

<b>TSC Category</b>	Discipline Engineering Specialisation					
<b>TSC</b>	Mechanical Rotating Equipment Engineering Management					
<b>TSC Description</b>	Manage the design, technical specification, selection, modification and troubleshooting of mechanical rotating equipment, structures and systems to provide mechanical engineering discipline support to production, maintenance and project teams					
<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>
			ECM-DEG-3008-1.1	ECM-DEG-4008-1.1	ECM-DEG-5008-1.1	
			Interpret designs, technical specifications, modification designs, constructability methods, maintenance procedures, and asset integrity techniques to provide mechanical rotating engineering support to production, maintenance and project teams	Facilitate the development and implementation of designs, technical specifications, modification designs, constructability methods, maintenance procedures and asset integrity to manage mechanical rotating engineering support to production, maintenance and project teams	Evaluate designs, technical specifications, modification designs, constructability methods, maintenance procedures and asset integrity to drive high standards of mechanical rotating engineering support to production, maintenance and project teams	
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>• Rotating equipment and driver specifications</li> <li>• Rotating equipment operation and maintenance philosophy and concepts</li> <li>• Basic Design Package (BDP) and Basic Design and Engineering Package (BDEP) methodologies and techniques</li> <li>• Equipment control, condition monitoring, shutdown and safeguarding specifications</li> <li>• Rotating mechanical equipment construction and installation methods</li> <li>• Principles of Factory Acceptance Testing (FAT) and Site</li> </ul>	<ul style="list-style-type: none"> <li>• Rotating equipment detailed engineering design standards including ancillaries, transmission and monitoring</li> <li>• Rotor, fluid and aerodynamics element analysis methods</li> <li>• Finite Element Analysis (FEA) tools and techniques</li> <li>• Rotating equipment maintenance requirements and contracts</li> <li>• Performance standards for rotating equipment safety critical elements and/or equipment</li> <li>• Rotating equipment condition monitoring and troubleshooting techniques</li> </ul>	<ul style="list-style-type: none"> <li>• Rotating equipment engineering specifications and design criteria</li> <li>• Rotating equipment constructability methods</li> <li>• New rotating equipment technologies and applications</li> <li>• Peer reviews and cross discipline check tools and methods</li> <li>• Rotating equipment maintenance and integrity strategies</li> <li>• Mechanical maintenance and reliability management techniques, strategies and practices</li> <li>• Technological advancements in asset reliability and integrity maintenance</li> </ul>	

			<p>Acceptance Testing (SAT)</p> <ul style="list-style-type: none"> <li>Rotating equipment commissioning and start-up methodologies</li> <li>Rotating equipment operation procedures characteristics and constraints</li> <li>Principles of machinery re-rating</li> </ul>	<ul style="list-style-type: none"> <li>Machinery re-rating applications and techniques</li> </ul>		
<b>Abilities</b>			<ul style="list-style-type: none"> <li>Conduct comparisons of mechanical versus electrical drive options for major rotating machinery on a cost-of-ownership basis</li> <li>Provide input to availability and reliability studies, defining spares requirements</li> <li>Apply BDP and BDEP according to organisational standard templates</li> <li>Design equipment packaging from skid mounting to full modularisation, accounting for installation, (pre)commissioning, operability, weight, footprint and maintenance requirements</li> <li>Select design standards to the latest requirements for rotating equipment including auxiliary systems, and verify gaps</li> <li>Specify and select equipment auxiliary systems</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate options for critical and novel equipment, compression of mechanical and electrical drive options, selection and sizing for given applications</li> <li>Review rotating equipment feasibility options based on findings of critical rotating equipment and driver selection studies</li> <li>Manage the implementation of equipment design into processes, ensuring equipment can handle all operating and transient conditions</li> <li>Manage facilities layout design reviews, ensuring layout accounts for suitable dimensioned and arranged rotating equipment</li> <li>Manage potential improvements to the organisation's engineering standards for rotating equipment</li> <li>Provide technical authority input to discipline peer reviews to cover technical</li> </ul>	<ul style="list-style-type: none"> <li>Endorse the selection, sizing and specification of associated mechanical rotating equipment in conjunction with other disciplines</li> <li>Endorse rotating equipment feasibility options based on findings of critical rotating equipment and driver selection studies, layout options, process demand, start-up conditions, dry-out requirements etc.</li> <li>Review and endorse facilities layout design, plant layout reviews</li> <li>Lead equipment standardisation strategies and facilities implementation</li> <li>Review the identification of new rotating equipment technologies, benefits, risks and applications</li> <li>Lead technical authority and discipline peer reviews to cover technical compliance with Basis for Design (BfD) requirements, critical equipment</li> </ul>	

			<ul style="list-style-type: none"> <li>• Define the specification and selection of spare parts to be procured and arrangements for preservation and storage</li> <li>• Conduct FAT and SAT activities for rotating equipment</li> <li>• Apply organisational, local and international safety performance standards to design and installed equipment</li> <li>• Support the development of rotating equipment operational procedures and definition of equipment operating windows and constraints</li> </ul>	<p>compliance with Basis for Design (BfD) requirements, critical equipment selection, selection and application of standards and value engineering</p> <ul style="list-style-type: none"> <li>• Manage rotating equipment condition monitoring and data acquisition techniques</li> <li>• Select and check Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT) to assure required functionality and design criteria are attained</li> <li>• Manage the implementation and specification of rotating equipment maintenance requirements, spare parts selection and maintenance contracts</li> </ul>	<p>selection, selection and application of standards and value engineering</p> <ul style="list-style-type: none"> <li>• Define Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT) strategies and standards</li> <li>• Define the rotating equipment maintenance strategy</li> </ul>	
--	--	--	---	---	---	--