used their knowledge of plant and equipment operating/maintenance principles to improve or enhance operational activities 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> An excellent knowledge and thorough understanding of the relevant engineering principles relative to the operation and maintenance of plant and equipment encountered in their job role Evidence of conducting supporting technical analysis to gain a greater understanding of (a or b) a) the operating principles of plant/equipment worked on b) the function/effect of the plant/ equipment within the overall system Conducting technical research into the effects of new technologies on current/future maintenance requirements/methodologies 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.	Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>			

K2 Relevant industry health and safety standards, regulations, and environmental and regulatory requirements				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> A working knowledge of the relevant health, safety and environmental regulations and standards and how they impact the overall operation <input type="checkbox"/> A clear understanding of their responsibilities and those of others under the relevant company policies and procedures which apply to the range of work undertaken and describe why they are required <input type="checkbox"/> A knowledge of the company process/s and/or procedures <input type="checkbox"/> 		<ul style="list-style-type: none"> A detailed understanding of the relevant health, safety and environmental regulations and standards by explaining additional technical detail e.g. how they influence how the work is planned and/or conducted <input type="checkbox"/> Conducting reviews of work health, safety and environmental arrangements and their applicability and adapting them for changing circumstances whilst still maintaining safety <input type="checkbox"/> How they have readily accepted additional health, safety and <input type="checkbox"/> 		<ul style="list-style-type: none"> Excellent and thorough health, safety and environmental knowledge and understanding in relation to the wider impact of relevant industry working practices and regulations for their work activities <input type="checkbox"/> How they have taken a leading role in identifying health, safety and environmental deficiencies and then implementing the appropriate solution/s in line with <input type="checkbox"/> Company policies/procedures <input type="checkbox"/>

K2 Relevant industry health and safety standards, regulations, and environmental and regulatory requirements

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met		
<p>for achieving and maintaining safety when working on systems within their work role and how they impact the work e.g. safe systems of work, documentation</p> <ul style="list-style-type: none">A clear understanding of the purpose of conducting risk assessments and the factors which affect the critical reasoning when making risk assessment decisionsA knowledge of the Company procedure/s for reporting safety concerns and emergencies	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div>	<p>environmental responsibility/autonomy to maintain/improve work safety standards</p>		<ul style="list-style-type: none">How they have challenged unsafe behaviour/practices using appropriate techniques	<div><input type="checkbox"/></div>	
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>						

K3 Maintenance and operational practices, processes and procedures covering a range of plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria - Minimum two to be met	
<ul style="list-style-type: none"> • A working knowledge of the maintenance requirements for the range of plant/ equipment worked on within their job role 	<input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed knowledge of the company maintenance practices by explaining additional technical detail for maintenance procedures on plant/equipment 	<input type="checkbox"/>	<ul style="list-style-type: none"> • An excellent and thorough knowledge and understanding of relevant maintenance and operational practices/procedures for their job role 	<input type="checkbox"/>
<ul style="list-style-type: none"> • A working knowledge of the company's operational processes and procedures and how these have affected/influenced their maintenance work 	<input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed knowledge of the company operational processes and procedures which affect maintenance operations by explaining additional operational detail 	<input type="checkbox"/>	<ul style="list-style-type: none"> • An ability to analyse and provide valid justification for the company's maintenance procedures and/or operational practices for maintenance work on plant and equipment 	<input type="checkbox"/>
<ul style="list-style-type: none"> • Their planning process for conducting maintenance operations and the factors which have influenced their critical reasoning/decision making when planning their work 	<input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed knowledge of the range of testing procedures and the implications of the results obtained 	<input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed technical/commercial understanding of the effects of conducting maintenance procedures on Company plant/equipment e.g. cost, reliability, availability, sustainability 	<input type="checkbox"/>
<ul style="list-style-type: none"> • A working knowledge of the range and type of test procedures which they have used to confirm their work has met with company operational requirements and standards 	<input type="checkbox"/>				

<ul style="list-style-type: none">A knowledge of how their maintenance activities have impacted plant/equipment/others	<input type="checkbox"/>				
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

K4 The relevant engineering theories and principles relative to their occupation					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> A working knowledge of the range of relevant operational theories and principles which underpin their work 	<input type="checkbox"/>	<ul style="list-style-type: none"> A detailed knowledge of the relevant operational theories and principles which have supported and/or influenced their work activities 	<input type="checkbox"/>	<ul style="list-style-type: none"> An excellent and thorough knowledge and understanding of the relevant operational theories and principles relative to plant and equipment in their job role 	<input type="checkbox"/>
<ul style="list-style-type: none"> A working knowledge of the basic effect/influence of the relevant operational theories and principles which directly underpin their work activities 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have used relevant operational theories and principles to support / influence their work decisions/activities 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have used their understanding of relevant operational theories and principles to make suggestions which have influenced or led to an improved performance 	<input type="checkbox"/>
<ul style="list-style-type: none"> The benefits of being able to identify and apply the differing 	<input type="checkbox"/>	<ul style="list-style-type: none"> Their inclusion of operational formulae/theories/principles to 	<input type="checkbox"/>		

