



ENERGY &  
ENVIRONMENT  
AWARDS

Skills for a greener world

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

## **Supporting Documents**

QAN 610/6007/0

ST0154 V1.0 V1.1 V1.2 V1.3

# Supporting Documents for

## EEA Level 3 End-point Assessment for Maintenance and Operations Engineering Technician (Wind Turbine)

QAN 610/6007/0

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## Updates to the supporting documents

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

| Version | Date first published | Section updated   | Page(s) |
|---------|----------------------|---|---------|
| v4.0    | August 2025          | Rebranded   | All     |
| v3.0    | 2023                 | Appendix C: Sample Answer Sheet   | 25      |
|         |                      | Appendix G: Replaced (Assessor Use Only) with (Apprentice Input)              | 81 - 84 |
|         |                      | Footer for V2.0 below stated V3.0 this has been removed. This version is v3.0 | All     |
| V2.0    | 2023                 | New template and rebranded  | All     |
| V1.0    | 2020                 | 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 Version: ST0154 version 1.2; Assessment Plan Version: ST0154/AP02)

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

### 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.

|  |                   |              |
|--|-------------------|--------------|
| <b>Signed on behalf of the employer (print name):</b>          | <b>Signature:</b> | <b>Date:</b> |
|  |                   |              |
| <b>Signed on behalf of the training provider (print name):</b> | <b>Signature:</b> | <b>Date:</b> |
|  |                   |              |
| <b>Apprentice's name (print):</b>                              | <b>Signature:</b> | <b>Date:</b> |
|  |                   |              |

|  |  |
|--|--|
| <b>Energy &amp; Environment Awards use only:</b> |  |
| <b>Energy &amp; Environment Awards Sign off:</b> |  |
| <b>Comments/actions:</b>                         |  |

## Appendix C: Practice Knowledge Assessments: Wind Turbine

Level: 3

Maintenance and Operations Engineering Technician

Pathway: Wind Turbine

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:

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

| <b>Question 1</b>  |                  |
|--|------------------|
| On what type of installation would a technician fit this design of washer? |                  |
| <b>Possible answers</b>  |                  |
| a)   | High corrosion   |
| b)   | High temperature |
| c)   | High vibration   |
| d)   | High pressure    |



| <b>Question 2</b>   |                     |
|---|---------------------|
| 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? |                     |
| <b>Possible answers</b>   |                     |
| 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 |

| <b>Question 3</b>                               |   |
|---|---|
| Safety critical equipment should be maintained: |   |
| <b>Possible answers</b>                         |   |
| 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?

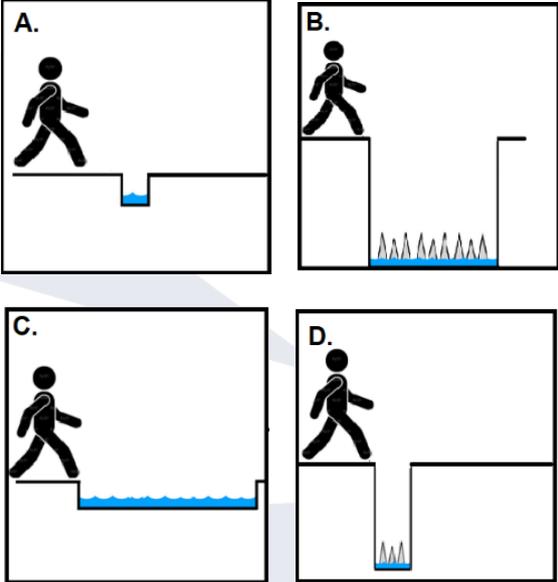
**Possible answers**

|    |                    |
|----|--------------------|
| a) | Risk assessment    |
| b) | Safety certificate |
| c) | Approved Scafftag  |
| 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 |  |

