

POWER ENGINEERING COMPETENCY FRAMEWORK				
SKILLS MAP - Senior Technical Officer / Technical Officer (Design)				
Sector	Power Engineering in the Public Service			
Track	Design			
Occupation	Electrical Engineering Technician			
Job Role	Senior Technical Officer / Technical Officer (Design)			
Job Role Description	<p>The Senior Technical Officer / Technical Officer (Design) is responsible for assisting in the development of design briefs and design schematics for electrical equipment, systems and networks. He/She coordinates design reviews and ensures that electrical designs comply with agency standards and industry regulations. In the event of gaps in technical drawings and designs, he monitors the resolution of such design gaps.</p> <p>He prepares documentation to support tenders for design services, and coordinates the tender evaluation process. He coordinates electrical and power design works done by contractors and monitors contractor performance and compliance with technical standards and codes of practice. He also maintains records in accordance with Design for Safety (DFS) regulations and standards, and gathers data for green initiatives and operational analytics. He should be authorised as a trained person by a licensed electrical worker to carry out the job duties</p> <p>He is detail-oriented and meticulous in ensuring that design works comply with agency and industry standards. 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 design schematics for electrical equipment, systems and networks		
		Highlight foreseeable design risks during design and planning phase		
	Conduct design reviews for electrical equipment, systems and networks	Coordinate reviews of conceptual and detailed design for electrical equipment, systems and networks	* Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards	
		Ensure that electrical designs meet agency standards, objectives and requirements		
		Adopt industry regulations, codes of practice and safety standards in electrical designs		
		Assist in conducting constructability, maintainability and safety reviews for electrical designs		
	Manage key stakeholders / Manage contractors	Monitor resolution of gaps in technical drawings and designs	* Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards	
		Facilitate collaboration with contractors		
		Prepare documentation to support tenders for electrical and power design services		
		Coordinate tender evaluation, contractor selection and contract negotiations		
		Coordinate 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	* Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards	
		Maintain records in accordance with Design for Safety (DFS) regulations and standards		
		Guide 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	* Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards	
		Keep abreast of the latest trends in electrical and power technologies		
Gather data for green initiatives using clean and renewable energy				
Skills & Competencies	Technical Skills and Competencies		Critical Core Skills	
	Airfield Lighting Systems Management	Level 2	Problem Solving	Basic
	Battery Systems Management	Level 2	Sense-Making	Basic
	Continuous Improvement Management	Level 3	Communication	Basic
	Contract and Contractor Management	Level 2	Collaboration	Basic
	Cybersecurity Framework Application	Level 2	Customer Orientation	Basic
	Electrical Equipment and Systems Testing	Level 2	Computational Thinking	Basic

	Electrical Systems Design	Level 2	Digital Fluency	Basic	
	Electricity Network Planning	Level 2	Adaptability	Basic	
	Emergency Response and Crisis Management	Level 3	Influence	Basic	
	Engineering Asset Management	Level 2	Self Management	Basic	
	Engineering Problem Solving	Level 3			
	Environmental Sustainability Management	Level 3			
	Lifts and Escalators Systems Management	Level 2			
	Lightning Protection Systems Management	Level 2			
	Modelling, Simulation and Visualisation	Level 2			
	Power Engineering Management	Level 3			
	Regulatory Compliance and Risk Management	Level 2			
	Relay and Protection Systems Management	Level 2			
	Stakeholder Management	Level 2			
	Substation Design Management	Level 2			
	Technology and Systems Application	Level 2			
	Traction Power Systems Management	Level 2			
	Uninterrupted Power Supply Management	Level 2			
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.