

1. Title	Preparations for startup and shutdown of circulating cooling water systems	
2. Code	EMPEOM202A	
3. Range	Perform startup and shutdown operations for circulating cooling water systems in general industrial plants, power plants or other places.	
4. Level	2	
5. Credits	3	
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Operating principle of circulating cooling water systems</p> <ul style="list-style-type: none"> ◆ Understand the functions and operating principle of devices in the systems <ul style="list-style-type: none"> • Circulating water pump • Condenser • Circulating water booster pump • Cooling water pipes • Valves • Chlorination equipment ◆ Understand the preparatory procedures for the startup and shutdown of circulating cooling water systems <p>6.2 Preparatory procedures for the startup and shutdown of circulating cooling water systems</p> <ul style="list-style-type: none"> ◆ Use various types of meter to read the data required and confirm that the status of the cooling water system is suitable for startup or shutdown <ul style="list-style-type: none"> • Suitable amount of cooling water • Suitable temperature and pressure of cooling water • Water level difference of filter is within the range • Rotary filter already in operation ◆ Check the condenser, valves, circulating water pump and cooling water pipes before the startup according to the operation procedure ◆ Check for water leakage of the system after water running through ◆ Confirm that the steam side of condenser has already stopped operation before shutting down the system <p>6.3 Professionalism in preparing the startup and shutdown of circulating cooling water systems</p> <ul style="list-style-type: none"> ◆ Follow manufacturer's instructions and procedures of operating circulating cooling water system to perform the preparations for startup and shutdown ◆ The startup and shutdown of circulating cooling water systems should be performed in compliance with the safety requirements of working guidelines and requirements of codes of practice 	

7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> (i) Capable to perform the preparations for the startup and shutdown of circulating cooling water systems under instruction and according to guidelines; (ii) Capable to explain the preparatory procedures for the startup and shutdown of circulating cooling water systems; and (iii) Capable to complete report forms for the startup and shutdown of circulating cooling water systems.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of industry safety and mechanical operation.</p>