

**SKILLS FRAMEWORK FOR MARINE AND OFFSHORE  
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

<b>TSC Category</b>	Repair and Maintenance					
<b>TSC</b>	Marine Equipment and System Maintenance					
<b>TSC Description</b>	Formulate and execute corrective and/or preventative maintenance activities for marine equipment and systems used on ships and rigs					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
		<b>MAR-RNM-2002-1.1</b>	<b>MAR-RNM-3002-1.1</b>	<b>MAR-RNM-3003-1.1</b>		
		Carry out maintenance activities on equipment and systems and monitor conditions	Plan schedules, resources and materials to carry out repair and maintenance works	Develop organisation-wide maintenance systems by evaluating applicability of preventative against corrective maintenance plans		
<b>Knowledge</b>		<ul style="list-style-type: none"> <li>Special survey and interim survey cycles</li> <li>Repair specifications, upgrading specifications and defect lists</li> <li>Preventative, breakdown and predictive maintenance and their schedules</li> <li>Principles of mechanical, hydraulic and electrical systems</li> <li>Types of maintenance tools, equipment and relevant services and overhaul processes</li> <li>Procedures for defect diagnosis and inspection of marine system components</li> <li>Methods for marine machinery alignment</li> <li>Static and dynamic methods of balancing rotating elements</li> <li>Procedures for procurement of spare parts</li> <li>Relevant workplace safety and health (WSH)</li> </ul>	<ul style="list-style-type: none"> <li>Typical structural defects and methods of steel renewals</li> <li>Parameters of condition monitoring</li> <li>Resource requirements for specific maintenance job</li> <li>Manufacturers' servicing recommendations</li> <li>Procurement workflows, order approval and procurement procedures</li> <li>Approaches for scheduling repair plans and resources</li> </ul>	<ul style="list-style-type: none"> <li>Technical electrical and mechanical drawings and plans</li> <li>Types of product maintenance requirements</li> <li>Industry best practices in maintenance</li> <li>Applications of planned maintenance software</li> </ul>		

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		<p>practices, guidelines and regulations</p> <ul style="list-style-type: none"> <li>• Relevant quality assurance and quality control (QA/QC) policies and procedures</li> </ul>				
<b>Abilities</b>		<ul style="list-style-type: none"> <li>• Identify requirements for spare parts to raise request orders</li> <li>• Document maintenance reports containing service and overhaul information</li> <li>• Trace electrical lines and cable ducts according to design drawings</li> <li>• Identify parameters that are not in line with operating ranges</li> <li>• Identify anomalies in machinery parameters for further analysis</li> <li>• Carry out basic troubleshooting on marine equipment and systems, including loss of power, lack of lubrication and bearing damage</li> </ul>	<ul style="list-style-type: none"> <li>• Analyse resource requirements based on repair specifications, upgrading specifications and/or defect lists</li> <li>• Prioritise service, overhaul and replacement jobs based on timelines, resource requirements and urgency</li> <li>• Infer product specifications from manufacturers' manuals for ordering of spare parts on behalf of ship staff</li> <li>• Draft technical reports on service and overhaul works</li> <li>• Coordinate classification society surveys in the presence of ship owners</li> </ul>	<ul style="list-style-type: none"> <li>• Synthesise relevant information based on technical drawings and specifications</li> <li>• Develop new maintenance schedules based on manufacturers' recommendations and past experience</li> <li>• Communicate effectively across departments to ensure seamless service operations</li> </ul>		