

**Exercise Plan Template**  
**(Instructor's Copy)**

<b>Course Title</b>	<b>Management Level Course - Engine</b>
<b>Exercise No.</b>	<b>A4.5A</b>
<b>Exercise Title</b>	The liquid cargo pump is not working at its maximum capacity
<b>Duration</b>	<b>Briefing:</b> 5 Minutes <b>Exercise Proper:</b> 2 hours and 30 minutes <b>Debriefing:</b> 15 Minutes
<b>Function</b>	Electrical, electronic and control engineering at the management level
<b>Competence</b>	Manage Operation of Electrical and Electronic Control Equipment
<b>Knowledge, Understanding and proficiency</b>	Design features and system configurations of operational control equipment for electrical motors
<b>Intended Learning Outcome/s</b>	At the end of the exercises, the trainee should be able to assess the performance level of control equipment system for electrical motors based on its design features, configurations, and operating manuals through a given scenario.
<b>Training Equipment</b>	Liquid Cargo Pump Operating Manual
<b>Scenario Description</b>	The control system of the #1 liquid cargo pump is suspected to be not working properly. The Chief Officer reported the situation to the C/E.  ETO is part of the safe manning.
<b>Initial Condition</b>	The ship is underway and due for arrival
<b>Instructor's Action</b>	The instructor should follow these steps for the entire duration of the exercise to ensure the effective and safe conduct of the practical exercise:  <ul style="list-style-type: none"> <li>• Conduct briefing;</li> <li>• Start the practical exercise;</li> <li>• Monitor the trainees' performance using the attached checklist;</li> <li>• Monitor the performance of the trainees during the execution of the practical exercise;</li> </ul>

	<ul style="list-style-type: none"> <li>• Remind the trainee of the time left and actions not related to the exercise</li> <li>• Stop the exercise if there is any deviation from the required procedure, then explain the reason and give further instruction; and;</li> <li>• Complete the performance task done or not done;</li> <li>• Conduct debriefing.</li> </ul>		
<b>Exercise Procedure</b>			
<b>Briefing</b>	<p>Before the start of the exercise, ensure that the following are fully understood and done by the trainees:</p> <ul style="list-style-type: none"> <li>• The measures to be observed during the execution of the exercise</li> <li>• The specified intended learning outcomes and execution of the performance criteria of the exercise;</li> <li>• The attitude, as a management level officer, to be shown by the trainee during practical exercises</li> <li>• The need to treat the activity as it is a real-life situation;</li> <li>• The best management practices applicable; and</li> <li>• The monitoring and assessment to be conducted during and after the completion of exercise;</li> <li>• Seek clarifications and concerns regarding the instructions given prior commencing the simulation exercise</li> </ul>		
<b>Trainee's Action</b>	Participating in the given practical exercise such as planning, coordination, monitoring and supervision.		
<b>Debriefing</b>	<p>Start the debriefing by stating the purpose of the debriefing and encourage peer review and discussions then:</p> <ul style="list-style-type: none"> <li>• ask the trainees how they went about the exercise and what challenges they encountered;</li> <li>• state whether the intended learning outcomes were achieved;</li> <li>• provide the result of the evaluation using the checklist provided based on the criteria for assessing the competence;</li> <li>• discuss the positive accomplishment as well as the points for improvements, if any; and</li> <li>• always be diplomatic in any objection of the trainee and take note of the comment regarding the exercise.</li> </ul>		
<b>Monitoring Checklist</b>			
<i>Trainees should be required to repeat the execution if any of the performance criteria is not done or not acceptable</i>			
<b>Performance Criteria</b>	<b>Done</b>	<b>Not Done</b>	<b>Observations / Comments</b>

<b>1. Planning and coordination</b>			
<b>*Effective communication</b>			
<ul style="list-style-type: none"> <li>▪ Lead the toolbox meeting</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss forthcoming task among the teammates</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Answer clarifications from teammates</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss the necessary communication with the bridge and/or company</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss when the forthcoming task to be executed <ul style="list-style-type: none"> <li>➤ Identifying Resource Constraints</li> <li>➤ Assessing Resource Availability: The Chief engineer should conduct a thorough assessment of available resources to identify any potential constraints. This includes evaluating the availability skilled personnel, equipment, and other necessary resource.</li> <li>➤ Performance levels are in accordance with technical specifications.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Assess the situation assisted by the ETO <ul style="list-style-type: none"> <li>➤ CE personally should evaluate the operation of equipment and system in accordance with operating manuals with ETO.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Identify tools/special tools and other resources needed <ul style="list-style-type: none"> <li>➤ Implementation of safety procedures is satisfactory.</li> <li>➤ Selection, and use of test equipment is appropriate and interpretation of result is accurate.</li> <li>➤ Selection of procedures for the conduct of repair and maintenance is in accordance with manuals and good practice.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss the operating manuals, and electrical schematic diagrams to be used</li> </ul>			

<ul style="list-style-type: none"> <li>➤ Evaluating operation of equipment and system is in accordance with operating manuals</li> <li>➤ Performance levels are in accordance with technical specifications</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Encourage the sharing of ideas and experiences within teammates</li> </ul>			
<ul style="list-style-type: none"> <li>▪ Instruct the designated officer to prepare the checklist. <ul style="list-style-type: none"> <li>➤ The CE should instruct the designated officer to prepare the checklist for the implementation of safety procedures is satisfactory, and selection and use of test equipment is appropriate.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss the objective of the task and course of action to the teammates <ul style="list-style-type: none"> <li>➤ troubleshoot in accordance with the safety procedure</li> <li>➤ Inspection, testing and troubleshooting of equipment are appropriate</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss the general operation procedures of the task to the teammates <ul style="list-style-type: none"> <li>➤ troubleshoot in accordance with the safety procedure</li> <li>➤ After rectification and before testing, confirmation of power supply to control equipment system for electrical motors of the #1 liquid cargo pump is in accordance with operating manuals.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Discuss the requirements in the operation per SMS using manufacturer or ship's manual</li> </ul>			
<p><b>2. Monitoring and Supervision</b></p>			
<p><b><i>*Effective communication onboard and obtaining and maintaining situation awareness</i></b></p> <ul style="list-style-type: none"> <li>▪ Lead the assessment of the performance of the cargo pump in accordance with the procedure manual, and safety procedures</li> </ul>			

<ul style="list-style-type: none"> <li>▪ Supervise the testing after the rectification or communicate with the company or maker if in the assessment of the C/E, the cargo pump cannot be rectified with the available manual and resources.</li> </ul>			
<p><b>3. Post Activity</b></p>			
<ul style="list-style-type: none"> <li>▪ Request the C/O for post operation watchkeeping <ul style="list-style-type: none"> <li>➤ Evaluate the implementation of safety procedures after the rectification of the liquid cargo pump. Ask C/O for post operation Watchkeeping.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Report the progress report to the Master <ul style="list-style-type: none"> <li>➤ Report the progress to the Master regarding the assessment of the performance of the liquid cargo pump in accordance with the manual, and safety procedures if rectify or not, ask him to assess during testing.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>▪ Record the activity in the engine room logbook</li> </ul>			

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Date

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Trainee's Name & Signature

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Instructor's Name & Signature

*Note: This sample practical Exercise Sheet was used during the conduct of pilot testing, MTI may enhance this taking into account the Resources they have.*