

POWER ENGINEERING COMPETENCY FRAMEWORK					
SKILLS MAP - Senior Engineer / Engineer (Energy Management Systems)					
Sector	Power Engineering in the Public Service				
Track	Monitoring & Control				
Occupation	Electrical Engineer				
Job Role	Senior Engineer / Engineer (Energy Management Systems)				
Job Role Description	<p>The Senior Engineer / Engineer (Energy Management Systems) is responsible for carrying out the implementation, configuration and administration of Information Technology (IT) and Operational Technology (OT) systems. He/she liaises with vendors and licensees for maintenance and repair of Energy Management System and supervises checks to detect failures. He implements cybersecurity measures according to the frameworks and policies, detects anomalous activities and potential threats to network resources, responds to cybersecurity incidents and ensures timely completion of security reviews and audits. He identifies system vulnerabilities and recommends solutions.</p> <p>Additionally, he analyses data for identifying operational and strategic insights, and encourages adoption of new technologies, and clean and renewable energy.</p> <p>He possesses critical thinking and problem-solving ability. He has good interpersonal skills and collaborates well with team members and contractors.</p>				
Critical Work Functions and Key Tasks / Performance Expectations	Critical Work Functions	Key Tasks		Performance Expectations (For legislated / regulated occupations)*	
	Oversee energy management systems	Maintain Information Technology (IT) and Operational Technology (OT) systems to support the needs of the division		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	
		Liaise with vendors/licensees for maintenance and repair of faulty equipment or software issues in Energy Management Systems			
		Provide support to System Control and Gas System Supervision Departments on gas and power application studies and simulations			
		Supervise checks on Sectorial Detection & Early Warning System (SDEWS) to ensure prompt resolution of faults			
		Supervise the construction, modification and verification of system schematic diagrams and databases			
	Manage cybersecurity risks	Carry out implementation, configuration and administration of security software and tools for OT systems			
		Carry out monitoring, detecting and reporting of cybersecurity threats, system abnormalities and information security issues			
		Conduct Incident Response (IR) reporting and technical assistance when analysis confirms actionable incident			
		Liaise with internal/external consultants to ensure on time completion of annual technical security reviews and ISO 27001 audits			
		Identify system vulnerabilities and cybersecurity risks and recommend solutions			
	Contribute to decarbonisation, decentralisation and digitalisation initiatives	Contribute to national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability, energy security			
		Conduct practicability and feasibility assessments of new electrical and power technologies			
		Assess regulatory and power system implications of innovation initiatives leveraging new electrical and power technologies			
		Provide technical advice for industry implementation of green initiatives for application of clean and renewable energy			
Engage industry in the adoption of best practices for transmission, distribution and the integration of distributed generation sources					
Analyse data for identification of operational and strategic insights					
Skills & Competencies	Technical Skills and Competencies			Critical Core Skills	
	Business Intelligence and Data Analytics	Level 3	Problem Solving	Intermediate	
	Continuous Improvement Management	Level 4	Creative Thinking	Intermediate	
	Contract and Contractor Management	Level 3	Sense-Making	Intermediate	
	Cyber Incident Management	Level 4	Decision Making	Basic	
	Cyber Risk Detection and Monitoring	Level 3	Collaboration	Intermediate	
	Cybersecurity Framework Application	Level 3	Transdisciplinary Thinking	Basic	
	Demand Response Management	Level 4	Communication	Intermediate	
	Emergency Response and Crisis Management	Level 4	Digital Fluency	Intermediate	
	Energy Security and Reliability Management	Level 4	Developing People	Basic	
	Engineering Problem Solving	Level 4	Customer Orientation	Intermediate	
	Environmental Sustainability Management	Level 4	Adaptability	Intermediate	
	Innovation Management	Level 4	Influence	Intermediate	

	Inter-agency Collaboration	Level 4	Self Management	Intermediate
	Internet of Things (IoT) Application	Level 4		
	Modelling, Simulation and Visualisation	Level 3		
	Operational Technology Security Audit	Level 4		
	Operational Technology Security Management	Level 4		
	Power Engineering Management	Level 3		
	Power Strategy Planning and Governance	Level 4		
	Regulatory Advisory	Level 4		
	Regulatory Compliance and Risk Management	Level 4		
	Robotics and Automation Systems Application	Level 3		
	Smart Grid Implementation	Level 4		
	Stakeholder Management	Level 4		
	Strategy Development	Level 4		
	Technology and Systems Application	Level 4		
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.