

1. Title	Formulate instructions and plans for the overall inspection, testing and commissioning of trains
2. Code	EMRAIT601A
3. Range	Refer to the overall design of trains and review the scope of instructions for inspection, testing and commissioning of train systems to formulate instructions and plans for the overall inspection, testing and commissioning of trains.
4. Level	6
5. Credits	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Overall design, performance requirements and overall commissioning of trains</p> <ul style="list-style-type: none"> ◆ Master the techniques of reviewing, assessing, integrating and developing performance requirements and overall design guidance information for trains ◆ By applying specialized train electrical and mechanical engineering knowledge, integrate and develop the requirements for the overall design into performance standards for various component system equipment ◆ Master the techniques of designing overall testing of trains according to performance standards <p>6.2 Methods and procedures of formulating instructions and plans for the overall inspection, testing and commissioning of trains</p> <ul style="list-style-type: none"> ◆ Capable to formulate the following testing instructions for train fleet type by referring to the overall railway design and the overall design of train fleet type, and by reviewing the scope of inspection, testing and commissioning of train systems: <ul style="list-style-type: none"> • Full load test • Immunization test to verify that the interference of the electric current of trains to peripheral signal systems is within the specified range • Harmonic test to verify that the harmonic waves generated by the electric current of trains are within the specified range ◆ Capable to perform full load tests, immunization tests and harmonic tests according to testing instructions ◆ Capable to analyze testing data ◆ Capable to formulate commissioning procedures and verification reports required for trains, including <ul style="list-style-type: none"> • Various system inspection, testing and commissioning reports • Comprehensive testing reports for train operation • Comprehensive testing reports for train types ◆ Capable to use general checking and testing instruments for electrical and electronic equipment, and some specialized instruments for checking and testing train equipment

	<p>6.3 Professionalism in formulating instructions and plans for the overall inspection, testing and commissioning of trains</p> <ul style="list-style-type: none"> ◆ Formulate instructions and plans for the inspection, testing and commissioning of trains according to the standards and requirements for safety, health, environmental protection and quality management of railway works ◆ Understand the safety guidelines as required by the law and codes of practice in formulating instructions and plans for the inspection, testing and commissioning of trains
<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 draft an instruction for full load tests, immunization tests and harmonic tests of trains that complies with the requirements for testing train fleet type; and (ii) Capable to perform overall testing for train type and analyze testing data effectively, and capable to formulate requirements for overall commissioning procedures and verification reports for trains effectively.
<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 train electrical and mechanical engineering.</p>