**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?

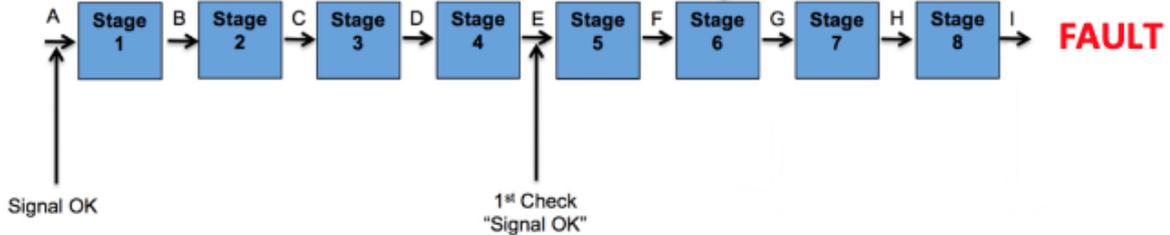
**Possible answers**

|    |   |
|----|---|
| 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 |



[Turn to the next page for question 21]

**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**

Where would you commonly find the transformer on a sub megawatt (MW) wind turbine?

**Possible answers**

|    |                |
|----|----------------|
| a) | In the hub     |
| b) | At the base    |
| c) | In the nacelle |
| d) | In the rotor   |

**Question 23**

What does RPM stand for when seen on a gearbox?

**Possible answers**

|    |                             |
|----|-----------------------------|
| a) | Revolutions per minute      |
| b) | Revolutions per metre       |
| c) | Rotations per millimetre    |
| d) | Rotational pressure monitor |

**Question 24**

0.5 of kilowatt is equal to:

**Possible answers**

|    |            |
|----|------------|
| a) | 5000 Watts |
| b) | 500 Watts  |
| c) | 50 Watts   |
| d) | 5 Watts    |

**Question 25**

What is the purpose of the gearbox in a wind turbine?

**Possible answers**

|    |  |
|----|--|
| a) | Increase rotational speed to the blades    |
| b) | Increase torque to the blades              |
| c) | Increase rotational speed to the generator |
| d) | Increase torque to the generator           |

**Question 26**

What is the name of the wind turbine component indicated by the arrow?

**Possible answers**

|    |         |  |
|----|---------|--|
| a) | Nacelle |  |
| b) | Rotor   |  |
| c) | Transit |  |
| d) | Hub     |  |

**Question 27**

Assume a feedback signal range between 4–20 mA. A temperature transmitter with a range of 0–400 degree C has a feedback signal of 8mA.

Assuming the transmitter is calibrated correctly, what is the actual temperature reading?

**Possible answers**

|    |               |
|----|---------------|
| a) | 150 degrees C |
| b) | 100 degrees C |
| c) | 75 degrees C  |
| d) | 50 degrees C  |

**Question 28**

What is the most likely cause of high vibration found at the coupling of the gearbox and electric generator?

**Possible answers**

|    |                   |
|----|-------------------|
| a) | High wind         |
| b) | Bearing failure   |
| c) | High temperature  |
| d) | Faulty controller |

[Turn to the next page for question 29]

**Question 29**

Blue or brown discolouration on a bearing often indicates what problem?

**Possible answers**

|    |                   |
|----|-------------------|
| a) | Corrosion         |
| b) | Erosion           |
| c) | Mechanical damage |
| d) | Bearing failure   |

**Question 30**

The power available in a wind of speed  $V$  is proportional to:

**Possible answers**

|    |                       |
|----|-----------------------|
| a) | $1 \div V$            |
| b) | $0.5 \times V$        |
| c) | $V \times V$          |
| d) | $V \times V \times V$ |

End of Questions

## Practice Knowledge Assessment

### Wind Turbine - 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       | B      |
| 25       | C      |
| 26       | D      |
| 27       | B      |
| 28       | B      |
| 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.

**DO NOT** use ticks or crosses.

**DO NOT** use circles.

**DO NOT** shade over more than one circle.

|  |  |  |
|--|--|--|
| 1 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 21 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 2 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 22 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 3 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 23 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 4 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 24 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 5 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 25 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 6 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 26 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 7 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 27 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 8 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 28 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 9 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>  | 29 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 10 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> | 30 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |
| 11 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 12 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 13 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 14 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 15 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 16 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 17 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 18 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 19 <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> |  |  |
| 20 <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.

