POWER ENGINEERING COMPETENCY FRAMEWORK			
SKILLS MAP - Chief Engineer (Construction & Commissioning)			
Sector	Power Engineering in the Public Service		
Track	Construction & Commissioning		
Occupation	Electrical Engineer		
Job Role	**Chief Engineer (Construction & Commissioning)**		
Job Role Description	The Chief Engineer (Construction & Commissioning) is responsible for endorsing construction and installation plans of electrical equipment, systems and networks through engaging with stakeholders and cross-departments. He/She drives cross-department collaboration to review electrical design submittals. He approves reports of all commissioning activities. He recommends solutions to rectify defects, deficiencies and abnormalities. He also builds partnerships with internal and external stakeholders and establishes measures to improve contractors' performance. To prevent future safety breaches in the workplace, he recommends and optimises safe work action plans. He establishes direction and strategy for the agency's decarbonisation, decentralisation and digitalisation initiatives. He should be authorised as a trained person by a licensed electrical worker to carry out the job duties or be a Professional Engineer or Licensed Electrical Worker. He is forward-looking in endorsing future electrical plans, design submittals and improved initiatives. In addition, he is systematic in recommending safe work practices that adhere with technical standards in the workplace. Furthermore, he has good communication and interpersonal skills to form partnerships with stakeholders.		
Critical Work Functions and Key Tasks / Performance Expectations	**Critical Work Functions**	**Key Tasks**	**Performance Expectations (For legislated / regulated occupations)***
	Manage construction / installation	Endorse construction/installation strategies and plans for 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
		Endorse space planning of electrical systems to optimise facilities efficiency	
		Endorse change plans to resolve incidences of deviations from design specifications and technical standards	
		Drive cross-department and stakeholder engagements for resolution of construction issues and risk management	
		Endorse audit test results on electrical equipment, systems and networks upon completion	
		Drive optimisations in the construction and installation of electrical equipment, systems and networks	
	Manage commissioning process	Endorse commissioning scope, schedule and budget	
		Endorse testing process, procedures and acceptance criteria	
		Drive cross-department collaboration of review of electrical design submittals to ensure compliance with project requirements	
		Endorse commissioning checks and tests on electrical equipment, systems and networks	
		Recommend solutions for rectification of defects, deficiencies and abnormalities	
		Approve commissioning report documenting all commissioning activities and findings	
		Approve systemic solutions to be implemented prior to start-up based on pre-start-up safety review (PSSR) findings	
		Lead technical support during handover, initial start-up and ramp-up period	
	Manage key stakeholders / Manage contractors	Lead inter-agency committees for technical matters, technology discussions and policy decisions	
		Build strategic partnerships with internal and external stakeholders	
		Approve tender briefs and technical specifications for electrical and power installation services	
		Review tendering decisions to ensure they advance the agency's performance and operational goals	
		Approve electrical and power installation works done by contractors	
		Establish measures to enhance contractor performance and compliance with technical standards and codes of practice	
	Manage health, safety and environment	Optimise action plans to prevent future safety breaches	
		Recommend safe work practices for contractors	
		Drive workplace adherence to relevant sector regulations and codes of practice	
		Recommend policies and Standard Operating Procedures (SOPs) for Permit-to-Work systems	
		Drive formulation of the agency's environmental sustainability practices, policies and procedures	
		Advise on national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability and energy security	
		Establish direction and strategy to leverage new electrical and power technologies for the industry	

	Contribute to decarbonisation, decentralisation and digitalisation initiatives	Drive industry and inter-agency collaborations for research and assessment of new electrical and power technologies
		Drive continuous improvements to green initiatives for application of clean and renewable energy
		Advise on strategies for implementation of distributed power technologies
		Formulate data analytics plans for strategic decision-making

Skills & Competencies	Technical Skills and Competencies		Critical Core Skills	
	Airfield Lighting Systems Management	Level 5	Decision Making	Advanced
	Battery Systems Management	Level 5	Developing People	Advanced
	Business Intelligence and Data Analytics	Level 5	Communication	Advanced
	Continuous Improvement Management	Level 6	Transdisciplinary Thinking	Advanced
	Contract and Contractor Management	Level 5	Collaboration	Advanced
	Distributed Energy Resources Implementation and Interconnection	Level 6	Problem Solving	Advanced
	Electric Vehicle Charging Systems Management	Level 6	Sense-Making	Advanced
	Electrical Equipment and Systems Testing	Level 5	Building Diversity	Advanced
	Emergency Response and Crisis Management	Level 6	Customer Orientation	Advanced
	Energy Storage Systems Management	Level 6	Creative Thinking	Advanced
	Engineering Safety Standards Interpretation	Level 5	Digital Fluency	Advanced
	Environmental Sustainability Management	Level 6	Learning Agility	Advanced
	Equipment and Systems Installation and Commissioning	Level 5	Adaptability	Advanced
	Fuel Cells Technologies Application	Level 6	Influence	Advanced
	Hybrid AC and DC Power Distribution and Utilisation	Level 6	Self Management	Advanced
	Innovation Management	Level 6		
	Inter-agency Collaboration	Level 6		
	Internet of Things (IoT) Application	Level 6		
	Lifts and Escalators Systems Management	Level 5		
	Lighting Technologies Application	Level 6		
	Lightning Protection Systems Management	Level 5		
	Microgrids Implementation	Level 6		
	Modelling, Simulation and Visualisation	Level 5		
	Policy Development	Level 3		
	Power Engineering Management	Level 5		
	Public Health and Safety Management	Level 6		
	Regulatory Compliance and Risk Management	Level 6		
	Relay and Protection Systems Management	Level 5		
	Renewable Energy Technologies Application	Level 6		
	Robotics and Automation Systems Application	Level 5		
	Smart Grid Implementation	Level 6		
	Solar Photovoltaic Systems Application	Level 6		
	Solid-State Power System Apparatus Implementation	Level 6		
	Stakeholder Management	Level 6		
	Strategy Development	Level 6		
	Substation Automation Systems Management	Level 6		
	Substation Design Management	Level 5		

	Technical Inspection	Level 5	
	Technology Road Mapping	Level 6	
	Traction Power Systems Management	Level 6	
	Uninterrupted Power Supply Management	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.