K4 The relevant engineering theories and principles relative to their occupation				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
operational theories and principles in relation to their job role e.g. maintenance inspections, fault finding	<input type="checkbox"/>	support their technical explanations in relation to their work activities		<ul style="list-style-type: none"> How they have conducted further technical research which is based on relevant operational theories and principles to support the effects of current or future technologies <input type="checkbox"/>
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>				Mark awarded.

S5 Locate, and rectify faults on plant and equipment				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> A working knowledge of the company policies and procedures for the location of faults on plant and equipment worked on <input type="checkbox"/>		<ul style="list-style-type: none"> A detailed knowledge of the company processes and procedures by explaining additional technical detail for the fault location methods/procedures <input type="checkbox"/>		<ul style="list-style-type: none"> An excellent knowledge/understanding in relation to fault location/rectification procedures within their job role <input type="checkbox"/>

S5 Locate, and rectify faults on plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> A clear understanding of the company policies and procedures in relation to achieving the safe isolation of equipment from relevant sources of energy and maintaining safety from the system 	<input type="checkbox"/>	<ul style="list-style-type: none"> conducted on plant/equipment/systems 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have used a range of methods to locate, and rectify faults on plant and equipment, with a detailed explanation/justification of their chosen methods 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they have used tools/equipment/techniques to inspect and identify faults on plant/equipment and develop sound solutions while recognising and defining problems 	<input type="checkbox"/>	<ul style="list-style-type: none"> A detailed understanding of the tools and equipment that can be used to identify and locate faults on plant/equipment/systems Their ability to take a lead in fault finding/rectification activities and accept additional responsibility/autonomy for the fault work undertaken 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have used their knowledge of fault location/rectification to improve/influence work outcomes 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they have used tools/equipment/techniques to repair faults and confirm the rectification to the quality standards required by company policies/procedures 	<input type="checkbox"/>				
<ul style="list-style-type: none"> How they have recorded / reported the results of fault- 					

S5 Locate, and rectify faults on plant and equipment

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
finding activities in line with Company procedures	<input type="checkbox"/>				
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.			Recording timeline.
Questions <i>Develop some open ended questions</i>					

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> A working knowledge of the range of information which can be gained from company policies and procedures which affect their work A working knowledge of the range and type of technical information/specifications 	<input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> How they have taken a lead in interpreting/relaying technical information to progress work or support others understanding How they have questioned/clarified information which was unclear or incorrect 	<input type="checkbox"/> <input type="checkbox"/>	

S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
available and how they are used to support work activities	<input type="checkbox"/>	• How they have reported/updated information which was not technically correct/accurate	<input type="checkbox"/>		
• How they have used company work information and technical specifications to conduct/support their work activities					
• Describe how they have used Company information to record/report the results of work carried out in line with company procedures	<input type="checkbox"/>				
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

S7 Inspect and maintain appropriate plant and equipment to meet operational requirements					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> How they have planned inspection and maintenance operations and the factors which influenced their critical reasoning/decisions during their planning process 	<input type="checkbox"/>	<ul style="list-style-type: none"> Their ability to explain in detail the range of skills, knowledge and behaviours they have used to support their conducted inspection/maintenance operations 	<input type="checkbox"/>	<ul style="list-style-type: none"> An excellent knowledge/understanding in relation to inspection/maintenance procedures within their job role 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they have implemented/complied with company operational processes and procedures during their conducted inspection and maintenance work 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have pro-actively worked with others to resolve problems during inspection/maintenance operations which supported work progression/performance 	<input type="checkbox"/>	<ul style="list-style-type: none"> Their ability to explain/justify the Company inspection and maintenance procedures used for a range of plant and equipment 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they have used tools/techniques/equipment to conduct maintenance inspection and maintenance procedures on a range of plant/equipment to meet company standards 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have taken action to report or deal with issues of nonconformity or non-compliance during inspection/maintenance work operations 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have taken a lead in accepting additional responsibility/autonomy to improve the outcome of inspection/maintenance operations 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they have used test equipment/procedures on 	<input type="checkbox"/>				

S7 Inspect and maintain appropriate plant and equipment to meet operational requirements					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
plant/equipment to confirm that the work completed met with Company operational requirements • How they have reported/recorded the outcome of their inspection and maintenance operations	<input type="checkbox"/>				
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.		Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
• A working knowledge of their role and responsibilities in the handover of the	<input type="checkbox"/>	• How they have taken a pro-active lead in the handover process by effectively communicating the detail of	<input type="checkbox"/>	• How they have consulted/involved team members/other relevant persons to achieve greater	<input type="checkbox"/>

