

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

TSC Category	Energy Operations Management					
TSC Title	Power Plant Incident Investigation					
TSC Description	Investigate incidents, operational abnormalities and possible areas of fault in power plants					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
		<Insert TSC Code>	<Insert TSC Code>	<Insert TSC Code>	<Insert TSC Code>	
		Collect relevant data on incidents, operational abnormalities and possible areas of fault in power plants	Conduct investigations on incidents, operational abnormalities and possible areas of fault in power plants	Analyse investigation findings and prepare reports on incidents, operational abnormalities and possible areas of fault in power plants	Review investigation findings and reports on incidents, operational abnormalities and possible areas of fault in power plants	
Knowledge		<ul style="list-style-type: none"> Incident management processes Incident classification Techniques for preservation of incident sites Information collection techniques Operating principles, practice and standard operating procedures of multi-utility plants and equipment 	<ul style="list-style-type: none"> Event sequencing techniques Investigation concepts and techniques Accident causation theories and their applications Purpose of incident investigation Incident investigation procedures Techniques of incident report writing Incident disclosure requirements Electricity Act, regulations and regulatory conditions 	<ul style="list-style-type: none"> Due diligence process Questioning techniques Incident investigation procedures Techniques of incident report writing Incident disclosure requirements Key performance indicators (KPIs) for incident investigations 	<ul style="list-style-type: none"> Fundamental problem definition Techniques for analysing different types of faults Investigation resources History of prior incidents Best practices for incident investigations Key performance indicators (KPIs) for incident investigations Incident investigation policy planning processes 	
Abilities		<ul style="list-style-type: none"> Preserve incident site to aid in evidence and data collection and to prevent loss of evidence Collect relevant data to determine the causes of incidents Record relevant evidence and data Classify incidents for recording purposes 	<ul style="list-style-type: none"> Conduct incident investigations according to standard operating procedures (SOP) Analyse evidence and information relating to sequence of events and system records of incidents Provide preliminary investigation findings Prepare draft report on preliminary findings from investigation according to relevant legislations 	<ul style="list-style-type: none"> Review preliminary findings from investigations and draft incident reports Determine the objectives of investigation based on legislative and regulatory requirements and organisational guidelines Apply techniques in questioning witnesses to obtain relevant information in investigations 	<ul style="list-style-type: none"> Determine resources required for investigation Review post-incident investigation reports to determine root causes of incidents Review and recommend revision of procedures for investigating incidents Implement policies, frameworks and recommended procedures for investigating incidents 	

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			<p>and regulatory requirements, and organisational guidelines</p> <ul style="list-style-type: none"> • Maintain investigation records, evidence and data • Assist in simulating the possible circumstances in which the incident may have occurred 	<ul style="list-style-type: none"> • Review investigation KPIs for the incident investigation teams • Carry out simulations to derive the most possible cause • Identify direct causes of incidents • Prepare incident reports of investigations and simulations 	<p>and integrate best practices into procedures</p> <ul style="list-style-type: none"> • Set and revise investigation KPIs for the incident investigation teams • Provide technical guidance to investigation teams on incident investigations • Associate current incidents with past incidents for insights 	
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