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| 1. Title | Troubleshoot intermittent and hidden faults in train | |
| 2. Code | EMRAOR401A | |
| 3. Range | Apply fault finding and analysis techniques professionally with a good knowledge of the equipment system at a train maintenance centre or a train in operation to find the root causes of intermittent and hidden faults in such system and equipment. | |
| 4. Level | 4 | |
| 5. Credits | 5 | |
| 6. Competency | <p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Techniques of analyzing and finding intermittent and hidden faults in train system and equipment</p> <ul style="list-style-type: none"> ◆ Understand the causes and types of intermittent intractable and hidden faults ◆ Master the techniques of analyzing intermittent and hidden faults ◆ Understand the operation characteristics of train system and equipment, and the devices and circuits which are prone to hidden faults <p>6.2 Methods and procedures of finding intermittent and hidden faults in train system and equipment</p> <ul style="list-style-type: none"> ◆ Apply the following techniques to find hidden faults in train system and equipment effectively so as to improve the efficiency of finding faults <ul style="list-style-type: none"> • Analyze past fault symptoms and identify suspected faulty equipment • Simulate different operation conditions to trigger hidden faults • Analyze the performance data of relevant system equipment ◆ Apply the following techniques to find intermittent faults in train system and equipment effectively so as to improve the efficiency of finding faults <ul style="list-style-type: none"> • Install and connect data logging instruments for monitoring of faults • Install and connect the fault latching circuit for monitoring of faults • Interchange with identical equipment for testing (by trial and error) • Simulate different operation conditions to trigger intermittent faults • Analyze the performance data of relevant system equipment ◆ Use general E&M and pneumatic equipment measuring and testing instruments and data logging instruments efficiently | |

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| | <p>6.3 Professionalism in identifying intermittent and hidden faults in train system and equipment</p> <ul style="list-style-type: none"> ◆ Identify intermittent and hidden faults in train system and 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 to handle supervision work of identifying intermittent and hidden faults in train system and equipment |
| 7. Assessment Criteria | <p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to identify a preset hidden faults in a train control circuit within a reasonable period of time; and (ii) Capable to illustrate the techniques of identifying intermittent faults in the train system and equipment. |
| 8. Remarks | <p>The credit value of this unit of competency is set on the presumption that the person is familiar with the operation and working principles of train equipment.</p> |