Proposal to develop an apprenticeship

L3: Wind turbine maintenance technician

Title of occupation

Wind turbine maintenance technician

UOS reference number

ST1455

Core and options

No

Option title/s

Level of occupation

Level 3

Occupational maps data

Route:
Pathway:
Cluster:

Typical duration of apprenticeship

36 months

Is this an integrated apprenticeship?

No

Target date for approval

Monday 01 January 0001

Resubmission

No

Would your proposed apprenticeship standard replace an existing framework?

No

Occupation Profile

This occupation is found in...
the power generation industry. Wind power generation is a vital part of the government's target to decarbonise the UK power system by 2035. Wind turbine maintenance technicians service, maintain and repair wind turbines that are used for generating electrical power on sites such as wind farms located either on or off-shore. Employers within this sector range in size from large, multinational organisations to organisations of all sizes within the supply chain.

The broad purpose of the occupation is...
to test and inspect wind turbines and associated equipment and carry out preventative and corrective maintenance and servicing on mechanical, electrical and hydraulic components as required to ensure that turbine availability and power generation is maximised. A wind turbine maintenance technician is responsible for carrying out inspections and using computer-based diagnostic systems and techniques to locate faults. They may also be required to used advanced diagnostic techniques and artificial intelligence. Wind turbine maintenance technicians decommission equipment and repair or replace components before recommissioning. They are also responsible for ensuring that service and maintenance records are completed. Wind turbine maintenance technicians usually require a driving licence to travel between sites. They must be comfortable working outdoors in all weathers, working in small spaces and working at heights. They usually work shifts, perform stand by duties and may be based on a service vessel for extended periods of time whilst they are on duty to keep equipment working when required.

In their daily work, an employee in this occupation interacts with...
a diverse team of technicians, engineers and site managers, collaborating on often complex projects and troubleshooting issues to keep equipment working safely and efficiently. Effective communication and teamwork is essential in this role to maintain optimal turbine performance. Wind turbine maintenance technicians usually work with minimal supervision and report to the site manager.

An employee in this occupation will be responsible for...
following health and safety procedures to ensure the safety of themselves and their colleagues in this hazardous environment. They are responsible for ensuring that maintenance tasks are completed safely within agreed timescales and in line with relevant engineering standards to minimise turbine downtime and maximise production. Technicians are also responsible for completing professional development to maintain and enhance their own professional competence. On completion of their apprenticeship, technicians may wish to complete further training to enable progression to project management, high voltage specialist, lead technician or site supervisor.

Green job titles

Electrical technician - wind turbines

Off-shore service technician

Service wind technician

Wind turbine technician

Wind turbine maintenance technician

Occupation duties

Duty	OTJ Training (days)
Duty 1 Champion a safety first culture by maintaining and promoting workplace health, safety and environmental compliance. Actively identify, report and rectify unsafe practices to ensure a secure working environment.	20
Duty 2 Plan and prepare the work area, equipment and materials for maintenance work.	5
Duty 3 Provide technical information, advice and work updates to colleagues and other stakeholders.	8
Duty 4 Inspect and test plant and equipment.	10
Duty 5 Diagnose faults on a wind turbine's electrical, hydraulic and mechanical components.	13
Duty 6 Conduct planned, preventative and reactive maintenance work on electrical, hydraulic and mechanical components.	30
Duty 7 Repair and assemble mechanical, electrical and hydraulic plant and components.	20
Duty 8 Install, commission and decommission plant, components and equipment.	19
Duty 9 Complete documentation and records.	4
Duty 10 Support continuous improvement activities.	15
Duty 11 Maintain tools and equipment used for maintenance tasks, for example safety equipment.	6
Respond to emergency situations	

Knowledge, skills and behaviour (KSB) categories

- Health, safety and regulatory requirements and wind turbine safety rules. Working at height

- Wind turbine technician role, working patterns, responsibilities and escalation, lone working
- Electrical, mechanical, ICA and hydraulic theories and approaches
- Prepare for maintenance work
- Environment and sustainability
- Tools and equipment
- Documentation and work records, engineering standards, engineering drawings and specifications
- Inspection and testing
- Diagnostic and troubleshooting techniques
- Planned and unplanned service, maintenance and repair approaches and techniques
- Installation of components, commissioning and decommissioning
- Science and maths
- Professional behaviours, continuous improvement and professional development
- Equity, diversity and inclusion
- Teamworking, leadership and collaboration
- Stakeholder management
- Communication and presentation across a range of media
- Digital and information technology systems, AI

Qualifications

Does the apprenticeship need to include any mandated qualifications in addition to the above-mentioned English and maths qualifications?