The Energy & Environment Awards offer an optional service to 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

|  |  |
|--|--|
| <b>Employer name and site address</b>  |  |
| <b>Training provider (if applicable)</b>   |  |
| <b>Standard</b>  | <b>Maintenance and Operations Engineering Technician</b> |
| <b>Pathway</b>   | <b>Wind Turbine</b>                                      |
| <b>Level</b>   | <b>3</b>   |
| <b>Location of practical</b>   |  |
| <b>Contact Details:</b><br>Employer/training provider representative, email address and contact number overseeing the setup of the competency test (documents and site). |  |
| <b>Energy &amp; Environment Awards Date of review:</b>   |  |

|   |
|---|
| <b>Description of the proposed complex task(s):</b>                 |
| <b>Special requirements (for example: access arrangements/PPE):</b> |

|                                  |                            |
|----------------------------------|----------------------------|
| <b>Equipment/tools required:</b> | <b>Resources required:</b> |
|                                  |                            |

## 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      |
|---|--------------------------|
| <b>S1</b> Comply with industry health, safety and environmental working practices and regulations   | <input type="checkbox"/> |
| <b>S2</b> Communicate with and provide information to stakeholders in line with personal role and responsibilities  | <input type="checkbox"/> |
| <b>S3</b> Prepare work areas to undertake work related activities and reinstate those areas after the completion of the work-related activities   | <input type="checkbox"/> |
| <b>S4</b> Assess and test the performance and condition of plant and equipment  | <input type="checkbox"/> |
| <b>S5</b> Locate, and rectify faults on plant and equipment   | <input type="checkbox"/> |
| <b>S6</b> Read, understand and interpret information and work in compliance with technical specifications and supporting documentation  | <input type="checkbox"/> |
| <b>S7</b> Inspect and maintain appropriate plant and equipment to meet operational requirements   | <input type="checkbox"/> |
| <b>S8</b> Communicate, handover and confirm that the appropriate engineering process has been completed to specification  | <input type="checkbox"/> |
| Core Behaviours   | Covered on activity      |
| <b>B1 Health and Safety</b> - 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"/> |
| <b>B2 Quality focused</b> - Ensures that work achieves quality standard both occupationally and personally  | <input type="checkbox"/> |
| <b>B3 Working with others</b> - 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"/> |
| <b>B4 Interpersonal skills</b> - Gets along well with others and takes into account their needs and concerns  | <input type="checkbox"/> |

|   |                          |
|---|--------------------------|
| <b>B6 Sustainability and ethical behaviour</b> - Behaves ethically and undertakes work in a way that contributes to sustainable development   | <input type="checkbox"/> |
| <b>B7 Risk awareness</b> - 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"/> |
| <b>PLUS</b> select the MAIN Specialist Skill covered by the practical   | Covered on activity      |
| <b>Pathway: Wind Turbine Specialist Skills</b>  |                          |
| <b>WT1</b> Install, assemble, commission and dismantle wind turbine plant and equipment, which will include pitch systems, yaw systems, switchgear, control systems to agreed specifications    | <input type="checkbox"/> |
| <b>WT2</b> Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems  | <input type="checkbox"/> |
| <b>WT3</b> Replace, and/or remove components in wind turbine plant and equipment and ensure its return to operational condition   | <input type="checkbox"/> |
| <b>WT4</b> Diagnose and determine the cause of faults in wind turbine plant and equipment   | <input type="checkbox"/> |
| <b>Estimated total duration of practical (must be a minimum of 4 hours)</b>   |                          |

**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)

|  |
|--|
|  |
|--|

Energy & Environment Awards Office use only

|                        |  |
|------------------------|--|
| <b>Date received</b>   |  |
| <b>Date signed off</b> |  |

## 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): | <b>Grade</b> |
|  |              |

**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**

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

| <b>S1 Comply with industry health, safety and environmental working practices and regulations</b>   |  |   |  |   |                      |
|---|--|---|--|---|----------------------|
| <b>Pass Criteria – All to be met</b>  |  | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b> |                      |
| <ul style="list-style-type: none"> <li>• Comply with and apply safe systems of work and maintain a safe working environment</li> <li>• Inspect and use the appropriate tools and equipment <input type="checkbox"/></li> <li>• Regularly re-assess the site conditions and take action when necessary to maintain site safety <input type="checkbox"/></li> <li>• Check to ensure the site is left in a safe/secure condition for others</li> </ul> |  |   |  |   |                      |
| <b>Assessor must ask the following standardised questions.</b>  |  | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          | <b>Mark awarded.</b> |
| <b>Questions</b><br><i>Develop some open ended questions</i>  |  |   |  |   |                      |









