

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

TSC Category	Rail Systems Maintenance					
TSC	Signalling Auxiliary Devices and Equipment Maintenance					
TSC Description	Implement preventive and corrective maintenance activities of signalling auxiliary devices and equipment					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	PTP-RSM-1035-1.1	PTP-RSM-2035-1.1	PTP-RSM-3035-1.1	PTP-RSM-4035-1.1		
	Carry out scheduled maintenance work on signalling auxiliary devices and equipment	Conduct corrective maintenance on signalling auxiliary devices and equipment	Troubleshoot faulty signalling auxiliary devices and equipment to locate faults and recommend rectification methods	Diagnose root causes of signalling auxiliary devices and equipment and review maintenance plans to prevent fault recurrence		
Knowledge	<ul style="list-style-type: none"> Operating principles and functions of signalling auxiliary devices and equipment Types of signalling auxiliary devices and equipment Technical terminologies associated with signalling auxiliary devices and equipment Procedures for servicing signalling auxiliary devices and equipment in accordance to organisational maintenance procedures, Work Instructions (WI) and/or Original Equipment Manufacturer (OEM) technical manuals Types of tools and equipment for carrying out preventive maintenance on signalling auxiliary devices and equipment Safety guidelines on use of tools and equipment for preventive maintenance on signalling auxiliary devices and equipment 	<ul style="list-style-type: none"> Operating principles and functions of signalling auxiliary devices and equipment Types of signalling auxiliary devices and equipment Electrical circuit drawings and schematic diagrams of signalling auxiliary devices and equipment Methods of power isolation Common failures of signalling auxiliary devices and equipment Procedures to dismantle repair, replace, and re-assemble signalling auxiliary devices and equipment components Types of tools and equipment for carrying out corrective maintenance on signalling auxiliary devices and equipment Safety guidelines on use of tools and equipment for corrective maintenance on signalling auxiliary devices and equipment 	<ul style="list-style-type: none"> Electrical circuit drawings and schematic diagrams of signalling auxiliary devices and equipment Procedures for conducting system performance checks Methods of power isolation Common fault symptoms in signalling auxiliary devices and equipment 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 signalling auxiliary devices and equipment 	<ul style="list-style-type: none"> Factors affecting performance between signalling auxiliary devices and equipment with signalling systems Failure investigation and prevention methods Methods and tools for diagnostic analysis Organisational maintenance procedures, Work Instructions (WI) and/or Original Equipment Manufacturer (OEM) technical recommendations Types and methods of continuity and functional tests on signalling auxiliary devices and equipment Functional relationships between, signalling auxiliary devices and equipment, other signalling systems and overall rail system 		

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

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				<ul style="list-style-type: none">• Develop test procedures for system performance checks• Coordinate signalling auxiliary devices and equipment maintenance with other rail systems maintenance needs		
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