

POWER ENGINEERING COMPETENCY FRAMEWORK			
SKILLS MAP - Senior Principal Engineer / Principal Engineer / Project Manager			
Sector	Power Engineering in the Public Service		
Track	Engineering / Project Management		
Occupation	Electrical Engineer		
Job Role	Senior Principal Engineer / Principal Engineer / Project Manager		
Job Role Description	<p>The Senior Principal Engineer / Principal Engineer / Project Manager is responsible for managing the design, construction, commissioning, and operations and maintenance for electrical and power projects. He/She reviews project scope, goals and objectives in collaboration with technical personnel and gets stakeholder buy-in on project plans. He manages project implementation as per technical specifications and cost, time and quality requirements and conducts project reviews for compliance with regulatory requirements and industry standards. He also vets monthly progress reports on indicators such as budget performance and cash flows.</p> <p>He manages collaboration with public sector agencies, internal and external stakeholders, and contractors for electrical and power projects. He also leads tendering exercises and manages contractor selection and awarding of contracts. He reviews contractor works and performance for compliance with contract terms, technical standards and regulatory requirements. He drives continuous improvement initiatives to improve workplace safety and manages Permit-to-Work Systems. In addition, he leads innovation and green initiatives to drive decarbonisation, decentralisation and digitalisation.</p> <p>He possesses good interpersonal, communication and stakeholder management skills. Furthermore, he contributes to national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability, energy security.</p>		
Critical Work Functions and Key Tasks / Performance Expectations	Critical Work Functions	Key Tasks	Performance Expectations (For legislated / regulated occupations)*
	Manage power generation and/or distribution projects	Manage the design, construction, commissioning, and operations and maintenance for electrical and power projects	In accordance with: - Electricity Act including subsidiary legislations - Energy Market Authority of Singapore Act - International Electrotechnical Commission (IEC) Standards - International Organization for Standardisation (ISO) Standards - Singapore Standards for Electrical and Power sector - Workplace Safety and Health (WSH) Act * Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards
		Review project scope, goals and objectives in collaboration with technical personnel	
		Manage stakeholder buy-in on project plans including budget, timeline, quality, and success metrics	
		Manage staffing and resourcing to support project implementation	
		Manage project progress as per technical specifications and cost, time and quality requirements	
		Conduct project reviews for compliance with regulatory requirements and industry standards	
		Resolve bottlenecks, issues and mitigate risks that arise in projects	
		Vet monthly progress reports on indicators such as budget performance and cash flows	
	Manage key stakeholders / Manage contractors	Manage collaboration with public sector agencies for electrical and power projects	
		Manage relationships with internal and external stakeholders	
		Lead tendering exercises for electrical and power projects	
		Manage contractor selection and the awarding of contracts according to agency requirements	
		Review contractor works across functions for fulfilment of contract terms	
		Manage contractor performance and compliance with technical standards and codes of practice	
	Manage safety, health and environment	Drive continuous improvement projects to improve safety in the workplace	
		Manage contractors on safe work practices to ensure compliance with statutory requirements and procedures	
		Ensure workplace adherence to relevant sector regulations and codes of practice	
		Define policies and standard operating procedures for Permit-to-Work systems	
		Review the agency's environmental sustainability practices, policies and procedures	
Contribute to decarbonisation, decentralisation and digitalisation initiatives	Contribute to national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability, energy security		
	Manage innovation and process improvement initiatives to leverage new electrical and power technologies		
	Review feasibility studies and assessments of new electrical and power technologies		
	Manage green initiatives and sustainability programmes		
	Manage initiatives for implementation of distributed power technologies		
	Leverage data analytics to enhance operational and strategic decision-making		
Skills & Competencies	Technical Skills and Competencies		Critical Core Skills
	Business Intelligence and Data Analytics	Level 4	Problem Solving Advanced

	Continuous Improvement Management	Level 5	Communication	Advanced		
	Contract and Contractor Management	Level 4	Collaboration	Advanced		
	Cybersecurity Framework Application	Level 4	Decision Making	Intermediate		
	Emergency Response and Crisis Management	Level 5	Developing People	Intermediate		
	Engineering Problem Solving	Level 5	Transdisciplinary Thinking	Intermediate		
	Engineering Safety Standards Interpretation	Level 4	Building Diversity	Intermediate		
	Environmental Sustainability Management	Level 5	Customer Orientation	Advanced		
	Equipment and Systems Installation and Commissioning	Level 4	Digital Fluency	Advanced		
	Innovation Management	Level 5	Adaptability	Intermediate		
	Inter-agency Collaboration	Level 5	Influence	Intermediate		
	Modelling, Simulation and Visualisation	Level 4	Self Management	Intermediate		
	Organisational Resource Management	Level 5				
	Policy Development	Level 3				
	Power Engineering Management	Level 5				
	Project Management	Level 5				
	Public Health and Safety Management	Level 5				
	Regulatory Compliance and Risk Management	Level 5				
	Renewable Energy Technologies Application	Level 5				
	Smart Grid Implementation	Level 5				
	Stakeholder Management	Level 5				
	Strategy Development	Level 5				
	Technical Inspection	Level 4				
	Technology Road Mapping	Level 5				
	Workplace Safety and Health Framework Implementation	Level 5				
Programme Listing	For a list of training programmes available for the Power Engineers in the Public Service, please refer to separate document on training courses.					

The information contained in this document serves as a guide.