

1. Title	Fix the faults in railway signal interlock system
2. Code	EMRAOR404A
3. Range	Identify and repair the faults in railway signal interlock system at railway premises, railway traffic control rooms and signal switch rooms.
4. Level	4
5. Credits	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Structure and working principles of the railway signal and control system</p> <ul style="list-style-type: none"> <li>◆ Understand the structure and working principles of the railway signal and control system</li> <li>◆ Understand the structure and working principles of the central interlock components, including: <ul style="list-style-type: none"> <li>• Processor components</li> <li>• PLC components</li> <li>• Solid-state interlock (SSI)</li> <li>• Electronic circuit components</li> </ul> </li> <li>◆ Understand the structure and working principles of the trackside functional components of the railway signal and control system, including: <ul style="list-style-type: none"> <li>• PLC components</li> <li>• Solid-state interlock (SSI)</li> <li>• Relay interlock</li> <li>• Interface devices</li> <li>• Signal and information transmission equipment</li> </ul> </li> </ul> <p>6.2 Methods and procedures of identifying and repairing the faults in railway signal interlock system</p> <ul style="list-style-type: none"> <li>◆ Able to read the engineering drawings of the railway signal and control system and check the signal system equipment and devices systematically and efficiently</li> <li>◆ Analyze the information and fault symptoms and check the railway signal central interlock devices and circuits to find the root cause of fault</li> <li>◆ Analyze the information and fault symptoms and check the trackside equipment of the interlock system to find the root cause of fault</li> <li>◆ Analyze the information and fault symptoms and check the following signal and information transmission devices to find the root cause of fault <ul style="list-style-type: none"> <li>• Information transmission interface components</li> <li>• Signal transmission network including optical fibre network</li> </ul> </li> <li>◆ Repair the fault after finding out the fault equipment or component</li> <li>◆ Use general electrical and electronic equipment repairing and testing instruments and data logging instruments efficiently</li> </ul>

	<p>6.3 Professionalism in identifying and repairing the faults in railway signal interlock system devices</p> <ul style="list-style-type: none"> <li>◆ Identify and repair the faults in the railway signal interlock system devices according to the standards and requirements for work safety, health, environmental protection and quality management of railway works</li> <li>◆ Understand the safety guidelines as required by the law and codes of practice in identifying and repairing the faults in the railway signal interlock system devices</li> </ul>
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> <li>(i) Capable to identify the faults in the central interlock device components of the railway signal interlock system within a reasonable period of time according to the fault symptoms;</li> <li>(ii) Capable to identify the faults in the trackside equipment of the railway signal interlock system within a reasonable period of time.</li> </ul>
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses knowledge of electronics and the railway signal system.</p>