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<p>system/equipment/plant back to operational service</p> <ul style="list-style-type: none"> A working knowledge of the Company process for the handover of plant/equipment which has been worked on How they have completed the required checks/tests to confirm the plant/equipment/system worked on meets operational requirements before conducting the handover process How they have completed the handover of plant/equipment in line with relevant company policies and procedures How they have confirmed the recipient/s of the handover process fully understand any critical information given 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>handover arrangements with stakeholders</p> <ul style="list-style-type: none"> Their ability to develop positive professional relationships with individuals to support the handover process and resolve any issues within their role responsibility How they have adapted their communication method/style to better suit the changing circumstances/needs of the work 	<input type="checkbox"/> <input type="checkbox"/>	<p>understanding and improved performance</p> <ul style="list-style-type: none"> Their ability to actively address conflict/ resolve problems with positive outcomes to build positive relationships and Their ability to effectively communicate technical information across a wide range of stakeholders e.g. colleagues, management, briefings/meetings, external clients 	<input type="checkbox"/> <input type="checkbox"/>

S8 Communicate, handover and confirm that the appropriate engineering process has been completed to specification				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> How they have completed the company process for reporting/ recording the handover of plant/equipment back into service in line with company procedures 	<input type="checkbox"/>			
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.		Recording timeline.
Questions <i>Develop some open ended questions</i>				Mark awarded.

Pathway: Plant Operations Role Specialist Skills

PO1 Carry out planned operating procedures on plant and equipment				
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met
<ul style="list-style-type: none"> A working knowledge of their responsibilities for the range of work activities within their job role in line with company policies and procedures 	<input type="checkbox"/>	<ul style="list-style-type: none"> A detailed understanding of the range and technical requirements of the plant and equipment worked on 	<input type="checkbox"/>	<ul style="list-style-type: none"> An excellent knowledge and understanding in relation to the range and technical operational requirements of the plant and equipment worked on

PO1 Carry out planned operating procedures on plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • A working knowledge of where to obtain technical information in relation to the planned activities 	<input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed technical understanding for the factors which can affect their critical reasoning when making decisions to resolve technical problems 	<input type="checkbox"/>	<ul style="list-style-type: none"> • Their ability to explain/justify the Company operational methods/processes/procedures used for the range of plant and equipment worked on 	<input type="checkbox"/>
<ul style="list-style-type: none"> • How they have used tools and equipment to conduct a range of operational activities in compliance with all company HSE requirements 	<input type="checkbox"/>	<ul style="list-style-type: none"> • How they have taken a pro-active lead in organising/controlling their conducted work activities which has led to a successful completion 	<input type="checkbox"/>	<ul style="list-style-type: none"> • How they have taken a lead in accepting additional responsibility/autonomy to improve the outcome of their operational work activities 	<input type="checkbox"/>
<ul style="list-style-type: none"> • How they completed the required procedures to confirm the operational conditions meet company requirements 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • How they have used critical reasoning to identify and resolve technical problems within their control effectively during their range of work activities 	<input type="checkbox"/>				
<ul style="list-style-type: none"> • How they reported/recorded the work conducted and returned the work area to a 	<input type="checkbox"/>				

PO1 Carry out planned operating procedures on plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
safe condition in line with company procedures					
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.		Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

PO2 Monitor the performance of the plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> A working knowledge of their responsibilities and for the range of monitoring activities within their job role 	<input type="checkbox"/>	<ul style="list-style-type: none"> A detailed knowledge of the level of monitoring to be applied to specific plant and equipment 	<input type="checkbox"/>	<ul style="list-style-type: none"> An excellent knowledge of the level of monitoring to be applied to specific plant and equipment 	<input type="checkbox"/>
<ul style="list-style-type: none"> A working knowledge of where to obtain technical information relating to operating specifications 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they made recommendations of improvements to the ways in which process plant and equipment is monitored 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have identified and recommended operational changes that have subsequently been implemented 	<input type="checkbox"/>
<ul style="list-style-type: none"> How they prioritise monitoring the performance of 	<input type="checkbox"/>	<ul style="list-style-type: none"> How they have identified and responded to operational 	<input type="checkbox"/>	<ul style="list-style-type: none"> How their monitoring actions have prevented a shutdown of plant and equipment 	<input type="checkbox"/>

PO2 Monitor the performance of the plant and equipment					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
plant/equipment to ensure operating conditions are within specification • How will they ensure that regulatory requirements and company policies are achieved and maintained • How they responded to non-compliances in operational conditions • How they maintained clear and legible records of operational conditions in line with company procedures	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	changes thus preventing potential process shutdowns			
Assessor must ask the following standardised questions.		Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.		Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

