



SUB-COMMITTEE ON STANDARDS OF
TRAINING AND WATCHKEEPING
36th session
Agenda item 16

STW 36/16/7
7 December 2004
Original: ENGLISH

ANY OTHER BUSINESS

Outcome of FSI 12

Note by the Secretariat

SUMMARY

Executive summary: This document reports on the decision of FSI 12 which are of relevance to the Sub-Committee's work

Action to be taken: Paragraph 3

Related documents: FSI 12/22, annex 3

1 The Sub-Committee on Flag State Implementation (FSI) at its twelfth session (15 to 19 March 2004) invited MSC 79 to refer casualty analyses information relating to training issues to STW 36 for appropriate action. MSC 79 concurred with the decision of FSI 12.

2 To assist the Sub-Committee in its deliberations, the text of information referred by FSI 9 is set out in annex.

Action requested of the Sub-Committee

3 The Sub-Committee is invited to note the above information and take action as appropriate.

ANNEX
CASUALTY ANALYSES INFORMATION RELATING TO
TRAINING ISSUES FOR PASSENGER SHIPS
(Extract from FSI 12/22)

Type of Casualty Ship's name Type of ship Flag Authority Tonnage Reporting State Second ship (if any)						STW 36/16/7	
Date of casualty				Event		Issues raised	
Causes				Human factor		Action	

OTHER ARATERE PASSENGER SHIP BAHAMAS 12596 NEW ZEALAND	12/06/2000	The dry deployment of an inflatable liferaft was being overseen by a servicing agent using a demonstration unit on board a passenger ferry. The liferaft canister was placed in a cradle next to one of the vessel's liferaft davits. Its lifting ring was attached to the davit's off-load suspension hook and the liferaft lifted clear of the cradle and swung outboard. It proved difficult to initiate inflation. While attempting to pull the liferaft inboard to investigate the failure to inflate, the suspension hook's lanyard was inadvertently pulled by the agent, so cocking the hook. He made an effort to un-cock the hook but, because he was not familiar with the mechanism, did not recognize that he had been unsuccessful. The liferaft was eventually inflated while inboard. Its weight was then partially taken manually to clear the fishplate before pushing it clear of the side of the vessel. At this stage, the suspension hook opened allowing the liferaft to fall to the adjacent quay. There were no injuries.	Crew and service agent were unable to tell at a glance whether the hook had been properly un-cocked. The on-board training manual showed a suspension hook having a different indication of the cocked and un-cocked conditions to the hooks in use. The difficulty in initiating inflation caused the incorrect lanyard to be pulled.	Contents of the training manual did not cover the type of suspension hook fitted to the liferaft davits. The liferaft servicing agent, while familiar with liferafts, had insufficient knowledge of the ship's suspension hooks to operate them correctly. Ship's staff appeared to assume the servicing agent's knowledge of liferafts extended to suspension hooks and so allowed him a significant role in the operation.
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Type of Casualty					STW 36/16/7 ANNEX Page 2	
Ship's name	Type of ship	Flag Authority	Tonnage	Date of casualty	Issues raised	
Reporting State	Event	Causes	Human factor		Action	
Second ship (if any)						
COLLISION NORWEGIAN DREAM PASSENGER SHIP BAHAMAS 50760 PANAMA/ BAHAMAS	24/08/1999	ANALYSIS BASED ON REPORT FROM PANAMA (FSI 11) : - The two ships collided in the vicinity of F3 light buoy in N.E. approaches to the Dover Straits. - The container ship suffered substantial damage to her port side that opened No.3 hold to sea. She took an immediate heavy port list, but prompt action by the ship's crew brought it under control. A very serious fire broke out in the above deck containers. It was brought sufficiently under control by the ship's crew with help from a salvage team with firefighting tugs in 8 days, to allow the ship to proceed to Zeebrugge for discharge and damage assessment. - The passenger cruise ship suffered serious damage to her bow but retained watertight integrity and was able to continue to Dover to land her passengers and assess damage. - There were no deaths or injuries to personnel on either ship.	ANALYSIS BASED ON REPORT FROM PANAMA (FSI 11) : - The collision was mainly caused by the failure of the passenger cruise ship, which was the give way vessel in a crossing situation, to make sufficient alteration of course or speed to avert collision. - Collision could also have been averted by reduction of speed by the containership. - The containership limited her ability to act when she overtook another vessel from the port side of the other ship thus preventing herself from taking one of the possible avoiding actions viz. a large alteration of course to starboard. - The VHF conversation between the two vessels might have delayed a sense of urgency from building up in the minds of the bridge officers on the two vessels. - Contributory factors to the fire on the containership have not been investigated. The main cause of the fire however was the collision impact between the two ships.	ANALYSIS BASED ON REPORT FROM PANAMA (FSI 11) : - COLREGs state clearly that collision avoidance can be carried out by using helm and/or alteration of speed. There appears to have been marked reluctance to consider a variation of speed as an option by the two vessels in this case. - The use of VHF as a collision avoidance tool can be counter-productive. If the COLREGs are being followed correctly it would not be necessary to use VHF for collision avoidance and thus be distracted from the attentiveness in watchkeeping. - When overtaking another vessel, careful consideration should be given to the side on which to overtake. Factors to be taken into account should include available sea room and possible need to take avoiding action in respect of other vessels in the vicinity. - Several issues relating to design considerations and dangerous cargo stow on the container ship have been raised in the report. Preliminary details of these and other relevant issues were submitted by the flag State and the United Kingdom to the Sub-Committee on Fire Protection under FP 44/13/1 on 17 December 1999.	Report noted	
EVER DECENT CONTAINER SHIP PANAMA 52090		ANALYSIS BASED ON REPORT FROM BAHAMAS (FSI 9): Distraction and information overload leading to confusion. Probable confusion of true and relative radar vectors. Watch not doubled up - Inadequate bridge manning. Non-optimal use of radar. Watch not doubled as per owners orders. Situational factors arising out of design of Traffic Separation Scheme system. Volume and concentration of shipping and rapidly changing situation. Both ships restrained in their choice of action by other shipping. Container ship not crossing Traffic Separation Scheme at right angles. Container ship did not take sufficient action to avoid collision.			ANALYSIS BASED ON REPORT FROM BAHAMAS (FSI 9): Bridge manning in concentrated traffic areas. Radar training and awareness. Situational factors caused by concentration of traffic through Traffic Separation Scheme management.	
					ANALYSIS BASED ON REPORT FROM PANAMA (FSI 11) : Inadequate bridge manning level on the passenger cruise ship - only one officer and one rating were on the bridge at the time of collision. The Master was not on the bridge. Such manning was considered inadequate given the busy traffic in the region and the requirements for additional tasks to be performed such as reporting of position to Coastguard.	
					ANALYSIS BASED ON REPORT FROM BAHAMAS (FSI 9): Yes. Planned action did not achieve outcome (mistake). Bridge not properly manned for situation contrary to owners' standing orders (violation).	

