

POWER ENGINEERING COMPETENCY FRAMEWORK			
SKILLS MAP - Chief Engineer (Operations & Maintenance)			
Sector	Power Engineering in the Public Service		
Track	Operations & Maintenance		
Occupation	Electrical Engineer		
Job Role	Chief Engineer (Operations & Maintenance)		
Job Role Description	<p>The Chief Engineer (Operations & Maintenance) is responsible for reviewing and endorsing preventive and corrective maintenance works including fault analysis, testing, investigation of power failures and fault repair for low voltage electrical equipment and systems. He/She acts as a subject matter expert and provides technical guidance for complex operations and maintenance activities. He develops the standards for the inspection of electrical equipment, obsolescence management and asset management plans.</p> <p>He approves the technical specifications and selection of contractors for operations and maintenance services, while recommending safe work practices. He also drives the use of new technology and analytics, and leads environmental sustainability 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.</p> <p>He networks effectively and builds strong partnerships with public service agencies and the wider engineering community. He possesses exceptional critical thinking and analytical skills. He also advises on national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability and energy security.</p>		
Critical Work Functions and Key Tasks / Performance Expectations	Critical Work Functions	Key Tasks	Performance Expectations (For legislated / regulated occupations)*
	Manage operations and maintenance	Endorse preventive and corrective maintenance works on 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
		Advise on complex fault analysis and testing, and technical recovery of electrical equipment, systems and networks	
		Guide investigation and resolution of complex operations and maintenance issues	
		Provide technical guidance for complex fault repair work for electrical equipment and systems	
		Lead review of inspection and maintenance documentation	
	Manage power assets	Establish Standard Operating Procedures (SOP) and requirements for inspection of electrical equipment	* Performance Expectations are non-exhaustive and subject to prevailing regulations and industry standards
		Develop obsolescence management and asset management plans to ensure equipment reliability and availability	
		Formulate inventory management policies and procedures	
		Drive condition monitoring works on electrical equipment and systems across plants or facilities	
	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 operations and maintenance services	
		Review tendering decisions to ensure they advance the agency's performance and operational goals	
		Approve electrical and power operations and maintenance works done by contractors	
	Manage safety, health and environment	Establish measures to enhance contractor performance and compliance with technical standards and codes of practice	
		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	
	Contribute to decarbonisation, decentralisation and digitalisation initiatives	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	
		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

Business Intelligence and Data Analytics	Level 5	Decision Making	Advanced
Continuous Improvement Management	Level 6	Developing People	Advanced
Contract and Contractor Management	Level 5	Transdisciplinary Thinking	Advanced
Corrective Maintenance Management	Level 5	Communication	Advanced
Demand Response Management	Level 6	Collaboration	Advanced
Distributed Energy Resources Implementation and Interconnection	Level 6	Customer Orientation	Advanced
Distributed Generation System Performance Monitoring	Level 5	Problem Solving	Advanced
Electric Vehicle Charging Systems Management	Level 6	Creative Thinking	Advanced
Electrical Equipment and Systems Testing	Level 5	Sense-Making	Advanced
Electrical Maintenance Management	Level 5	Building Diversity	Advanced
Electricity Network Incident Management	Level 5	Digital Fluency	Advanced
Electricity Network Operations Management	Level 5	Learning Agility	Advanced
Electricity Network Performance Monitoring	Level 5	Adaptability	Advanced
Emergency Response and Crisis Management	Level 6	Influence	Advanced
Energy Storage Systems Management	Level 6	Self Management	Advanced
Engineering Asset Management	Level 5		
Engineering Safety Standards Interpretation	Level 5		
Environmental Sustainability Management	Level 6		
Facilities Maintenance Management	Level 5		
Fuel Cells Technologies Application	Level 6		
Hybrid AC and DC Power Distribution and Utilisation	Level 6		
Innovation Management	Level 6		
Inter-agency Collaboration	Level 6		
Internet of Things (IoT) Application	Level 6		
Lighting Technologies Application	Level 6		
Microgrids Implementation	Level 6		
Modelling, Simulation and Visualisation	Level 5		
Policy Development	Level 3		
Power Engineering Management	Level 5		
Power Plant Incident Investigation	Level 5		
Power Plant Inspection	Level 5		
Power Plant Operations Management	Level 6		
Power Quality Management	Level 6		
Predictive Maintenance Management	Level 5		
Preventive Maintenance Management	Level 5		
Public Health and Safety Management	Level 6		
Regulatory Compliance and Risk Management	Level 6		
Reliability Centred Maintenance 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	
	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.