POWER ENGINEERING COMPETENCY FRAMEWORK			
SKILLS MAP - Senior Principal Engineer / Principal Engineer (Regulatory)			
Sector	Power Engineering in the Public Service		
Track	Regulatory		
Occupation	Electrical Engineer		
Job Role	**Senior Principal Engineer / Principal Engineer (Regulatory)**		
Job Role Description	The Senior Principal Engineer / Principal Engineer (Regulatory) is responsible for reviewing regulatory frameworks, policies and technical measures, legislations, codes of practice and performance standards for power systems and emerging technologies. He/She represents the agency in industry and inter-agency committees for technical matters, technology discussions and policy decisions. He investigates power failure and high voltage electrical incidents, investigates regulatory breaches and recommends appropriate regulatory action. He reviews competency criteria for licensees and leads applicant assessment and checks for Electrical Technician's Licence and licensing of electrical installations. He also leads inspections on electricity and supply installations. He implements strategies to ensure the safety, security and reliability of the electricity system, and leads power system reviews. He recommends appropriate regulatory action against parties who breach regulatory requirements, and proposes enhancements to licensees' safety plans and emergency preparedness. He advises on practical implications of decarbonisation, decentralisation and digitalisation initiatives to ensure regulatory compliance and energy security. He possesses good leadership skills, critical thinking and problem-solving ability. Furthermore, he is a strategic thinker and actively contributes to national energy and power policies, strategies and frameworks to balance economic competitiveness, environmental sustainability, energy security.		
Critical Work Functions and Key Tasks / Performance Expectations	**Critical Work Functions**	**Key Tasks**	**Performance Expectations (For legislated / regulated occupations)***
	Establish regulatory framework for power industry	Review regulatory frameworks, policies and technical measures/processes for power systems	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
		Review legislation, codes of practice and performance standards	
		Evaluate feasibility of technical regulations and requirements for new and emerging technologies	
		Represent the agency in industry and inter-agency committees for technical matters, technology discussions and policy decisions	
	Manage licensing and compliance operations	Review competency criteria for licensees carrying out electrical works	
		Conduct applicant assessment and checks for Electrical Technician's Licence and licensing of electrical installations	
		Review technical training and development plans for licensees	
		Lead inspections on electricity and supply installations	
		Investigate power failure and electrical incidents involving high voltage consumer electricity or installations	
		Investigate non-compliance or breaches of legislation, licence conditions, codes of practice and performance standards	
		Recommend appropriate regulatory action against parties who breach regulatory requirements	
	Ensure power system safety, security and reliability	Implement strategies to ensure the safety, security and reliability of the electricity system in the most economic manner	
		Review audit results and propose enhancements to licensees' safety plans and emergency preparedness	
		Lead reviews of power systems with licensees to ensure continued resilience of the electricity infrastructures	
		Conduct public talks and awareness and education initiatives for safe electricity use for the industry and the public	
	Oversee electricity network projects	Recommend strategies to enhance electricity transmission and distribution network development/renewal plans to meet electricity demand	
		Lead project feasibility assessments based on evaluation of site suitability	
		Review proposals and plans for electricity transmission and distribution network projects	
		Lead Concept and Master Plan Review for land related matters pertaining to the electricity system including power stations and substations	
		Ensure implementation of cyber and physical security of the electricity critical infrastructure	
	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	
		Review practicability and feasibility studies of new electrical and power technologies	
		Evaluate 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	
		Leverage data analytics to enhance operational and strategic decision-making	
Skills & Competencies	**Technical Skills and Competencies**		**Critical Core Skills**

	Business Intelligence and Data Analytics	Level 4	Problem Solving	Advanced
	Continuous Improvement Management	Level 5	Decision Making	Intermediate
	Cyber Incident Management	Level 5	Communication	Advanced
	Cyber Risk Detection and Monitoring	Level 4	Sense-Making	Advanced
	Cybersecurity Framework Application	Level 4	Collaboration	Advanced
	Demand Response Management	Level 5	Developing People	Intermediate
	Distributed Energy Resources Implementation and Interconnection	Level 5	Digital Fluency	Advanced
	Electricity Network Incident Management	Level 4	Creative Thinking	Advanced
	Electricity Network Performance Monitoring	Level 4	Customer Orientation	Advanced
	Electricity Network Planning	Level 4	Transdisciplinary Thinking	Intermediate
	Emergency Response and Crisis Management	Level 5	Adaptability	Intermediate
	Energy Security and Reliability Management	Level 5	Influence	Intermediate
	Energy Storage Systems Management	Level 5	Self Management	Intermediate
	Engineering Asset Management	Level 4		
	Engineering Problem Solving	Level 5		
	Engineering Safety Standards Interpretation	Level 4		
	Environmental Sustainability Management	Level 5		
	Equipment and Systems Installation and Commissioning	Level 4		
	Innovation Management	Level 5		
	Inter-agency Collaboration	Level 5		
	Network Technical Specifications Development	Level 4		
	Policy and Regulations Framework Development for Technology Advancement	Level 5		
	Policy Development	Level 5		
	Policy Implementation and Revision	Level 5		
	Power Engineering Management	Level 4		
	Power Plant Incident Investigation	Level 4		
	Power Quality Management	Level 5		
	Power Strategy Planning and Governance	Level 5		
	Public Health and Safety Management	Level 5		
	Regulatory Advisory	Level 4		
	Regulatory Compliance and Risk Management	Level 5		
	Solid-State Power System Apparatus Implementation	Level 5		
	Stakeholder Management	Level 5		
	Strategy Development	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.