



ROLE PROFILE: MECHANICAL MAINTENANCE

Occupational Area:	Asset/Site - Mechanical Maintenance Technician
Job Role Examples:	Maintenance Technician – Mechanical
Role Overview:	
<p>Mechanical Maintenance Technicians within the engineering construction industry are concerned with the fault diagnosis, routine servicing, repair, maintenance and testing of complex plant, machinery and associated components and, on occasions, the installation of machinery used within their areas.</p> <p>Mechanical maintenance technicians are more commonly found performing preventative maintenance, which is the process of carrying out systematic, planned maintenance of machinery and equipment. This enables the technician to identify and resolve potential problems before they can result in a much larger, or catastrophic, failure. In addition to preventative maintenance, the maintenance technician is also required to perform non-scheduled maintenance as a result of machinery or equipment failure. In these circumstances, the technician must diagnose and resolve problems quickly and, where necessary, scheme a temporary repair until such time that a permanent solution can be carried out.</p>	
Knowledge & Skills:	
<p>The mechanical maintenance technician will:</p> <ul style="list-style-type: none">• Have the required competencies to assemble, position and install, carry out preventative and corrective maintenance on, test and diagnose faults in, repair, remove and replace, and disassemble mechanical equipment and systems in engineering construction plant.• Understand the relevant legislative, regulatory and local requirements or procedures and safe working practices, including their responsibilities with regards to reporting lines and procedures.• Understand the preparation and reinstatement requirements in respect of the work area, materials and equipment, and the possible consequences of incorrect actions in these areas.• Be able to read and interpret relevant engineering drawings, related specifications, quality standards and equipment manuals, and to follow work instructions and relevant plans and schedules.• Understand which tools and equipment to use, and when, and will follow relevant training, methods and techniques and quality control and safety procedures for their use.• Understand their responsibilities for ensuring the care and security of tools and equipment used.• Understand the types of defects and testing anomalies that can occur, how to identify them, and what action to take.• Be able to handle a range of digital information, technology and equipment to support work related tasks and to communicate information.	
Technical Competencies:	
<p>Mechanical fault diagnosis is a key competency across all the activities below and has been incorporated into the individual test activities below.</p> <ul style="list-style-type: none">• TMF01 - Precision measurement - Accurately measure a range of test components with micrometres, verniers and DTIs and record the results• TMF07 - Aligning, levelling and setting plant and equipment - Check and rectify the horizontal and vertical shaft alignment of rotating equipment• TMM01 - Maintaining hydraulic systems - Disassemble, clean, inspect and repair a hydraulic gear pump as per manufacturers specification• TMM02 - Maintaining pneumatic systems - Disassemble, clean, inspect and repair a double acting pneumatic cylinder as per manufacturers specification• TMM05 - Maintaining centrifugal pumps - Strip down, check dimensions, replace seals, and rebuild a centrifugal pump	

- **TMJI10 - Dismantle, assemble and hand torque flanged joints** - Dismantle, inspect flanges and report faults, prepare, assemble and secure a flanged pipework joint as per a specified drawing and within set tolerances.

Behaviours:

- Establish and maintain effective working relationships, communicate effectively, and work inclusively to deliver work within given specifications.
- Demonstrate team working skills and interact with team members in a positive and professional manner.
- Work within an overall risk control strategy which has been developed by safety specialists and includes detailed criteria for identifying risks, together with clearly defined procedures for action which must be followed.
- Take personal ownership of, and responsibility for, completing tasks and procedures.
- Follow procedures and relevant codes of conduct with integrity and rigour and complete actions and documents accurately and honestly.
- Take responsibility for identifying and reporting instances where procedures or work instructions cannot be met or where a variation in them is required.
- Deal promptly and effectively with problems within their control and report those that have been, and those that cannot be, solved.
- Take responsibility for supervising and mentoring others where appropriate.
- Demonstrate the ability to coordinate work scopes and simultaneous operations (SIMOPS) effectively within a wider team, as required.
- Demonstrate effective handover of responsibility and equipment at the end of a task.
- Take responsibility and ownership of personal development, set targets to plan on how these will be achieved.
- Support operational requirements, achieve targets and maintain records as required, thereby minimising backlog and downtime.
- Maintain compliance with legislative requirements and company policies, procedures and standards.
- Maintain and demonstrate ongoing technical competence and skill set to current standards and updates.
- Support innovation and development for improvements.

Determining Work Scopes:

Other categories of workers may be mobilised to complete certain stand-alone activities/work scopes within the mechanical maintenance discipline. Relevant technical tests for those workers are identified below:

- Hand torque bolting – Test reference **TMJI10**
- Servicing Pumps – Test reference **TMM05**

Although appropriately qualified for these specific work scopes, it should be noted that without the full suite of mechanical maintenance technician tests the person should not be deemed as demonstrating full 'currency of competence' across the Mechanical Maintenance discipline.

SUPPORTING NOTES: MECHANICAL MAINTENANCE

The Connected Competence standard role profile for a mechanical maintenance technician sets out the knowledge, skills, technical competencies and behaviours that are expected from a fully competent mechanical maintenance technician in any sector of the Engineering Construction Industry. Once competence is first achieved through training and subsequent qualification, **regular testing** ensures that **ongoing** competence is maintained, against a recognised standard.

This supporting document highlights transferable qualifications and any additional technical requirements that maybe specific to a certain sector to support standardisation of skills and workforce transferability. It does not reference any site-specific or sector specific safety training.

Sector Specific Qualifications

Prior to embarking on the formal technical test assessment cycle, an individual would be expected to have core trade qualifications as a minimum requirement:

Key
Accepted - Applicable qualification for the role with no gap analysis required
Recognised - Applicable technical content, however a gap analysis maybe required for appropriate unit completion
Dependant on Employer - May or may not be recognised

Qualification Details	Offshore Oil & Gas	Onshore Oil & Gas	Wind	Nuclear
L3 VQ in Oil and Gas Engineering Maintenance (Mechanical); SVQ/SCQF7 in Process Engineering Maintenance; L3 NVQ Diploma/Extended Diploma in Engineering Maintenance; L3 Apprenticeship in Process Manufacturing.				
L3 Apprenticeship in Maintenance & Operations Engineering Technician				
L3 NVQ/SVQ/Diploma/SCQF7 in: Engineering Construction Maintenance – Mechanical; Maintaining Engineering Construction Plant and Systems – Mechanical; Engineering Construction: Maintaining Mechanical Systems of Plant OR Maintaining Plant and Equipment – Mechanical.				

Additional Technical Competence requirements

Given the hazardous nature of some Engineering Construction working environments, the overall risk control strategy for the organisation will usually require mechanical maintenance technicians to be familiar with, and work within, a formal Permit to Work system. Compliance with a specific company or site safety management system (SMS) will also usually be required and additional 'site-specific' technical competence will be developed on top of basic technical competence assurance. Specialist safety training may also be required as a prerequisite in addition to role specific training.

Oil & Gas	Wind	Nuclear	CCUS	Hydrogen
<ul style="list-style-type: none"> If applicable, witness "POP" tests on vendor repaired equipment/plant and verify acceptance. 	<ul style="list-style-type: none"> Refer to <i>Wind Turbine Technician Cross Skill Programme</i>. 	<ul style="list-style-type: none"> No additional technical competencies. 	<ul style="list-style-type: none"> No additional technical competencies. 	<ul style="list-style-type: none"> No additional technical competencies.