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| 1. Title | Repair the faults in electric traction control systems of trains |
| 2. Code | EMRAOR302A |
| 3. Range | Identify and repair the faults in electric traction control systems and equipment of trains at train maintenance centres or during operation of trains. |
| 4. Level | 3 |
| 5. Credits | 9 |
| 6. Competency | <p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Working principles of electric traction control systems and equipment of trains and basic fault finding techniques</p> <ul style="list-style-type: none"> ◆ Understand the structure and working principles of the electric traction control systems and equipment of trains ◆ Be familiar with the main circuits and control circuits of the electric traction control systems of trains ◆ Master the basic fault finding techniques <p>6.2 Methods and procedures of finding and repairing the faults in electric traction control systems of trains</p> <ul style="list-style-type: none"> ◆ Able to read the electrical engineering drawings and check the circuits systematically and efficiently ◆ Check the circuits and equipment of the electric traction control systems of trains to find the root causes of faults according to the fault symptoms <ul style="list-style-type: none"> • Main circuits • Control circuits and equipment • Electronic control equipment • Protection equipment • Regenerative braking devices ◆ Repair the faults effectively after identifying the fault in equipment or components ◆ Use general electrical repairing and testing instruments and tools efficiently <p>6.3 Professionalism in repairing faults in electric traction control systems of trains</p> <ul style="list-style-type: none"> ◆ Understand the safety guidelines as required by the law and codes of practice in removing faults in electric traction control systems of trains |

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| 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 the faults in the control circuits of the electric traction control systems of trains within a reasonable period of time according to the fault symptoms; (ii) Capable to identify the faults in the electronic control equipment of the electric traction control systems of trains within a reasonable period of time according to the fault symptoms; and (iii) Capable to identify the faults in the protection equipment of the electric traction control systems of trains within a reasonable period of time according to the fault symptoms. |
| 8. Remarks | <p>The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of electricity.</p> |