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

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



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

| <b>S6 Read, understand and interpret information and work in compliance with technical specifications and supporting documentation</b>                |                          |  |                          |   |
|---|--------------------------|--|--------------------------|---|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b>  |                          | <b>Distinction Criteria – Minimum two to be met</b> |
| <ul style="list-style-type: none"> <li>Read and correctly interpret a range of technical information provided to plan and conduct the work</li> </ul> | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>Demonstrate a detailed knowledge of the range and purpose of the technical information available</li> </ul> | <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 |
|--|---|--|
| <ul style="list-style-type: none"> <li>• Demonstrate a clear understanding of the purpose and use of the technical information provided for the work <input type="checkbox"/></li> <li>• Use and refer to the technical information provided to check/confirm the work conducted meets the required company standards/specifications <input type="checkbox"/></li> <li>• Where necessary, question/clarify any information which is not clearly understood <input type="checkbox"/></li> <li>• Complete any technical or supporting documentation in line with company policies/procedures <input type="checkbox"/></li> </ul> | <ul style="list-style-type: none"> <li>• Identify inaccuracies/deficiencies in the technical information provided and resolve/report the situation <input type="checkbox"/></li> <li>• Challenge in a professional manner any areas of concern to clarify understanding <input type="checkbox"/></li> <li>• Identify/suggest methods of improving the system/use of information <input type="checkbox"/></li> </ul> |  |









| <b>B1 Health and Safety</b>   |                          |   |   |                            |                      |
|---|--------------------------|---|---|----------------------------|----------------------|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b>   | <b>Distinction Criteria – Minimum two to be met</b> |                            |                      |
| <ul style="list-style-type: none"> <li>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</li> </ul> | <input type="checkbox"/> |   |   |                            |                      |
| <b>Assessor must ask the following standardised questions.</b>  |                          | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |   | <b>Recording timeline.</b> | <b>Mark awarded.</b> |
| <b>Questions</b><br><i>Develop some open ended questions</i>  |                          |   |   |                            |                      |

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

| <b>B3 Working with others</b>   |                          |   |   |  |
|---|--------------------------|---|---|--|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b> | <b>Distinction Criteria – Minimum two to be met</b> |  |
| <ul style="list-style-type: none"> <li>Has the ability to work well with people from different disciplines, backgrounds and expertise to accomplish an activity safely and on time</li> </ul> | <input type="checkbox"/> |   |   |  |

| <b>B3 Working with others</b>                                  |   |                            |                      |
|--|---|----------------------------|----------------------|
| <b>Assessor must ask the following standardised questions.</b> | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> | <b>Recording timeline.</b> | <b>Mark awarded.</b> |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |   |                            |                      |

| <b>B4 Interpersonal skills</b>   |   |   |                      |
|--|---|---|----------------------|
| <b>Pass Criteria – All to be met</b>   | <b>Merit Criteria – Minimum two to be met</b>   | <b>Distinction Criteria – Minimum two to be met</b> |                      |
| <ul style="list-style-type: none"> <li>Gets along well with others and takes into account their needs and concerns</li> </ul> <input type="checkbox"/> |   |   |                      |
| <b>Assessor must ask the following standardised questions.</b>   | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> | <b>Recording timeline.</b>                          | <b>Mark awarded.</b> |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |   |   |                      |

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

| <b>B7 Risk awareness</b>  |                          |   |   |  |
|---|--------------------------|---|---|--|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b> | <b>Distinction Criteria – Minimum two to be met</b> |  |
| <ul style="list-style-type: none"> <li>Demonstrates high concentration, the desire to reduce risks, ability to be compliant and awareness of change, through regular</li> </ul> | <input type="checkbox"/> |   |   |  |



