

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

<b>TSC Category</b>	Rail Systems Maintenance					
<b>TSC</b>	Emergency and Security Communication Systems Maintenance					
<b>TSC Description</b>	Implement preventive and corrective maintenance activities of emergency and security communication systems					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
	<b>PTP-RSM-1009-1.1</b>	<b>PTP-RSM-2009-1.1</b>	<b>PTP-RSM-3009-1.1</b>	<b>PTP-RSM-4009-1.1</b>		
	Carry out scheduled maintenance work on emergency and security communication systems	Conduct corrective maintenance on emergency and security communication systems	Troubleshoot faulty emergency and security communication systems to locate faults and recommend rectification methods	Diagnose root causes of emergency and security communication systems failure and review maintenance plans to prevent fault recurrence		
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Operating principles and functions of emergency and security communication systems</li> <li>Types of emergency and security communication systems that includes</li> <li>Procedures for servicing emergency and security communication systems in accordance to organisational procedure, Work Instructions and/or Original Equipment Manufacturer (OEM) technical manuals</li> <li>Types of tools and equipment for carrying out preventive maintenance on emergency and security communication systems</li> <li>Safety guidelines and precautions on use of tools and equipment for preventive maintenance on security communication system</li> <li>Organisational maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Operating principles and functions of emergency and security communication systems</li> <li>Types of emergency and security communication systems that includes</li> <li>Types of emergency and security communication systems status and alarm</li> <li>Equipment replacement and setting</li> <li>Procedures to dismantle, repair, replace, and re-assemble emergency and security communication components</li> <li>Safety guidelines and precautions on use of tools and equipment for corrective maintenance on emergency and security communication system</li> <li>Organisational maintenance documentation and fault reporting procedures</li> </ul>	<ul style="list-style-type: none"> <li>Fundamentals of electrical and electronic circuits</li> <li>Common fault symptoms in emergency and security communication equipment</li> <li>Methods of locating and rectifying faults</li> <li>Types of troubleshooting techniques, equipment and tools</li> <li>Safety guidelines for usage of devices to execute troubleshooting on emergency and security communication systems</li> </ul>	<ul style="list-style-type: none"> <li>Factors affecting equipment and system performance</li> <li>Failure investigation and prevention methods</li> <li>Methods and tools for diagnostic analysis</li> <li>Organisational maintenance procedures, Work Instructions (WI) and/or Original Equipment Manufacturer (OEM) technical recommendations</li> <li>Types and methods of system performance checks on emergency and security communication systems</li> <li>Functional relationships between emergency and security communication systems and the overall rail systems</li> </ul>		

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	documentation and fault reporting procedures					
<b>Abilities</b>	<ul style="list-style-type: none"> <li>• Perform preparation work to conduct preventive maintenance on emergency and security communication systems</li> <li>• Follow organisational procedures, Work Instructions and/or OEM technical manuals to carry out preventive maintenance on emergency and security communication systems</li> <li>• Perform equipment servability checks</li> <li>• Adhere to safety guidelines and operating instructions for tools and equipment during maintenance activities</li> <li>• Record emergency and security communication systems maintenance activities and report occurrences of faults identified</li> </ul>	<ul style="list-style-type: none"> <li>• Interpret work orders and prepare for corrective maintenance</li> <li>• Apply fail-safe procedures to minimise the impact of equipment failure</li> <li>• Apply power isolation procedures to do what?</li> <li>• Dismantle faulty emergency and security communication equipment for corrective maintenance</li> <li>• Carry out rectification, repair and/or replacement of faulty components</li> <li>• Reassemble and reinstate emergency and security communication systems</li> <li>• Perform functional tests on emergency and security communication systems</li> <li>• Apply operating and safety measures in operating tools and equipment during maintenance</li> <li>• Record and collate maintenance work documentation of emergency and security communication systems</li> </ul>	<ul style="list-style-type: none"> <li>• Use troubleshooting tools, equipment and methods to locate and analyse causes of emergency and security communication equipment faults</li> <li>• Apply fault identification procedures to determine causes of equipment faults</li> <li>• Recommend corrective actions for identified faults on emergency and security communication systems</li> <li>• Implement procedures on safety device usage during maintenance work</li> <li>• Analyse maintenance work documentation of emergency and security communication systems to identify possible workflow improvements</li> </ul>	<ul style="list-style-type: none"> <li>• Establish structured failure investigation and specify functional testing requirements</li> <li>• Perform fault tree analyses to diagnose root cause failure on emergency and security communication systems</li> <li>• Review organisational emergency and security communication systems maintenance working procedures and/or Work Instructions</li> <li>• Propose new and/or enhanced maintenance procedures and/or WI in reference to OEM technical recommendations</li> <li>• Monitor overall maintenance progress of emergency and security communications systems to ascertain effectiveness of maintenance plan</li> <li>• Develop troubleshooting, rectification and fault analysis methods</li> <li>• Develop solutions by analysing diagnostic data to prevent faults and failures recurrence</li> <li>• Develop test procedures for system performance checks</li> <li>• Coordinate emergency and security communication systems maintenance with other</li> </ul>		

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