1. Title	Review the design of railway electrical and mechanical engineering equipment that has applied new technology and make decisions
2. Code	EMRADE604A
3. Range	Under a series of conditions, change and apply differentiation and creative techniques to review equipment design that has applied new technology to enhance the safety, reliability, comfort, environmental protection and efficiency of railway electrical and mechanical systems.
4. Level	6
5. Credits	20
6. Competency	<u>Performance Requirements</u> 6.1 Predicted performance data of the design of railway electrical and mechanical engineering equipment that has applied new technology ♦ Master the techniques of screening and organizing valid data ♦ Be familiar with the functions, working principles and performance standards of electrical and mechanical engineering equipment that has applied new technological design ♦ Be familiar with the match of the new technological equipment design and connected equipment and the overall performance requirements ♦ Capable to apply integrated engineering knowledge and technology to assess the performance of equipment of new technological design from different aspects 6.2 Methods and procedures of reviewing the design of railway electrical and mechanical engineering equipment that has applied new technology and decision making ♦ Capable to review the new technological railway electrical and mechanical engineering equipment with overseas application experience. The procedures include: • Identify and confirm the actual benefits of introducing equipment of new technological design • Identify the similarities and differences in applying the newly introduced equipment of new technological design to local railway as compared with overseas applications • Analyze the performance records of overseas applications • Assess the risks of adopting the newly introduced new technological equipment • Compile assessment and review reports ♦ Capable to make decisions for the adoption of the new technological railway electrical and mechanical engineering equipment with overseas application experience. The procedures include: • Analyze assessment and review reports, and capable to consider the overall system design and condition, and make decisions and plans for adopting the new technological railway engineering equipment with overseas application experience • Formulate follow-up and contingency plans

		♦ Capable to review railway electrical and mechanical engineering equipment of new technological design. The procedures include: • Identify and confirm the actual benefits of introducing equipment of new technological design • Analyze and assess the safety and reliability of equipment of new technological design • Analyze and assess the testing records of equipment of new technological design • Assess the risks of adopting equipment of new technological design ♦ Compile assessment and review reports for making decisions for adopting railway electrical and mechanical engineering equipment of new technological design. The procedures include: • Analyze assessment and review reports, and capable to consider the overall system design and condition and make decisions and plans for adopting equipment of new technological design ♦ Formulate follow-up and contingency plans
	6.3 Professionalism in reviewing the design of railway electrical and mechanical engineering equipment that has applied new technology	♦ Capable to review the design of railway electrical and mechanical engineering equipment that has applied new technology 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 reviewing the design of railway electrical and mechanical engineering equipment that has applied new technology
7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to review effectively the design of railway electrical and mechanical engineering equipment that has applied new technology, analyze related testing and application data, and compile assessment and review reports; (ii) Capable to formulate correct decision-making procedures and plans, and decide whether the new technological design should be adopted according to procedures and actual situation; and (iii) Capable to formulate effective follow-up and contingency plans.	
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses professional electrical and mechanical engineering knowledge.	