**WT1** Install, assemble, commission and dismantle wind turbine plant and equipment, which will include pitch systems, yaw systems, switchgear, control systems to agreed specifications

| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b>   |  |
|--|--|--|--|---|--|
| <ul style="list-style-type: none"> <li>• Demonstrate a clear plan for the work to be undertaken and an understanding of any safety/technical information given <input type="checkbox"/></li> <li>• Use tools and equipment to competently achieve the quality standards required by the company in a timely manner <input type="checkbox"/></li> <li>• Conduct the work in compliance with all relevant regulatory requirements and company policies and procedures <input type="checkbox"/></li> <li>• Deal effectively with any issues within their role responsibilities, where necessary <input type="checkbox"/></li> </ul> |  | <ul style="list-style-type: none"> <li>• and follows through on agreed implementation</li> <li>• Make recommendations</li> <li>• /suggestions to improve work efficiencies</li> <li>• Produce a detailed work plan to support the work delivery including measures to deal with contingencies</li> </ul> |  | <ul style="list-style-type: none"> <li>• Identify and implement tangible changes that improve the efficiency of the work being conducted <input type="checkbox"/></li> <li>• Identify and take action to report or deal with issues of nonconformity/compliance <input type="checkbox"/></li> <li>• Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken <input type="checkbox"/></li> </ul> |  |

| <b>WT1 Install, assemble, commission and dismantle wind turbine plant and equipment, which will include pitch systems, yaw systems, switchgear, control systems to agreed specifications</b> |  |   |  |   |
|--|--|---|--|---|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b> |
| <ul style="list-style-type: none"> <li>Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required</li> </ul>                       |  |   |  |   |
| <b>Assessor must ask the following standardised questions.</b>   |  | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |  |   |  | <b>Mark awarded.</b>                                |

| <b>WT2 Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems</b>         |  |  |  |  |
|--|--|--|--|--|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b>  |
| <ul style="list-style-type: none"> <li>Demonstrate a clear understanding of their role and responsibilities in relation to the work to be conducted</li> </ul> |  | <ul style="list-style-type: none"> <li>Demonstrate a detailed understanding of the process and principles of preventative maintenance</li> <li>Pro-actively works with others to identify areas for improvement</li> </ul> |  | <ul style="list-style-type: none"> <li>Demonstrate deeper technical/commercial knowledge of the maintenance operation being undertaken e.g. installation costs, technical</li> </ul> |



| <b>WT2 Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems</b>                 |  |   |  |   |
|--|--|---|--|---|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b> |
| responsibilities, where necessary  |  |   |  |   |
| <ul style="list-style-type: none"> <li>Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required</li> </ul> |  |   |  |   |
| <b>Assessor must ask the following standardised questions.</b>   |  | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |  |   |  | <b>Mark awarded.</b>                                |

| <b>WT3 Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition.</b> |                          |  |                          |  |                          |
|---|--------------------------|--|--------------------------|--|--------------------------|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b>  |                          | <b>Distinction Criteria – Minimum two to be met</b>  |                          |
| <ul style="list-style-type: none"> <li>Demonstrate a clear understanding of their role and</li> </ul>                                   | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>Demonstrate a detailed understanding of the causes and</li> </ul> | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>Demonstrate deeper technical/commercial knowledge of the</li> </ul> | <input type="checkbox"/> |

**WT3** Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition.

| <b>Pass Criteria – All to be met</b>   |                          | <b>Merit Criteria – Minimum two to be met</b>  |                          | <b>Distinction Criteria – Minimum two to be met</b>   |                          |
|--|--------------------------|--|--------------------------|---|--------------------------|
| responsibilities in relation to the work to be conducted   |                          | principles of component degradation  |                          | repair/replacement work being undertaken e.g. costs, effect on maintenance periods, equipment sustainability  |                          |
| <ul style="list-style-type: none"> <li>• Provide an accurate technical explanation for the purpose of the maintenance work</li> </ul>  | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Demonstrate a detailed understanding of the limits/restrictions of component replacement or repair e.g. In terms of reliability, certification of instruments/systems etc.</li> </ul> | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Identify and implement tangible changes that improve the efficiency of the work being conducted</li> </ul>   | <input type="checkbox"/> |
| <ul style="list-style-type: none"> <li>• Demonstrate a clear plan for the work to be undertaken and an understanding of any safety/technical information given</li> </ul>          | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Pro-actively works with others to identify areas for improvement and follows through on agreed implementation</li> </ul>  | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Identify and take action to report or deal with issues of nonconformance/compliance</li> </ul>   | <input type="checkbox"/> |
| <ul style="list-style-type: none"> <li>• Use tools and equipment to competently carry out the removal/replacement of components in a logical sequence and timely manner</li> </ul> | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Make recommendations/suggestions to improve work efficiencies</li> </ul>  | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Demonstrate the ability to take a lead in accepting additional responsibility and autonomy to achieve/improve the work being undertaken</li> </ul> | <input type="checkbox"/> |
| <ul style="list-style-type: none"> <li>• Conduct the work in compliance with all relevant regulatory requirements and company procedures</li> </ul>                                | <input type="checkbox"/> | <ul style="list-style-type: none"> <li>• Produce a detailed work plan to support the maintenance operation including measures to deal with contingencies</li> </ul>  | <input type="checkbox"/> |   |                          |
|  | <input type="checkbox"/> |  |                          |   |                          |

