MV GLOBAL PURITY,
IMO NO: 9550149
COLLISION WITH INDIAN COAST GUARD VESSEL
BERTH NO.10, INDIRA DOCK, MUMBAI PORT
23 MARCH 2010, 1621 LT

SUMMARY

M.V. Global Purity, on 22 March, berthed at Ballard Pier extension berth (out side docks) at Mumbai port for lightening cargo. On 23rd afternoon, the vessel was instructed to shift to another berth at Indira dock (inside docks). Bridge equipments were tested and found in working order.

Pilot boarded the vessel and by 1508 LT she started moving off the berth. The Bridge was manned by Master, third Officer, helm's man and pilot. Engine movements were responded by First Engineer. Deck crew was on Forward and Aft stations.

The vessel was all fast inside locks by 1528 LT and Berthing Master boarded the vessel. At 1553 LT lock gate opened and at 1604 LT the stern of the vessel was clear of lock gate and she entered the turning basin of Indira dock.

At 1605 LT two tugs were made fast at aft end using ship's line and the vessel started turning in the basin to her port while other two tugs assisted on the forward shoulders. The vessel was to berth port side alongside at ID13A. By 1614LT the vessel had completed the turn. At 1618LT both forward tugs were made fast forward using ship's lines. The vessel was pulled from stern and was having sternway of 0.7 knots at 1618 LT.

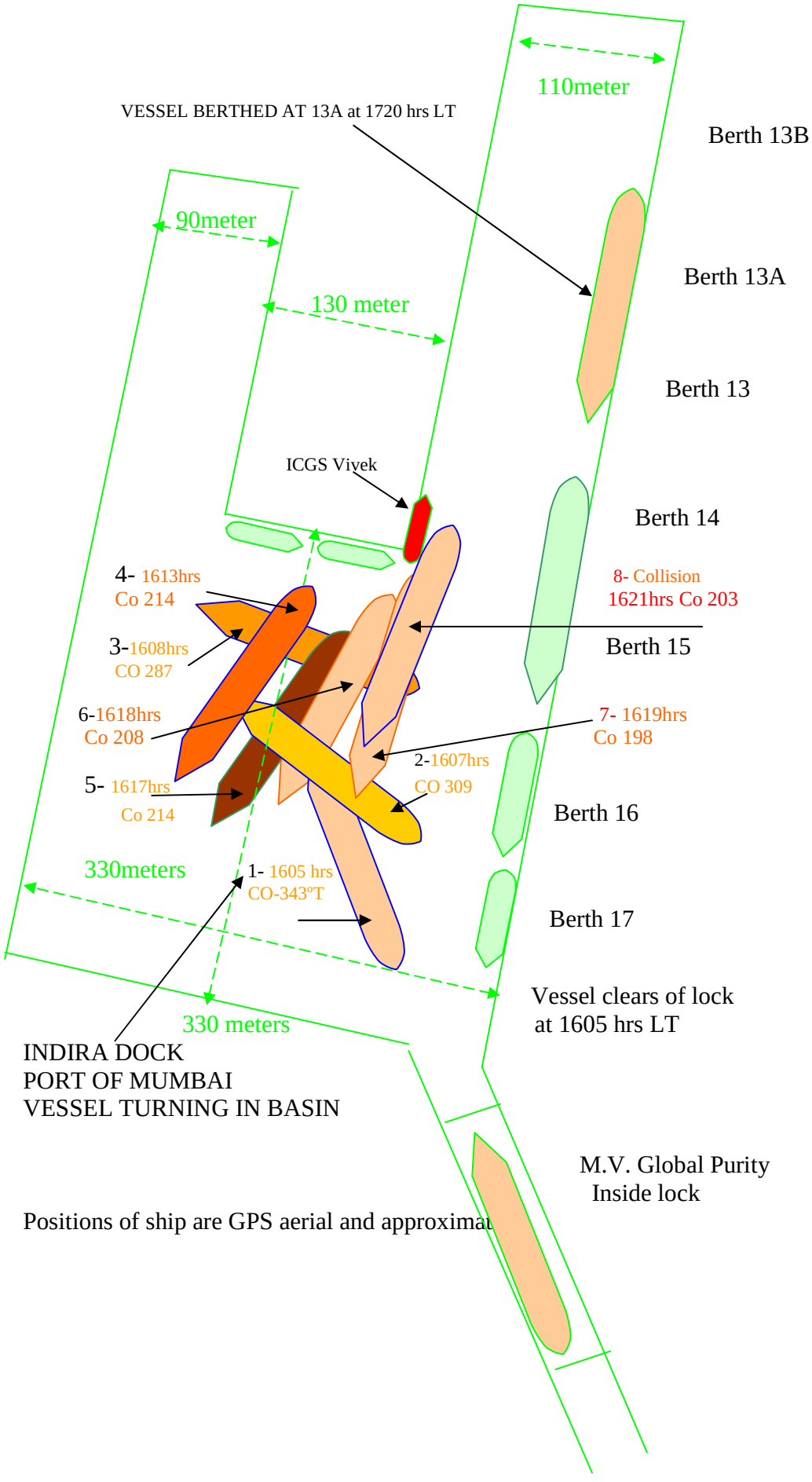
Indian coast guard vessel "VIVEK" was port side along side at berth no. 10 in Indira dock. She was undergoing repairs with her ship side plates cut open and over 50 sailors including technicians were working on board the ship.

