

1. Title	Analyze fault records to find frequent faults and their root causes
2. Code	EMRAOR501A
3. Range	Make use of the highly-efficient data storage and access system to access and analyze equipment system fault records, including analyzing by equipment system and by train unit, in order to find and study the frequent faults and to locate their root causes.
4. Level	5
5. Credits	5
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Causes of faults and their analyzing methods</p> <ul style="list-style-type: none"> ◆ Master the techniques of analyzing causes of faults ◆ Master the typical methods of analyzing faults such as (FMEA) and Fault Tree Analysis (FTA) to find the root causes of faults ◆ Master the techniques of screening information <p>6.2 Methods and procedures of analyzing fault records to find frequent faults and their root causes</p> <ul style="list-style-type: none"> ◆ Capable to analyze frequent faults in equipment system from the equipment fault and repair records categorized by equipment system ◆ Capable to identify the root causes of fault according to data analysis. Causes include <ul style="list-style-type: none"> • Design deviation • Overloading • Equipment fatigue (equipment fault curve) • Human mistake • Environment factor ◆ Capable to base on the fault record or repair record of an independent equipment system unit (e.g. an independent train unit) to analyze whether a frequent fault of that particular unit occurs repeatedly ◆ Capable to base on data analyzed to judge whether the frequent fault has been repaired ◆ Capable to formulate record analysis system to enhance the reliability of equipment through the following ways <ul style="list-style-type: none"> • Analyze and review equipment fault and repair records regularly • Communicate effectively with other departments and the manufacturer to implement the recommendations on equipment improvements

7. Assessment Criteria	<p>The integrated outcome requirement of this unit of competency is:</p> <ul style="list-style-type: none"> (i) Capable to analyze systematically and efficiently frequent faults in equipment system from the equipment fault and repair records, and judge whether the frequent faults have been repaired; and (ii) Capable to find the frequent faults in an independent unit of equipment from the equipment fault and repair records, and judge whether the fault has been repaired.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person is familiar with the structure and working principles of equipment and system.</p>