

M.S. Notice 05 of 2002

NO:9-NT(30)/2001

Dated:April 22 2002

Sub: Capsizing of a Mini Bulker Off Indian Coast

NARRATIVE

1. A mini bulk carrier of GT 2233 and employed on dedicated cement trade on the coast of India capsized and sank in October 2001. There was no loss of life nor was there any pollution. MV Concord, built in 1978, registered in Mumbai, classed under BV & IRS was of 78.78 mtr. in length. The vessel had two holds and her SDWT was 3581.

2. The vessel was almost loaded to her Tropical marks at the port of Muldwarka with cargo of cement in bags. Cement bags were unitized, each unit containing 30 bags of 50 kgs each. Each unit was almost 1.2 mtr in height. These units were merely wrapped around with thin polythene cover to protect them from moisture or rain. The unit of cargo was not however, firmly strapped with the base of the unit as in the case of palletised cargoes.

3. The cargo was loaded in both of her holds. The loading plan was to load the unitized cargo using the forklifts to fill up areas under decks as well as, over the hopper spaces as much as possible. Thereafter loose bags of cargo were to be loaded for filling up the remaining void spaces upto the shell sides. Unfortunately these loose bags were not made available for loading and inspite of some reservations from the ship staff, the loading was completed leaving void spaces on top of hopper areas.

4. Thus loaded, vessel proceeded to sea on 29.9.2001 at 20.00 hrs for discharge at Cochin Weather was seasonal; W'ly winds force 4/5 and swell about 3-4 mtrs. Such weather conditions were presumably due to after effect of a low pressure in the area experienced a little while earlier.

5. On 30.9.2001 at 0500 hrs it was observed that the vessel had developed 7.5 list to Starboard and commenced shipping seas. No attempts were made at this stage by the ship staff to enter the holds through booby hatch entrance. Later, investigations would reveal that several cargo bags had dislodged from their respective units and stowage position due to rolling and fallen off into void spaces above hoppers towards Starboard side shell. This list was reduced to 4.5 degrees by ballasting port side DB Tanks.

6. Assuming that the situation had come under control, the vessel continued her voyage for destination port. However, by 2200 hrs on 30.9.2001 the list had further increased to 10 to starboard side. Shipping of seas increased appreciably. Chief officer reported sighting of an air vent adrift on deck, presumably sheared off and Chief engineer reported apparent sound of water gushing through pipe of the sheared air vent. Ballast pump was continuously used to pump out from starboard TST and DB tanks.

7. At 0355 hrs on 1.10.2001, distress message on Sat-C was sent on priority. At the same time Master sent out a MAYDAY message on VHF Ch-16, which was acknowledged by a passing coastal vessel. No attempts, however, were made to activate other GMDSS equipment such as EPIRB and MF/HF DSC.

8. The vessel was abandoned by launching lifeboats in darkness, at 0400 hrs. on 01.10.2001 i.e. nearly 21 hours after the vessel had initially developed starboard list due to cargo collapse. GMDSS

equipment such as SART, GMDSS radio and EPIRB were carried in two separate bags to each of the life-boats. While in the port life-boat, the Master instructed Radio Officer to activate EPIRB. However, MRCC, Bangalore did not report receiving EPIRB distress message. It appears that EPIRB was held for only about 15 minutes and then dropped off on to life-boat floor due to excessive tossing of the boat. In any case, all on board were severely seasick. The bag containing two SARTS, one GMDSS radio and one EPIRB placed in starboard life-boat was not opened at all, since the crew of this boat were likewise not in control of themselves due to seasickness. Soon after abandonment, the vessel capsized and sank.

9. A standing-by coastal vessel positioned herself sufficiently close to life-boats of ill fated vessel and then lowered her rescue boat. The rescue boat passed a towing rope to life-boats. The other end of this rope was held on board the coastal vessel, which then heaved on the rope and brought both the life-boats alongside her. All seventeen survivors of the vessel after being in lifeboats for about 3 hours were thus rescued. Survivors were thereafter transferred to a standing-by tug, which transported them to shore.

CAUSE OF CASUALTY

10. The Vessel capsized due to shift of cargo. Cargo units collapsed into void space on the starboard side of cargo holds (the unoccupied area above hopper tanks). Even fore and aft ends of cargo holds beyond the line of Hatch Square were also left void during loading operation. There too, mainly on starboard side, cargo was seen lying dislodged from its normal stowed stacks.

11. Flooding of starboard side tanks through sheared off deck vent worsened the situation since starboard side was continuously submerged, which led to a progressive heel and further collapsing of cargo as a cascading effect. Down-flooding and complete collapse of cargo or even lateral shift of entire cargo stow appears to have led to capsize of vessel.

THE LESSONS

12. Cargo had been loaded mainly under the hatch square, leaving spaces on sides and fore and aft directions unoccupied. This situation mainly arose from the fact that vessel was not provided with loose bags to fill up spaces above hopper spaces. Further, the ships officers were not assertive enough to ensure supply of loose bags or alternatively suitable dunnage etc. so that void spaces could have been effectively used to safeguard against shifting of cargo. Vessels' cargo securing manual did not include any information or guidance for stowage and carriage of such unit description. Subsequent reviews of cargo securing manual also did not address this particular cargo even though the vessel was trading on this dedicated cargo. For effective securing / stowage of breakbulk cargoes the IMO publication (1991) "Code of safe practices for cargo stowage and securing" (res.A 714) underlines :-

Quote - "The securing of breakbulk cargoes is most conveniently done by planning stows to occupy the spaces from side to side, incorporating, where appropriate, built in anchors of dunnage or using locked stows" - Unquote

13. There is a distinct difference between Unitization and Palletisation. In case of normal palletized form, cargo is strongly attached to strong and rigid base called pallet. Any enclosing sheeting further strengthens total contents of cargo. In certain ports, the entire process of Palletisation is achieved by mechanization and is fastened automatically to base (pallet) in a moulded pattern. In present case only a thin polythene cover was manually wrapped around 30 bags x 50 kgs. each so as to protect them from moisture or rain. Furthermore, entire heap of 30 bags was free to escape from 1.2mtr high column if tilted. That is to say that enclosing polythene sheet and laces / straps were not designed to form 30 bags in each unit into single integral unit. The base itself is of square tarpaulin sheet and not that of a wooden pallet facilitating non-breakable unit.

In the present case, individual bags escaped from cargo units (due to thin polythene wrapping) leading to shift of cargo and finally collapse or lateral shift of entire cargo stowed in holds.

14. Incoming messages into Owner's office need monitoring on holidays and during after office hours. However, it is to be reiterated that "over-riding authority" in matters of safety and pollution prevention always remains with ship's command. Under such emergency situations it is imperative to consider use of D.S.C. or various other Satcom-C options to transmit an "Urgency " (XXX) message well ahead of time of abandonment.

15. Enclosed life-boats are known to have more rolling and pitching effect especially in a situation when sway effect of wind and sea have different axes. The line attached to EPIRB should always be utilized so that EPIRB would be thrown at sea and could freely transmit in upright floating situation.

16. Role of the rescue vessel is commendable.

Sd/-
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