

1. Title	Inspect, test and commission trackside equipment and SCADA System
2. Code	EMRAIT411A
3. Range	Undertake visual inspection and insulation, function and interlocking tests and measure, adjust, set and commission the trackside equipment of the railway signal and control system and Supervisory, Control and Data Acquisition System at railway premises, 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 and interlock</p> <ul style="list-style-type: none"> ◆ Understand the working principles of the railway signal and control system ◆ Understand the structure and working principles of the railway signal interlock system, including: <ul style="list-style-type: none"> • PLC • Solid-state interlock • Relay interlock • Electronic control circuits ◆ Understand the structure and working principles of the trackside equipment of the railway signal and control system, including: <ul style="list-style-type: none"> • PLC and control components • Train location detecting devices • Platform screen door control devices • Railway signal display devices • Electronic interface devices • Points • Supervisory, Control and Data Acquisition System (SCADA) ◆ Understand the scope and standards for inspection, testing and commissioning of interlock <p>6.2 Methods and procedures of inspecting, testing and commissioning the trackside equipment of the railway signal and control system and SCADA System</p> <ul style="list-style-type: none"> ◆ Able to read the inspection, testing and commissioning guidelines and circuit diagrams and select useful information ◆ calculate and compile the details for testing and commissioning according to relevant information ◆ Inspect, test and commission trackside equipment according to guidelines and standards and record the data from tests ◆ Inspect, test and commission points switches and control and protection circuits according to guidelines and standards and record the data ◆ Inspect, test and commission SCADA System according to guidelines and standards ◆ Use general electrical and electronic equipment testing instruments and tools efficiently

	<p>6.3 Professionalism in inspecting, testing and commissioning the trackside equipment of the railway signal and control system and SCADA System</p> <ul style="list-style-type: none"> ◆ Inspect, test and commission the trackside signal system equipment and the SCADA System equipment according to the standards and requirements for work safety, health, environmental protection and quality management of railway works ◆ Understand the safety guidelines as required by the law and codes of practice in inspecting, testing and commissioning the trackside signal system equipment and the SCADA System equipment
<p>7. Assessment Criteria</p>	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to inspect, test and commission safely and efficiently the functions and data of the trackside equipment of the railway signal and control system according to relevant standards; and (ii) Capable to inspect, test and commission safely and efficiently the motor-driven points fitted with interlock according to relevant standards.
<p>8. Remarks</p>	<p>The credit value of this unit of competency is set on the presumption that the person already possesses knowledge of electrical engineering, electronics and telecommunication.</p>