As the berthing operation of vessel progressed, she approached closer to coast guard vessel and at 1621LT, the starboard side of her shell plate near pilot access made contact with the starboard quarter of the Indian Coast Guard vessel.

The vessel continued maneuvering till alongside the nominated berth. The Coast Guard ship developed starboard list causing progressive flooding and eventually capsized on her starboard side. Her port side was partly visible above water. No loss of life or injury to any person and oil pollution was reported.

The extent of damages to MV Global Purity was limited to some scratches and dents to a length of about 4 meters on starboard side shell plate near pilot access.

SKETCH A: Indira dock basin – Positions and headings of M.V. Global Purity and timings are LT (Local time). Scale: 1cm = 36.66meter



Causal Factors

- It is observed that all was well and under control till 1617 LT, 4 minutes before collision. The vessel was almost in the centre of the turning basin, the minimum clearance at stern being about 66 meters. The vessel had almost completed the turn and she was steady on a course of 214ºT with sternway of 0.06 knots i.e.1.85 meters per minute, almost stationary.
- Here the vessel was not aligned appropriately; leaving equal areas on both sides so as to pass centre of narrow passage towards her designated berth 13A with assistance of tugs.
- Stern speed continued increasing after 1617hrs. The sternway was 60meters per minute at 1619LT and 28meters per minute at 1621hrs, the time of collision.
- From 1617hrs 1621hrs there was inapt maneuvering when the astern speed of the vessel progressively increased and aft clearances reduced. The vessel was not aligned properly in the turning basin before starting to move astern in narrow passage.
- Pilot attempted to align the vessel while also making sternway instead of positioning the vessel in the turning basin. This reflected hasty approach for berthing the vessel. There was lack coordination between pilot and tug Masters.
- There was a space of at least 70 meters available between berth10 and berth 15 for the vessel to transit which was sufficient to pass, provided that appropriate maneuvers were made.
- The course at the time of collision was 203º T whereas she should have been steering 193º T to remain parallel to jetties in center of narrow passage.
- Forward tugs were made fast at 1618hrs, three minutes before collision where as the vessel had completed turn by 1613 hrs and was on heading 214° T.
- Berthing master did not brief Bridge team prior to vessel was underway from locks, in regards to execution of this berthing operation.
- All four tugs were operating under instructions from berthing master and they communicated among themselves in local language, not understood by bridge team of MV Global Purity.
- There is a possibility that pilot's communication with tugs in regards to pulling/pushing the vessel could have lead to misunderstandings and was a contributory factor to the casualty.
- Cross-checking of individual human decisions was neglected. The intentions of a pilot were not understood by the vessel's navigational staff.
- Master, over relied on actions of pilot and left navigational responsibility to his entire judgment without adequate monitoring the situation and therefore was unable to interfere with actions of pilot. This was also due to lack of verbal communication between them. The Master being the sole in-charge of the vessel did not exercise his authority.
- Passage plan did not mention the maneuvers and speeds at each stage and the turn to be organized in the turning basin. It was with insufficient information and was not referred to Berthing Master.
- The duties and responsibilities of each individual of Bridge team when vessel is navigating in narrow channel, restricted waters and with pilot on board were not clearly defined in the SMS procedures.
- The OOW was diligent with regard to his duties to ensure that the pilot's orders were properly followed, but did not monitor the pilot's inappropriate activities and advise the Master of same.
- The vessel was fully loaded to draft of about 8.80 meter and required greater force of pull or pushes to have a good control on the vessel. To control the vessel the power of tugs played important role. As the tugs failed to control the vessel and resulted in collision, showed that the pull on vessel or the angle of pull was inappropriate.
- Efforts were not made to reduce the impact of collision by use of anchor or fenders.
- Appropriate risk assessment for this critical movement was not carried out which involved passing too close to a vessel having her ship side plates cut open.