AND

PO4 Respond to contingencies

Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none"> • A working knowledge of their role and responsibilities and those of others in relation to the handover procedure • How they facilitate the handover taking into account the relevant safety/technical requirements • How they kept other relevant parties informed with information that concerns them • How they have conducted the required checks / test procedures to confirm the plant / equipment worked on can be returned to operational service • How they record and receive information at the point of handover 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • A detailed understanding of the technical principles of the handover process • How they pro-actively worked with others to identify areas for improvement in the handover process repaired • How they produced a detailed work plan to support the handover process including measures to deal with contingencies • A detailed understanding of their role and responsibilities in relation in responding to abnormal operational parameters and safety specifications • How they followed emergency response procedures when 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<ul style="list-style-type: none"> • An excellent technical/commercial analysis of the handover process e.g. efficiencies, cost savings, process improvement • How they identified and implemented tangible changes that improved the efficiency of the handover process • How recommendations they identified to operational procedures were implemented 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

PO3 Handover and accept responsibility for plant and equipment AND PO4 Respond to contingencies					
Pass Criteria – All to be met		Merit Criteria – Minimum two to be met		Distinction Criteria – Minimum two to be met	
<ul style="list-style-type: none">A working knowledge of their role and responsibilities in relation to responding to abnormal operational conditions and safety specificationsHow they would follow emergency response procedures when safety conditions were compromised	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div>	safety conditions were compromised			
Assessor must ask the following standardised questions.	Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.			Recording timeline.	Mark awarded.
Questions <i>Develop some open ended questions</i>					

Appendix G: Portfolio Mapping Document

Introduction

Throughout the on-programme part of the apprenticeship, the apprentice will need to compile a portfolio of evidence to support the requirements of the technical interview which is based on the portfolio. The evidence within the portfolio will need to be mapped by the apprentice to the KSB requirements using the portfolio mapping document below.

The independent assessor will use the portfolio mapping document to review the evidence in the apprentice's portfolio in preparation for the technical interview.

The portfolio mapping document below consists of the core requirements and specialist skills.

Apprentices next steps

1. Complete all the details on the first page and include employer details of where relevant competencies from their experience at work was gained.
2. Ensure each piece of evidence is signed off by their tutor/supervisor/mentor and training provider. The apprentice can use a number of different types of evidence to demonstrate their competence as described in Section 5 of the Specification – 'What to include in the portfolio of evidence'. For further guidance, the apprentice must seek advice from their tutor/supervisor/mentor and training provider.
3. Map evidence to the criteria in the following pages using a referencing system indicating where the evidence for the criteria is located in the portfolio e.g., work based evidence Job 1 (J1) page 5 paragraph 2. This will allow the independent assessor, appointed by Energy & Environment Awards to locate the section or specific piece of evidence being discussed and referred to during the interview.
4. Place the portfolio mapping document at the front of the portfolio of evidence.

The apprentice's training provider must make arrangements for Energy & Environment Awards to have access to the apprentice's portfolio including the portfolio mapping document at Gateway. For those using e-portfolios such as ONEFILE or SMARTASSESSOR the reference used must simply be the file or folder name you used when uploading the evidence to such systems.

Portfolio Mapping Document

This document must be placed at the front of the Portfolio and submitted to Energy & Environment Awards with the Portfolio.

Mapping Sign off on Completion:

Apprentice Full Name (Print)	Apprentice Signature	Training Provider (Company)	Training Provider Full Name of Signatory	Date of Sign Off

Core Knowledge

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)		
		1	2	3
K1	First principles relating to operation and maintenance of plant and equipment			
K2	Relevant industry health and safety standards, regulations and environmental and regulatory requirements			
K3	Maintenance and operational practices, processes and procedures			
K4	Relevant engineering theories and principles			
Assessor Comments:				

Core Skills

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)		
		1	2	3
S5	Locate, and rectify faults on plant and equipment			
S6	Read, understand, interpret and work to technical information			
S7	Inspect and maintain plant and equipment			
S8	Communicate, handover and confirm that the appropriate engineering process has been completed			
Assessor Comments:				

Core Behaviours

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)		
		1	2	3
B5	Critical reasoning			
Assessor Comments:				

Pathway: Plant Operations Specific Skills

Ref.	Apprenticeship Standard Criteria	PORTFOLIO REVIEW (Apprentice Input)		
		1	2	3
PO1	Carry out planned operating procedures on plant and equipment			
PO2	Monitor the performance of the plant and equipment			
PO3	Handover and accept responsibility for plant and equipment			
PO4	Respond to contingencies			
Assessor Comments:				

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