

1. Title	Formulate the inspection, commissioning and testing guidelines and standards for the railway signal interlock system
2. Code	EMRAIT510A
3. Range	Refer to the design of the railway signal interlock system and the overall design of the railway signal and control system and apply knowledge and techniques of electronic control circuit, control programme and programmable logic controller (PLC) and network system to formulate the inspection, commissioning and testing guidelines and standards for the railway signal interlock system.
4. Level	5
5. Credits	6
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Design, working principles and standards of the railway signal interlock system</p> <ul style="list-style-type: none"> <li>◆ Understand the design, structure and working principles of the railway signal interlock system</li> <li>◆ Know about the application of the inspection and testing guidelines of manufacturers</li> <li>◆ Master the techniques of working out the inspection, commissioning and testing standards for the railway signal interlock system</li> <li>◆ Understand the application of typical measuring and testing instruments and tools for the railway signal system</li> </ul> <p>6.2 Methods and procedures of formulating the inspection, commissioning and testing guidelines for the railway signal interlock system</p> <ul style="list-style-type: none"> <li>◆ Refer to the design of the railway signal interlock system and the overall signal control design and draft, test and formulate the inspection, commissioning and testing guidelines and standards for the central interlock components of the railway signal interlock system, including the control programme components, PLC components and electronic circuit components. Aspects to be covered are: <ul style="list-style-type: none"> <li>• Inspection procedures and standards</li> <li>• Function tests and standards</li> <li>• Interlock tests and standards</li> <li>• Standards for equipment setting</li> <li>• Important points for inspection, testing and setting</li> </ul> </li> <li>◆ Draft, test and formulate the inspection, commissioning and testing guidelines and standards for the trackside functional components of the railway signal and control system, including: <ul style="list-style-type: none"> <li>• Trackside components</li> <li>• Interface devices</li> <li>• Signal and information transmission equipment</li> </ul> </li> </ul>

	<p>6.3 Professionalism in formulating the inspection, commissioning and testing guidelines for the railway signal interlock system</p> <ul style="list-style-type: none"> <li>◆ Formulate the inspection, commissioning and testing guidelines for the railway signal interlock system 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 formulating the inspection, commissioning and testing guidelines for the railway signal interlock system</li> </ul>
<p>7. Assessment Criteria</p>	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> <li>(i) Capable to draft a set of inspection, commissioning and testing guidelines and standards for a specified railway signal interlock system according to commissioning requirements; and</li> <li>(ii) Capable to test the effectiveness of the drafted inspection, commissioning and testing guidelines and standards efficiently; analyze data and conduct reviews and modifications.</li> </ul>
<p>8. Remarks</p>	<p>The credit value of this unit of competency is set on the presumption that the person already possesses professional knowledge of electronic control circuit and railway signal system.</p>