| <b>WT3 Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition.</b>  |                          |   |  |   |
|--|--------------------------|---|--|---|
| <b>Pass Criteria – All to be met</b>   |                          | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b> |
| <ul style="list-style-type: none"> <li>Deal effectively with any issues within their role responsibilities, where necessary</li> <li>Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required</li> </ul> | <input type="checkbox"/> |   |  |   |
| <b>Assessor must ask the following standardised questions.</b>   |                          | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |                          |   |  | <b>Mark awarded.</b>                                |



| <b>WT4 Diagnose and determine the cause of faults in wind turbine plant and equipment</b>   |                          |   |  |   |                      |
|---|--------------------------|---|--|---|----------------------|
| <b>Pass Criteria – All to be met</b>  |                          | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b> |                      |
| <ul style="list-style-type: none"> <li>• Correctly analyse and interpret the results of the fault-finding techniques conducted</li> <li>• Conduct the work in compliance with all relevant regulatory requirements and company policies and procedures</li> <li>• Complete the required checks and tests to confirm the work meets the accuracy, finish and quality standards required</li> </ul> | <input type="checkbox"/> |   |  |   |                      |
| <b>Assessor must ask the following standardised questions.</b>  |                          | <b>Assessor must record all additional questions asked for clarification and the responses provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          | <b>Mark awarded.</b> |
| <b>Questions</b><br><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: |  |





| <b>K2 Relevant industry health and safety standards, regulations, and environmental and regulatory requirements</b>  |  |   |  |   |   |
|--|--|---|--|---|---|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b>   |   |
| <p>procedures which apply to the range of work undertaken and describe why they are required</p> <p><input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• A knowledge of the company process/s and/or procedures 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</li> </ul> <p><input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• A clear understanding of the purpose of conducting risk assessments and the factors which affect the critical reasoning when making risk assessment decisions</li> </ul> <p><input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• A knowledge of the Company procedure/s for reporting</li> </ul> |  | <p>arrangements and their applicability and adapting them for changing circumstances whilst still maintaining safety</p> <p><input type="checkbox"/></p> <ul style="list-style-type: none"> <li>• How they have readily accepted additional health, safety and environmental responsibility/autonomy to maintain/improve work safety standards</li> </ul> |  | <p>and environmental deficiencies and then implementing the appropriate solution/s in line with</p> <ul style="list-style-type: none"> <li>• Company policies/procedures</li> <li>• How they have challenged unsafe behaviour/practices using appropriate techniques</li> </ul> | <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> |





| <b>K3 Maintenance and operational practices, processes and procedures covering a range of plant and equipment</b> |   |   |  |
|---|---|---|--|
| <b>Pass Criteria – All to be met</b>  | <b>Merit Criteria – Minimum two to be met</b> | <b>Distinction Criteria - Minimum two to be met</b> |  |
| <b>Questions</b><br><i>Develop some open ended questions</i>  |   |   |  |