- "Global Purity" did not make VHF communication with the coast guard vessel after collision to make information exchange or render assistance.

Lessons Learnt

- Efficient Piloting among other things depends upon good coordination of effective communication and information exchange and also the mutual understandings for the functions and duties of each other. Establishing effective communication and coordination between the pilots, Master and the Bridge personnel and those involved will aid to a safe and expeditious passage.
- Passage plan is a basic indication of preferred intention and must be discussed with pilot. Any changes must be sorted out to arrive at common approach for safe navigation. Pilots and competent piloting authorities should be aware of the voyage planning responsibilities of Masters under applicable IMO instruments.
- Many accidents are rooted in surprises and unexpected situations that could have been avoided if the pilot and the bridge team had a common understanding about how the passage would be carried out.
- Ensure that the intentions of a pilot are fully understood and acceptable to the vessel's navigation staff.
- Ensure that there is a systematic bridge organization that provides comprehensive briefing of all concerned with the navigation of the vessel, close and continuous monitoring of the vessel's position and cross-checking of individual human decisions so that errors can be detected and corrected as early as possible.
- The vessel's position, speed and heading with respect to other vessels and physical features of navigation should be continuously monitored. The vessels navigation should be monitored against the authorized passage plan and should be continuous.
- Deviation from the authorized passage plan or standard operating procedures should be noted and acted upon immediately.
- BRM is an important activity to ensure safety. Any BRM training should include how to handle the change in communication, command, and control when a pilot takes over navigation of ship.
- Master must take over from the pilot when there are doubts about his competency and should exercise his authority. The Master should closely monitor the maneuvers and should not hesitate to comment, give advice, or even abort an approach if he is uncomfortable with the situation.
- Risk assessment is a continuous process and must be reviewed if the circumstances change. A collision is an indication where the risk assessment did not identify all the factors and that the safety barriers were insufficient.
- The SMS procedures must define clearly the duties of all Bridge team when vessel is navigating in restricted waters, or with pilot on board.
- Communications on board between the pilot and bridge watch keeping personnel should be in English language or in a language other than English that is common to all those involved.
- How the master and the pilot meet and greet each other is the key to how the rest of the passage will be. The chemistry between the pilot and the master must be good or it might lead to dangerous situations.
- The availability and suitability of tugs and mooring boats should also be considered; in many situations these are too small or too few for the purpose but accepted due to the commercial pressure.