	<p align="center"><i>HEALTH, SAFETY, ENVIRONMENT AND QUALITY MANAGEMENT SYSTEM</i></p> <p align="center"><b>63.0 BALLAST WATER TREATMENT SYSTEM</b></p> <p align="center"><i>ON THE JOB TRAINING</i></p>	<p>OJT : 063  Page 1 of 2  Date : 07-Nov-25  Rev : 10.1  Appr : DPA</p>
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VESSEL : \_\_\_\_\_

DATE : \_\_\_\_\_

### **Details of training: Ballast Water Treatment System**

Ballast Water Management is the removal / render harmless / or avoiding the uptake (or discharge) of Harmful Aquatic Organisms and Pathogens within Ballast Water and Sediments through mechanical, physical, chemical, and biological processes, either singularly or in combination. The Ballast Water Management System includes Ballast Water Treatment Equipment, all associated Control Equipment and Sampling Facilities.

As required in Regulation D-2 of the Convention, Ships conducting Ballast Water Management shall discharge less than 10 viable organisms per cubic meter greater than or equal to 50 micrometers in minimum dimension and less than 10 viable organisms per milliliter less than 50 micrometers in minimum dimension and greater than or equal to 10 micrometers in minimum dimension; and discharge of the indicator microbes shall not exceed the specified concentrations described below.

Indicator microbes, as a human health standard, shall include:


- Toxicogenic *Vibrio cholerae* (O1 and O139) with less than 1 colony forming unit (cfu) per 100 milliliters or less than 1 cfu per 1 gram (wet weight) zooplankton samples;
- *Escherichia coli* less than 250 cfu per 100 milliliters;
- Intestinal Enterococci less than 100 cfu per 100 milliliters.

When such a system is fitted on board it should be operated in accordance with the system design criteria and manufacturer's operational and maintenance instructions as contained in the relevant booklets.

When the system encounters failure and / or malfunctions, these are to be recorded in the ballast record book. The Master is to contact the Company (ship manager) immediately in this regard.

### **General guidance on operation of Ballast Water Treatment Systems**

- Familiarize with the health and safety risks to the personnel associated with installation, operation and maintenance of the system.
- Familiarize on how the system works.
  - Preparation before operation
  - Ballasting mode
  - De-ballasting mode by pumps
  - De-ballasting mode by gravity
  - Stripping mode
- Familiarize with the relevant pump capacities for the above modes and minimum time required to de-ballast from all the ballast tanks
- Familiarize with the alarm list and trip list parameters.

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- Familiarize on how to navigate the alarm history and operating log.
- Familiarize on how to extract the log data.
  - Via Personal Computer
    - Save the extracted file in Sharepoint under section 3-2-4a BWTS Record of Operation
  - Via Flash Drive
    - Save the extracted file in Sharepoint under section 3-2-4a BWTS Record of Operation
- Familiarize with the maintenance requirements. Ensure Mespas maintenance records are as per the System Operation Manual
- Familiarize with the troubleshooting procedure as described in the system manual.
- Ensure proper record keeping when taking in or discharging ballast water using the equipment. Attach the relevant printout if provided by the equipment.
- Ensure that the CNO and CEO hand over notes include issues that may exist with the system.