| <b>K4 The relevant engineering theories and principles relative to their occupation</b>  |  |  |  |
|--|--|--|--|
| <b>Pass Criteria – All to be met</b>   | <b>Merit Criteria – Minimum two to be met</b>  | <b>Distinction Criteria – Minimum two to be met</b>  |  |
| <ul style="list-style-type: none"> <li>• A working knowledge of the range of relevant operational theories and principles which underpin their work <input type="checkbox"/></li> <li>• A working knowledge of the basic effect/influence of the relevant operational theories and principles which directly underpin their work activities <input type="checkbox"/></li> <li>• The benefits of being able to identify and apply the differing operational theories and principles in relation to their job role e.g. maintenance inspections, fault finding <input type="checkbox"/></li> </ul> | <ul style="list-style-type: none"> <li>• A detailed knowledge of the relevant operational theories and principles which have supported and/or influenced their work activities <input type="checkbox"/></li> <li>• How they have used relevant operational theories and principles to support / influence their work decisions/activities <input type="checkbox"/></li> <li>• Their inclusion of operational formulae/theories/principles to support their technical explanations in relation to their work activities <input type="checkbox"/></li> </ul> | <ul style="list-style-type: none"> <li>• 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"/></li> <li>• 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"/></li> <li>• How they have conducted further technical research which is based on relevant operational theories and principles to <input type="checkbox"/></li> </ul> |  |

| <b>K4 The relevant engineering theories and principles relative to their occupation</b>  |  |  |  |   |
|--|--|--|--|---|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b>   |
| <ul style="list-style-type: none"> <li>A working knowledge of how to apply the relevant operational formulae which can be used to support their work activities</li> </ul> |  |  |  | support the effects of current or future technologies |
| <b>Assessor must ask the following standardised questions.</b>   |  | <b>Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                            |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |  |  |  | <b>Mark awarded.</b>                                  |

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









| <b>S7 Inspect and maintain appropriate plant and equipment to meet operational requirements</b>  |  |  |  |   |
|--|--|--|--|---|
| <b>Pass Criteria – All to be met</b>   |  | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b> |
| <ul style="list-style-type: none"> <li>• How they have used test equipment/procedures on plant/equipment to confirm that the work completed met with Company operational requirements</li> <li>• How they have reported/recorded the outcome of their inspection and maintenance operations</li> </ul> |  |  |  |   |
| <b>Assessor must ask the following standardised questions.</b>   |  | <b>Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |  |  |  | <b>Mark awarded.</b>                                |



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



| <b>WT1 Install, and determine the cause of faults in wind turbine plant and equipment</b>  |   |  |  |   |
|--|---|--|--|---|
| <b>Pass Criteria – All to be met</b>   |   | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b> |
| <ul style="list-style-type: none"> <li>How they have used critical reasoning to identify and resolve technical problems within their control effectively during their range of work activities</li> <li>How they have reported/recorded the work conducted and returned the work area to a safe condition in line with company procedures</li> </ul> | □ | organising/controlling their conducted work activities which has led to a successful completion  |  |   |
| <b>Assessor must ask the following standardised questions.</b>   |   | <b>Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |   |  |  | <b>Mark awarded.</b>                                |

**WT2 Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems**

| <b>Pass Criteria – All to be met</b>  |  | <b>Merit Criteria – Minimum two to be met</b>   |  | <b>Distinction Criteria – Minimum two to be met</b>   |  |
|---|--|---|--|---|--|
| <ul style="list-style-type: none"> <li>• A working knowledge of their responsibilities for the range of work activities within their job role <input type="checkbox"/></li> <li>• How they have used company policies/procedures/specifications to conduct a range of maintenance procedures work activities <input type="checkbox"/></li> <li>• How they have used tools and equipment to conduct a range of maintenance procedures in compliance with all company health, safety and environmental processes, policies and regulatory requirements <input type="checkbox"/></li> <li>• How they have conducted the required checks/test procedures to confirm the completed maintenance work meets company requirements <input type="checkbox"/></li> </ul> |  | <ul style="list-style-type: none"> <li>• A detailed understanding of the range and technical requirements of the plant and equipment worked on <input type="checkbox"/></li> <li>• A detailed technical understanding for the range of methods/techniques used for maintenance work undertaken <input type="checkbox"/></li> <li>• A detailed technical understanding for the factors which can affect their critical reasoning when making decisions to resolve technical problems <input type="checkbox"/></li> <li>• How they have taken a proactive lead in organising/controlling their conducted work activities which has led to a successful completion <input type="checkbox"/></li> </ul> |  | <ul style="list-style-type: none"> <li>• An excellent knowledge and understanding in relation to the range and technical maintenance requirements of the plant and equipment worked on <input type="checkbox"/></li> <li>• Their ability to explain/justify the company maintenance methods/processes/procedures used for the range of plant and equipment worked on <input type="checkbox"/></li> <li>• How they have taken a lead in accepting additional responsibility/autonomy to improve the outcome of their maintenance work activities <input type="checkbox"/></li> </ul> |  |

