

1. Title	Startup preparations for steam turbines											
2. Code	EMPEOM404A											
3. Range	Perform startup preparations for steam turbines in general industrial plants, power plants or other places.											
4. Level	4											
5. Credits	6											
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <table border="0"> <tr> <td style="vertical-align: top;">6.1</td> <td style="vertical-align: top;">Steam turbine startup principle</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Understand the importance of preparing the startup of steam turbines ◆ Understand the procedures preparing for the startup of steam turbines <ul style="list-style-type: none"> • Prepare startup preparation • Check the equipment system </td> </tr> <tr> <td style="vertical-align: top;">6.2</td> <td style="vertical-align: top;">Methods and procedures preparing for the startup of steam turbines</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Implement organizational work preparations <ul style="list-style-type: none"> • Formulation of startup plan • Formulation of startup operation procedures • Division of labour for operating personnel • Coordination with electricians and instrument mechanics • Job sheet recording the process of startup • Special instruments: tachometer, thermometer, vibration meter, deflection meter • Tools: probe, valve spanner, flashlight ◆ Perform equipment system check <ul style="list-style-type: none"> • Checking steam turbine's main body, auxiliaries and system • Checking control and measuring instruments • Checking steam and water system valves' positions ◆ Perform pre-startup testing <ul style="list-style-type: none"> • Conditioning system static testing • Protection system testing </td> </tr> <tr> <td style="vertical-align: top;">6.3</td> <td style="vertical-align: top;">Professionalism in preparing for the startup of steam turbine</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Follow manufacturer's instructions and procedures for steam turbine preparation to perform the startup preparations ◆ Prepare for the startup of steam turbine in compliance with the statutory code of safety and codes of practice ◆ Immediately correct and remedy abnormal operating parameters </td> </tr> </table>			6.1	Steam turbine startup principle	<ul style="list-style-type: none"> ◆ Understand the importance of preparing the startup of steam turbines ◆ Understand the procedures preparing for the startup of steam turbines <ul style="list-style-type: none"> • Prepare startup preparation • Check the equipment system 	6.2	Methods and procedures preparing for the startup of steam turbines	<ul style="list-style-type: none"> ◆ Implement organizational work preparations <ul style="list-style-type: none"> • Formulation of startup plan • Formulation of startup operation procedures • Division of labour for operating personnel • Coordination with electricians and instrument mechanics • Job sheet recording the process of startup • Special instruments: tachometer, thermometer, vibration meter, deflection meter • Tools: probe, valve spanner, flashlight ◆ Perform equipment system check <ul style="list-style-type: none"> • Checking steam turbine's main body, auxiliaries and system • Checking control and measuring instruments • Checking steam and water system valves' positions ◆ Perform pre-startup testing <ul style="list-style-type: none"> • Conditioning system static testing • Protection system testing 	6.3	Professionalism in preparing for the startup of steam turbine	<ul style="list-style-type: none"> ◆ Follow manufacturer's instructions and procedures for steam turbine preparation to perform the startup preparations ◆ Prepare for the startup of steam turbine in compliance with the statutory code of safety and codes of practice ◆ Immediately correct and remedy abnormal operating parameters
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7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> (i) Capable to clearly explain the preparations for the startup of steam turbine; (ii) Capable to perform the preparations for the startup of steam turbine according to procedures; (iii) Capable to compile reports on the preparations for the startup of steam turbine; and (iv) Capable to clearly report the status of preparing for the startup of steam turbine.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses the competency of EMPEOM308A “Normal running operations and adjustment of steam turbine”.</p>