

**SKILLS FRAMEWORK FOR ENERGY AND CHEMICALS
SKILLS MAP - ENGINEERING MANAGER**

Sector	Energy and Chemicals			
Track	Engineering and Maintenance			
Occupation	Manager			
Job Role	Engineering Manager			
Job Role Description	<p>The Engineering Manager is accountable for the management of discipline engineering support to various departments to deliver operational excellence, asset integrity assurance and engineering project management. He/She formulates strategies for plant integrity and inspection and maintenance work. He validates cross-functional integrity audit findings and recommends corrective and preventive measures for plant assets and equipment.</p> <p>The Engineering Manager drives the review of equipment reliability and availability to maximise equipment utilisation. He endorses the scope of engineering projects and conducts process safety reviews for plant operation, Management of Change (MOC) projects and new engineering projects. He ensures the department's compliance with Workplace Safety and Health (WSH), Environmental Management System (EMS) and Process Safety Management (PSM) system requirements, and is involved in the review of the organisation's Major Hazard Installation (MHI) Safety Case. In addition, he coaches and mentors the discipline engineering team and manages continuous improvement initiatives for engineering-related time, cost, reliability and safety improvements.</p> <p>The Engineering Manager manages a multi-disciplinary team of engineers and coordinates with other departmental managers for the planning and execution of engineering projects. He possesses strong leadership, project management, resource management and decision-making skills.</p>			
Critical Work Functions and Key Tasks	Critical Work Functions		Key Tasks	
	Administer Workplace Safety and Health (WSH) and Environmental Management Systems (EMS)		Ensure compliance with WSH and EMS systems at the department level	
			Review the organisation's Major Hazard Installation (MHI) Safety Case	
	Administer Process Safety Management (PSM) systems		Ensure compliance with PSM systems at the department level	
	Manage engineering projects		Conduct process safety reviews for plant operation, Management of Change (MOC) projects and new projects	
			Endorse technical documents for equipment operation and maintenance	
			Endorse the scope of engineering projects and selection of vendors	
	Manage asset integrity		Endorse risk analyses on plant and equipment	
			Endorse the development and implementation of processes for asset integrity management systems	
			Facilitate the provision of discipline engineering support to various departments to deliver operational excellence, asset integrity and project management	
			Formulate strategies for plant integrity and inspection with the maintenance team	
			Verify cross-functional integrity audit findings and recommend corrective and preventive measures	
	Manage equipment automation and optimisation		Drive equipment reliability and availability reviews to maximise equipment utilisation	
			Endorse equipment operating parameters, limits and engineering controls for safe and optimum operating conditions	
		Endorse new versus rebuilt equipment, existing versus new technologies and labour versus automation to achieve best value engineering solutions		
		Endorse recommendations for equipment efficiency improvements		
		Strategise the use of data analytics across the plant and derive actionable insights for alternative engineering solutions		
Administer staff and organisational development		Coach and mentor staff		
		Contribute to business continuity planning, implementation and execution		
		Drive departmental performance to achieve organisational goals		
		Drive the adoption of technologies to support virtual collaboration in remote locations		
		Manage continuous improvement initiatives for time, cost and quality improvements		
		Manage department level resources and budgets		
Skills & Competencies	Technical Skills and Competencies		Generic Skills and Competencies (Top 5)	
	Asset Integrity Management	Level 5	Communication	Advanced
	Budget Management	Level 5	Computational Thinking	Advanced
	Business Continuity Management	Level 5	Creative Thinking	Advanced
	Change Management	Level 5	Decision Making	Advanced
	Commissioning and Start-Up Management	Level 5	Problem Solving	Advanced
	Continuing Professional Development Management	Level 5		
Continuous Improvement Management	Level 5			

Skills & Competencies	Data Analytics System Design	Level 4
	Electrical Engineering Management	Level 5
	Engineering Management of Change	Level 5
	Engineering Project Management	Level 5
	Engineering Safety Standards Interpretation	Level 5
	Engineering Support Management	Level 5
	Engineering, Procurement and Construction Management	Level 4
	Environmental Management System Framework Development and Implementation	Level 4
	Equipment and System Value Engineering Management	Level 5
	Front-End Engineering Design Management	Level 5
	Inspection Engineering Management	Level 5
	Instrumentation and Control Design Engineering Management	Level 5
	Internet of Things Management	Level 4
	Maintenance Integrity and Reliability Framework Development and Implementation	Level 6
	Major Hazard Installation Safety Case Management	Level 5
	Mechanical Rotating Equipment Engineering Management	Level 5
	Mechanical Static Equipment Engineering Management	Level 5
	Organisational Analysis Management	Level 5
	Organisational Resource Management	Level 5
	Plant Turnaround Management	Level 5
	Preventive Maintenance Management	Level 5
	Process Safety Management Framework Development and Implementation	Level 4
	Procurement Management	Level 5
	Reliability Engineering Management	Level 5
	Robotic and Automation Technology Application	Level 5
	Staff Development Management	Level 5
Staff Management	Level 5	
Technology Road Mapping	Level 5	
Third Party Management	Level 5	
Training, Coaching and Assessment Management	Level 5	
Workplace Safety and Health Framework Development and Implementation	Level 4	
Programme Listing	For a list of Training Programmes available for the Energy and Chemicals sector, please visit: www.skillsfuture.sg/skills-framework/energyandchemicals	

The information contained in this document serves as a guide.