


	<p>HEALTH, SAFETY, ENVIRONMENT AND QUALITY MANAGEMENT SYSTEM</p> <p><b>20.0 HEAVY WEATHER BALLASTING &amp; DEBALLASTING OF CARGO HOLD</b></p> <p>DRY CARGO MANUAL</p>	<p>Sect : 20.0  Page : 1 of 4  Date : 07-Aug-25  Rev : 10.0  Appr : DPA</p>
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## HEAVY WEATHER BALLASTING & DEBALLASTING OF CARGO HOLD

### 1. GENERAL

(APPLICABLE TO VESSELS PROVIDED WITH DEDICATED HEAVY WEATHER BALLAST HOLD)

Safe ship operation in heavy weather requires the addition of ballast to designated cargo holds to achieve a heavy-ballast load condition as per the vessel's loading manual.

If heavy weather is expected the during ballast voyage the Master can consider ballasting the designed ballast hold as described in the vessels stability booklet. This could achieve the following:

- reducing stresses on the hull of the ship
- providing transverse stability
- propeller immersion
- improved manoeuvrability by submerging the rudder and reducing the amount of exposed freeboard (windage)
- compensating for draught lost from fuel and water consumption
- retaining sufficient bow immersion to avoid undue slamming
- avoiding excessive vibration


The operation of ballasting or de-ballasting is to be supervised directly by the Chief Officer, the Master being responsible for ensuring that this operation is carried out in the correct manner. Charters and owners must be informed well beforehand of the time required to complete this (ballasting and de-ballasting), and if necessary, arrangements will be made for the vessel to proceed to a safe anchorage for this purpose.

Heavy weather ballast must be taken on in port or confined water. Depth of water shall be sufficient so as to avoid sucking sediments or muddy water into the hatch.

In particular it is strongly recommended that ballast holds are never ballasted or de-ballasted during heavy weather with vessel rolling and pitching. This is to avoid both the effects of sloshing causing damage to structure, as also free surface affecting stability, due to a partly filled hold. Similarly, the Master is never to permit commencement of de-ballasting of the hold until the vessel has arrived at a safe anchorage.

All ventilators and booby hatches shall be opened during ballasting/de-ballasting operations. There had been many incidents where major hull damages occurred to ships when ventilators were kept closed during ballast operations and the whole hatch coaming and covers caved in and collapsed into the cargo hold.

Cautionary notice "Vents to be kept open prior ballasting/de-ballasting" shall be posted near cargo hold ventilators.

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The following shall be complied with:

- Risk assessment / tool box meeting to be conducted prior ballasting/de-ballasting cargo hold.
- Company to be informed and permission to be obtained prior ballasting cargo hold.
- Heavy weather ballast shall be taken only in dedicated cargo hold.
- Hold shall be properly cleaned prior taking heavy weather ballast.
- Water shall be taken to a level which will reduce sloshing effects. Refer to the Stability booklet for the same.
- Stability and stresses (shear force and bending moments) of vessel are to be verified by loadicator prior taking heavy weather ballast. For excessive stresses, this can be corrected by manipulating DBT and TST contents within the same hold area.
- Precautions shall be taken to prevent ingress of water into other cargo holds.
- Other cargo holds hold must be closely monitored for any water leakages (Check bilge system carefully in other hatches for weeping during and after operations. There after sound all hatches daily if weather permits safe access to the deck).
- Line up shall be crosschecked by another officer to avoid one-man error.
- Proper communication with engine room shall be maintained when pumps are in operation.
- ***Ship specific procedures for ballasting / De-ballasting shall be prepared in Work instruction form 6.4.2 and posted in ships office.***

The ballast hold is to be cleaned and washed and washings transferred to suitable tank prior taking heavy weather ballast. The Chief Officer is to inspect the hatch before ballasting to ensure:

- All cleaning gear has been removed
- All sweepings have been removed
- All portable bilge covers, ballast pipe blanks, nuts, bolts, gaskets and tools have been removed
- All air vents are secured open
- All booby hatches are secured open
- Crew are warned not to enter the hatch. Warning tape and notices posted.
- The hatch covers are fully dogged down
- The sounding pipes are clear
- Electrical circuits (if present) are isolated
- CO2 pipes and fitting are isolated as per the manufacturer's instructions

Soundings are taken regularly during ballasting

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A log book entry by the Chief Officer must attest bullets the above.

Before commencing the deballasting operation the Chief Officer must check:

- All hold vents are open and secured open
- Booby hatches must be fully opened and secured open
- Crew are warned not to enter the hatch. Warning tape and signs to be posted
- Soundings are taken regularly
- On completion inspection of the tank to check for damage to the frames and coatings.
- On completion replace the bilge covers
- On completion ensure the hold ballast pipe is blanked with a new gasket and the blank is watertight.
- Pressure test the blanks to ensure watertightness.

A log book entry by the Chief Officer must attest the bullets above.