

1. Title	Inspect, test and commission the electrical system equipment of trains
2. Code	EMRAIT403A
3. Range	Perform visual inspection, insulation and function tests, and measure, adjust and set the electrical system and equipment of trains for train installation work according to guidelines and standards for inspection, testing and commissioning.
4. Level	4
5. Credits	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Working principles of and standards for inspecting, testing and commissioning the electrical system equipment of trains</p> <ul style="list-style-type: none"> ◆ Understand the structure and working principles of the electrical system equipment of trains, including: <ul style="list-style-type: none"> • Train power system equipment • Train traction control system equipment • Inverter / motor-alternator system • Train loop protection circuit ◆ Understand the scope and standards for inspection, testing and commissioning of the electrical system equipment of trains <p>6.2 Methods and procedures of inspecting, testing and commissioning the electrical system equipment of trains</p> <ul style="list-style-type: none"> ◆ Able to read the inspection, testing and commissioning guidelines and select useful information ◆ Calculate and compile the details for testing and commissioning according to relevant information ◆ Inspect, test and commission the electrical system equipment of trains and controlling and protecting devices according to guidelines and standards ◆ Inspect, test and commission the electric traction control system equipment of trains according to guidelines and standards, and record the data ◆ Inspect, test and commission the transformer system equipment of trains according to guidelines and standards, and record the data ◆ Inspect, test and commission the motor-alternator system equipment of trains according to guidelines and standards, and record the data ◆ Perform inspection, insulation test, continuity test and function test according to guidelines and standards for the following circuits <ul style="list-style-type: none"> • Train door loop protection circuit • Brake loop protection circuit

	<p>6.3 Professionalism in inspecting, testing and commissioning the electrical system equipment of trains</p> <ul style="list-style-type: none"> ◆ Inspect, test and commission the electrical system equipment of trains 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 electrical system equipment of trains
7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to inspect and test efficiently the electrical system equipment of trains and set the protection devices according to the standards; (ii) Capable to inspect and test efficiently the electric traction control system equipment of trains; and (iii) Capable to inspect and test efficiently the inverter and motor-alternator system equipment of trains and set the control and protection devices according to the standards.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses knowledge of electrical and mechanical engineering and electrical equipment.</p>