

TSC Category	Rail Systems Maintenance					
TSC	Fire Protection Systems Maintenance					
TSC Description	Implement preventive and corrective maintenance of fire protection systems					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	PTP-RSM-1012-1.1	PTP-RSM-2012-1.1	PTP-RSM-3012-1.1	PTP-RSM-4012-1.1		
	Carry out scheduled maintenance work on fire protection systems	Conduct corrective maintenance on fire protection systems	Troubleshoot and locate faults on fire protection systems to recommend rectification methods	Diagnose root causes of fire protection systems failure and review maintenance plans to prevent fault recurrence		
Knowledge	<ul style="list-style-type: none"> Types, functions, configurations and operating principles of fire protection systems Types and specification of fire protection systems and components that includes: <ul style="list-style-type: none"> Automatic sprinkler systems and gauges Hose reel systems Gas suppression systems Fire alarm systems Portable fire extinguishers Fire roller shutters Dry riser systems Procedures for servicing fire protection systems in accordance to organisational procedures, Work Instruction (WI) and/or Original Equipment Manufacturer (OEM) technical manuals Safety guidelines on use of tools and equipment for preventive maintenance on fire protection systems 	<ul style="list-style-type: none"> Types, functions, configurations and operating principles of fire protection systems Types and specification of fire protection systems and components that includes: <ul style="list-style-type: none"> Automatic sprinkler systems and gauges Hose reel systems Gas suppression systems Fire alarm systems Portable fire extinguishers Fire roller shutters Dry riser systems Risk assessment procedures Types of fire protection systems fault indicators and response procedures Procedures to dismantle, repair, replace, and re-assemble fire protection components Procedures for conducting systems performance checks and identifying faults on fire protection systems 	<ul style="list-style-type: none"> Working principles of fire detection Common fault symptoms in fire protection systems Methods of locating and rectifying faults Types of troubleshooting techniques, equipment and tools Safety guidelines for usage of tools and equipment to execute troubleshooting on fire protection systems Cause and effect diagrams for fault identifications Schematic and control diagrams of fire protection systems Functional relationships between fire protection systems and the overall rail systems 	<ul style="list-style-type: none"> Factors affecting fire protection systems performance Failure investigation and prevention methods Methods and tools for diagnostic analysis Procedures for defect diagnosis and root cause analysis Types and methods of functional and integrated testing Organisational maintenance procedures, Work Instruction (WI) and Original Equipment Manufacturer (OEM) technical recommendations Functional relationships between fire protection systems and the overall rail systems Standards for Fire Safety in rail environment 		

**SKILLS FRAMEWORK FOR PUBLIC TRANSPORT
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

	<ul style="list-style-type: none"> Types and usage of Personal Protective Equipment (PPE) for fire protection systems maintenance Organisational maintenance documentation and fault reporting procedures Risk assessment procedures 	<ul style="list-style-type: none"> Safety guidelines on use of tools and equipment for corrective maintenance on fire protection systems Types and usage of Personal Protective Equipment (PPE) for fire protection systems maintenance Organisational maintenance documentation and fault reporting procedures 				
Abilities	<ul style="list-style-type: none"> Perform preparation work to conduct preventive maintenance on fire protection systems Follow organisational procedures, WI and/or OEM technical manuals to carry out preventive maintenance on fire protection systems Perform serviceability checks on fire protection systems Adhere to safety guidelines and operating instructions for tools and equipment during maintenance work Record fire protection systems maintenance activities and report occurrences of faults identified Apply device isolation and normalisation procedures on fire protection systems 	<ul style="list-style-type: none"> Interpret work orders and prepare for corrective maintenance Carry out first line recovery in response to fire protection systems faults and alarms Apply fault identification procedures to determine causes of fire protection systems faults Dismantle faulty fire protection systems for corrective maintenance Carry out repair and/or replace faulty fire protection system components Reassemble and reinstate fire protection systems Perform functional and tripping tests to determine the operability of fire protection systems Apply operating and safety measures in operating tools and equipment during maintenance work Record and collate documentation of fire 	<ul style="list-style-type: none"> Use troubleshooting tools, equipment and methods to locate and analyse causes of fire protection systems faults Recommend corrective actions for identified faults on fire protection systems Implement procedures on safe usage of tools and equipment during maintenance work Analyse maintenance work documented for fire protection systems to identify possible workflow improvements so as to prevent fault recurrence 	<ul style="list-style-type: none"> Establish structured failure investigation and specify functional testing requirements Perform fault tree analyses to diagnose the failure root cause of fire protection systems Review organisational fire protection systems maintenance procedures Propose new and/or enhanced maintenance procedures and/or WI in reference to OEM technical recommendations Monitor overall maintenance progress of fire protection systems to ascertain effectiveness of maintenance procedures Develop solutions by analysing diagnostic data to prevent faults and failures recurrence Develop troubleshooting, rectification and fault analysis methods Develop test procedures for systems performance checks 		

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		protection systems maintenance work		<ul style="list-style-type: none">• Coordinate fire protection systems maintenance with other rail systems maintenance needs		
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