No

Professional recognition

This standard aligns with the following professional recognition:

- Engineering Council (TBC) for EngTech (TBC)

Regulated occupation

Is this a statutory regulated occupation?

No

Typical entry point to the apprenticeship

Outline the typical entry point for the occupation. This could be in terms of job roles, qualifications, or experience. Or a mix of these.

Entry into the Wind Turbine Technician apprenticeship is designed to be inclusive, offering opportunities for a diverse range of candidates. Employers typically set their own entry requirements, which may include:

- A good grasp of written and spoken English to ensure effective communication and understanding of technical documentation.
- Basic qualifications in maths and physics to support the technical aspects of the role.
- A willingness to learn and adapt to new technologies and methods.
- Relevant work experience in technical or engineering roles can be beneficial but are not mandatory

Candidates from diverse educational and professional backgrounds are encouraged to apply, as training will be provided to develop the necessary skills and knowledge for the occupation.

Transferability

Explain how you will ensure this occupation is relevant to the range of employers who employ people in it.

The trailblazer group includes representation from original equipment manufacturers such as Vestas and Siemens Gamesa as well as power generation and renewable energy companies such as EDF Energy, Orsted, Vattenfall and RWE. This will ensure the proposed standard is transferable between employers in the sector. EU Skills are providing facilitation for this apprenticeship and will carry out further consultation with their membership to ensure the views of the widest possible range of employers are taken into consideration. Training providers have also been consulted with along with supply chain partners.

Typical number of annual starts

Enter the expected number of starts per year you expect on the apprenticeship. This should be for employers across England, not just with employers in the trailblazer group. 200

End-point assessment methods likely to be used to assess competence against the KSBs as a whole

Select the assessment methods you are likely to use in the end-point assessment

- Observation
- Test / examination
- Discussion underpinned by a portfolio of evidence

Stand-alone occupation

Employers are currently using ST0154 Maintenance and operations engineering technician which at present includes a wind turbine technician option. This standard is currently being

revised following the route review. The recommendation was for the development of a cross sectoral standard which is currently in development with a core and options for electrical, mechanical, ICA and a further standard with electro-mechanical and electrical and ICA options. This revised structure will not work for the wind industry as it will not provide the unique blend of skills that are critical for the efficient and safe operation of wind energy systems: •Electrical Skills: Technicians must be proficient in managing the complex electrical systems of wind turbines, which differ significantly from more conventional engineering settings •Mechanical and hydraulic knowledge: wind turbines involve intricate mechanical systems, including hydraulics, which are essential for operational integrity and performance. •Instrumentation, Control, and Automation (ICA): advanced control systems in turbines require specialised skills in automation and instrumentation, critical for optimising turbine efficiency and reliability. •Safety and emergency protocols: given the hazardous environments of wind turbines, especially in offshore settings, critical safety training aligned with Global Wind Organisation (GWO) standards is essential. This includes advanced first aid, emergency response, and working at heights—areas that are more demanding and specialized than those typically covered under broader engineering standards. The depth and integration of these skills are crucial for the role of Wind turbine technicians and are not adequately addressed by the existing MOET standard. The need for a dedicated standard is further supported by the specific job roles and the technical training standards provided by the GWO, which go beyond the current proposal. There are no other standards which cover the breadth of knowledge and skills required. Wind turbine maintenance technician is a recognised occupation on the National Careers Service and the SOC code is 3113/02.

Employer directory

Have you nominated an organisation to appear on the employer directory for this apprenticeship?

No – Offshore Wind Industry Council

Do you need grading exemption?

No

Name of EQA provider

Where Ofqual or the Office for Students (OfS) is the external quality assurance (EQA) provider, use this form to nominate a sector representative organisation to apply to the directory of professional and employer-led bodies. The directory of professional and employer-led bodies consists of organisations that can further strengthen Ofqual or the OfS's EQA activity with genuine occupational expertise.

Ofqual

Progression Routes

Planning, fault finding, project management, engineering roles, authorised technician, lead technician, production manager, HV, control room technician.

Supporting uploads

Transferability upload (job advert examples)
ST1455_proposal_transferability_Wind Turbine Technician RWE.docx
ST1455_proposal_transferability_Wind Turbine Technician for Offshore Wind Farms Orsted.docx

Is the occupation niche or emerging occupation?

No

Involved employers

Subject sector area

4.1 Engineering