| <b>WT2 Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems</b>   |                          |  |  |   |                      |
|--|--------------------------|--|--|---|----------------------|
| <b>Pass Criteria – All to be met</b>   |                          | <b>Merit Criteria – Minimum two to be met</b>  |  | <b>Distinction Criteria – Minimum two to be met</b> |                      |
| <ul style="list-style-type: none"> <li>How they have used critical reasoning to identify and resolve technical problems within their control effectively during their range of work activities</li> <li>How they have reported/recorded the work conducted and returned the work area to a safe condition in line with company procedures</li> </ul> | <input type="checkbox"/> |  |  |   |                      |
| <b>Assessor must ask the following standardised questions.</b>   |                          | <b>Assessor must record all additional questions asked for clarification and the response provided by the apprentice including examples.</b> |  | <b>Recording timeline.</b>                          | <b>Mark awarded.</b> |
| <b>Questions</b><br><i>Develop some open ended questions</i>   |                          |  |  |   |                      |



**WT3** Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition

**AND**

**WT4** Diagnose and determine the cause of faults in wind turbine 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"> <li>• How they have conducted the required checks/test procedures to confirm the plant/equipment worked on can be returned to operational service</li> <li>• How they have used critical reasoning to identify and resolve technical problems within their control</li> <li>• How they have returned plant/equipment worked on to operational service in line with company procedures</li> </ul> | <input type="checkbox"/> <p>organising/controlling their conducted replace/repair work activities which has led to a successful completion</p> |  |

**WT3** Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition

**AND**

**WT4** Diagnose and determine the cause of faults in wind turbine plant and equipment

| 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. |
|--|---|---------------------|---------------|
| <b>Questions</b><br><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<br>(Print) | Apprentice<br>Signature | Training<br>Provider<br>(Company) | Training<br>Provider Full<br>Name of<br>Signatory | Date of<br>Sign Off |
|---------------------------------|-------------------------|-----------------------------------|---|---------------------|
|                                 |                         |                                   |   |                     |

### Core Knowledge

| Ref.                      | Apprenticeship Standard Criteria   | PORTFOLIO<br>REVIEW<br>(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   |   |   |   |
| <b>Assessor Comments:</b> |  |   |   |   |

### Core Skills

| Ref.                      | Apprenticeship Standard Criteria  | PORTFOLIO REVIEW<br>(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 |  |   |   |
| <b>Assessor Comments:</b> |   |  |   |   |

### Core Behaviours

| Ref.                      | Apprenticeship Standard Criteria | PORTFOLIO REVIEW<br>(Apprentice Input) |   |   |
|---------------------------|----------------------------------|--|---|---|
|                           |                                  | 1                                      | 2 | 3 |
| B5                        | Critical reasoning               |  |   |   |
| <b>Assessor Comments:</b> |                                  |  |   |   |

## Pathway: Wind Turbine Specific Skills

| Ref.                      | Apprenticeship Standard Criteria  | PORTFOLIO REVIEW<br>(Apprentice Input) |   |   |
|---------------------------|---|--|---|---|
|                           |   | 1                                      | 2 | 3 |
| WT1                       | Install, assemble, commission and dismantle wind turbine plant and equipment, which will include pitch systems, yaw systems, switchgear, control systems to agreed specifications |  |   |   |
| WT2                       | Carry out planned, unplanned and preventative maintenance procedures on wind turbine plant and equipment including mechanical drive systems                                       |  |   |   |
| WT3                       | Replace, repair and/or remove components in wind turbine plant and equipment and ensure its return to operational condition   |  |   |   |
| WT4                       | Diagnose and determine the cause of faults in wind turbine plant and equipment  |  |   |   |
| <b>Assessor Comments:</b> |   |  |   |   |

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