

POWER ENGINEERING COMPETENCY FRAMEWORK				
SKILLS MAP - Senior Assistant Engineer / Assistant Engineer (Design)				
Sector	Power Engineering in the Public Service			
Track	Design			
Occupation	Assistant Electrical Engineer			
Job Role	Senior Assistant Engineer / Assistant Engineer (Design)			
Job Role Description	<p>The Senior Assistant Engineer / Assistant Engineer (Design) is responsible for assisting in the development of design briefs and conceptual design for electrical equipment, system and networks. He/She assists in conducting site surveys, investigations, feasibility reviews and simulations prior to conceptual design. He performs checks on design drawings, technical calculations and specifications as part of design reviews, and ensures conformance to agency standards and industry regulations. He highlights gaps in technical drawings and designs.</p> <p>He assists in technical evaluation of tender submissions for design works, and collaborates with contractors through regular dialogue and sharing sessions. He also monitors contractor performance and compliance with technical standards and codes of practice. He reviews records in accordance with Design for Safety (DFS) regulations and standards, and conducts research on latest technology trends and green initiatives. He should be authorised as a trained person by a licensed electrical worker to carry out the job duties.</p> <p>He has an eye for detail and possesses creativity and sense-making skills. In addition, he possesses good sense-making, problem solving and interpersonal skills in working closely with contractors.</p>			
Critical Work Functions and Key Tasks / Performance Expectations	Critical Work Functions	Key Tasks		Performance Expectations (For legislated / regulated occupations)*
	Design electrical equipment, systems and networks	Assist in developing design brief specifying scope of work, electrical and power requirements and engineering standards		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
		Assist in conducting site surveys, investigations, feasibility reviews and simulations prior to conceptual design		
		Assist in developing conceptual design of electrical equipment, systems and networks		
		Propose modifications to design plans to reduce design risks during design and planning phase		
	Conduct design reviews for electrical equipment, systems and networks	Perform checks on design drawings, technical calculations and specifications as part of design reviews		
		Ensure that electrical designs meet agency standards, objectives and requirements		
		Ensure conformance of electrical designs to industry regulations, codes of practice and safety standards		
		Assist in conducting constructability, maintainability and safety reviews for electrical designs		
	Manage key stakeholders / Manage contractors	Highlight gaps in technical drawings and designs		
		Collaborate with contractors through regular dialogue and sharing sessions		
		Support the development of tender specifications for electrical and power design services		
		Assist in technical evaluation of tender submissions for electrical and power design services		
		Monitor electrical and power design works done by contractors		
	Manage health, safety and environment	Monitor contractor performance and compliance with technical standards and codes of practice		
		Review records in accordance with Design for Safety (DFS) regulations and standards		
		Supervise contractors on safe work practices		
		Comply with relevant sector regulations and codes of practice		
	Contribute to decarbonisation, decentralisation and digitalisation initiatives	Comply with the agency's environmental sustainability practices, policies and procedures		
		Conduct research on latest trends in electrical and power technologies		
Conduct research for green initiatives using clean and renewable energy				
Skills & Competencies	Technical Skills and Competencies		Critical Core Skills	
	Airfield Lighting Systems Management	Level 3	Sense-Making	Basic
	Battery Systems Management	Level 3	Problem Solving	Basic
	Business Intelligence and Data Analytics	Level 2	Creative Thinking	Basic
	Continuous Improvement Management	Level 3	Digital Fluency	Basic
	Contract and Contractor Management	Level 2	Collaboration	Basic
	Cybersecurity Framework Application	Level 2	Communication	Basic

	Electrical Equipment and Systems Testing	Level 3	Customer Orientation	Basic
	Electrical Systems Design	Level 3	Adaptability	Basic
	Electricity Network Planning	Level 2	Influence	Basic
	Emergency Response and Crisis Management	Level 3	Self Management	Basic
	Engineering Asset Management	Level 2		
	Engineering Problem Solving	Level 3		
	Engineering Safety Standards Interpretation	Level 3		
	Environmental Sustainability Management	Level 3		
	Inter-agency Collaboration	Level 3		
	Internet of Things (IoT) Application	Level 3		
	Lifts and Escalators Systems Management	Level 3		
	Lighting Technologies Application	Level 4		
	Lightning Protection Systems Management	Level 3		
	Modelling, Simulation and Visualisation	Level 2		
	Power Engineering Management	Level 3		
	Predictive Maintenance Management	Level 3		
	Regulatory Compliance and Risk Management	Level 3		
	Relay and Protection Systems Management	Level 3		
	Solar Photovoltaic Systems Application	Level 4		
	Stakeholder Management	Level 3		
	Substation Design Management	Level 3		
	Technology and Systems Application	Level 3		
	Traction Power Systems Management	Level 3		
	Uninterrupted Power Supply Management	Level 3		
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.