

**POWER ENGINEERING COMPETENCY FRAMEWORK FOR POWER ENGINEERING PROFESSIONALS IN PUBLIC SERVICE
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Power Quality, Reliability and Security					
TSC Title	Energy Security and Reliability Management					
TSC Description	Facilitate the diversification of energy resources and regional cooperation to ensure a secure and reliable power supply					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
				<Insert TSC Code>	<Insert TSC Code>	<Insert TSC Code>
				Conduct energy demand and supply analysis to support energy security assessments	Provide technical expertise to ensure a secure and reliable power supply	Drive collaboration between public and private sector organisations to enhance energy security objectives
Knowledge				<ul style="list-style-type: none"> Power system operations and power value chain in Singapore Energy security assessment Power system monitoring and control systems Economics of energy supply Energy demand analysis and forecasting Energy markets 	<ul style="list-style-type: none"> Power system operations and power value chain in Singapore Energy security assessment Power system monitoring and control systems Economics of energy supply Energy demand analysis and forecasting Energy markets Singapore's fuel mix Renewable energy sources and regional power grids Energy storage systems (ESS) Energy emergency management forums 	<ul style="list-style-type: none"> Power system operations and power value chain in Singapore Issues facing the power sector Energy security assessment Energy resources, markets and economics Singapore's fuel mix Renewable energy sources Regional power grids Energy storage systems (ESS) Energy infrastructure resilience Regional engagement on energy security
Abilities				<ul style="list-style-type: none"> Conduct energy security assessments Participate in studies for monitoring and analysing energy supply chains Review power plant operations to meet targets 	<ul style="list-style-type: none"> Lead energy security assessments and analyse results Lead studies for monitoring and analysing energy supply chains Lead energy demand analysis and forecasting 	<ul style="list-style-type: none"> Advise on the security of national and regional supply chains for electricity Evaluate the results of energy security assessments and recommend actions

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				<ul style="list-style-type: none"> • Conduct energy demand analysis and forecasting • Analyse gaps between electricity supply and demand • Describe energy markets for conventional and renewable energy sources 	<ul style="list-style-type: none"> • Propose solutions to close current and future gaps in energy demand and supply • Facilitate communication and collaboration between public service with Malaysia and ASEAN countries • Contribute to bilateral and regional initiatives to tap on renewable energy sources and regional power grids • Work closely with the industry and public sector agencies to build testbeds and standards to support the deployment of ESS in Singapore • Participate in national and regional forums to support energy security objectives 	<ul style="list-style-type: none"> • Recommend solutions to close current and future gaps in energy demand and supply • Lead studies to evaluate the resilience of Singapore's power systems and energy markets • Develop energy supply emergency plans and procedures • Advise on bilateral and regional initiatives to tap on renewable energy sources and regional power grids • Work closely with the industry and agencies to build testbeds and standards to support the deployment of ESS in Singapore • Represent the agency in bilateral and multilateral forums to support energy security objectives • Engage in regional exchange on policy experience and innovative technology solutions • Advise on research and sector collaboration opportunities
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