POWER ENGINEERING COMPETENCY FRAMEWORK

SKILLS MAP - Senior Technical Officer / Technical Officer (Construction & Commissioning)

Sector	Power Engineering in the Public Service
Track	Construction & Commissioning
Occupation	Electrical Engineering Technician
Job Role	**Senior Technical Officer / Technical Officer (Construction & Commissioning)**
Job Role Description	The Senior Technical Officer / Technical Officer (Construction & Commissioning) is responsible for monitoring and tracking installations of electrical equipment, systems and networks to highlight potential risks. He/She coordinates with design teams to review electrical design submittals. He assists in and records all commissioning checks. He facilitates collaboration with contractors and monitors their performance to ensure compliance with technical standards and codes of practice. In the event of breached safety requirements in the workplace, he also reports them and guides contractors on safe work practices. To drive decarbonisation, decentralisation and digitalisation, he 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. He is detail-oriented and systematic to monitor and track electrical installations and record commissioning checks. In addition, he has good interpersonal skills when guiding contractors to be compliant to technical standards.

Critical Work Functions and Key Tasks / Performance Expectations

Critical Work Functions	Key Tasks	Performance Expectations (For legislated / regulated occupations)*
Manage construction / installation	Monitor installation of electrical equipment, systems and networks	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
	Track incidences of technical deviation from design specifications and technical standards during electrical installation	
	Highlight potential construction related issues and risks	
	Prepare reports for audit tests on electrical equipment, systems and networks	
Manage commissioning process	Coordinate with design teams for review of electrical design submittals	
	Assist in commissioning checks and tests on electrical equipment, systems and networks	
	Track and record all commissioning activities and findings for reporting purposes	
	Support pre-start-up safety reviews (PSSR)	
	Support commissioning activities during handover, initial start-up and ramp-up period	
Manage key stakeholders / Manage contractors	Facilitate collaboration with contractors	
	Prepare documentation to support tenders for electrical and power installation services	
	Coordinate tender evaluation, contractor selection and contract negotiations	
	Coordinate electrical and power installation works done by contractors	
	Monitor contractor performance and compliance with technical standards and codes of practice	
Manage health, safety and environment	Report breaches of safety requirements in the workplace	
	Guide contractors on safe work practices	
	Comply with relevant sector regulations and codes of practice	
	Apply Permit-To-Work systems for electrical works	
	Comply with the agency's environmental sustainability practices, policies and procedures	
Contribute to decarbonisation, decentralisation and digitalisation initiatives	Keep abreast of the latest trends in electrical and power technologies	
	Gather data for green initiatives using clean and renewable energy	
	Record data for operational analytics	

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	Customer Orientation	Basic
Cybersecurity Framework Application	Level 2	Digital Fluency	Basic

	Electrical Equipment and Systems Testing	Level 2	Collaboration	Basic
	Emergency Response and Crisis Management	Level 3	Computational Thinking	Basic
	Engineering Problem Solving	Level 3	Adaptability	Basic
	Environmental Sustainability Management	Level 3	Influence	Basic
	Equipment and Systems Installation and Commissioning	Level 2	Self Management	Basic
	Lifts and Escalators Systems Management	Level 2		
	Lighting Technologies Application	Level 3		
	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		
	Solar Photovoltaic Systems Application	Level 3		
	Stakeholder Management	Level 2		
	Substation Design Management	Level 2		
	Technical Inspection	Level 2		
	Technology and Systems Application	Level 2		
	Traction Power Systems Management	Level 2		
	Uninterrupted Power Supply Management	Level 2		
	Workplace Safety and Health Framework Implementation	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.