Type of Casualty					STW 36/16/7	
Ship's name					ANNEX	
Type of ship					Page 3	
Flag Authority						
Tonnage	Date of casualty	Event	Causes	Issues raised		
Reporting State				Human factor	Action	
Second ship (if any)						

FIRE SPIRIT OF TASMANIA FERRY AUSTRALIA 31356 AUSTRALIA	24/02/2001	On 23/02/2001, a fire broke out in the photography shop of the passenger ro-ro ship while she was proceeding from Melbourne to Devonport with 967 passengers on board. The Master initiated the muster signal and sent fire-fighting team to tackle the fire. The team tried initially to extinguish the fire using hand held fire extinguishers but the fire kept re-igniting. A fire hose was used in the second attempt and the fire was extinguished in five minutes. All passengers were mustered at their designated muster areas in about 30 minutes after the muster signal was initiated. The mustering was generally effective except that a few passengers remained asleep in their cabins, as they were not awoken by the alarm. Also there were some passengers moving back against the flow of other passengers evacuating from the accommodation. The passengers were released after the smoke in the accommodation was cleared and the ship resumed her voyage. Apart from the fire damages inside the photography shop there was no other casualty in the incident.	- The fire was caused by a short circuit in an electric extension lead supplying power to a fridge inside the store area of the photography shop. - The short circuit was caused by breakdown of insulation as heavy load of boxes of photograph envelopes had been stowed on top of the extension lead for several months. - Neither the short circuit protection nor the earth leakage detection in the ship’s electrical system was able to detect or limit the damage caused by the short-circuiting. - As the photography shop was a licensed business area on the ship, access by ship’s staff was limited and the extension lead had not been inspected at any time prior to the fire. - The danger of stowing boxes on top of the extension lead had not been identified by any crew inspection and the photography shop staff had not received any training in recognizing such danger.	- Licensed business areas on a passenger ship should be subject to the same safety management policy, procedures and inspections as any other parts of the ship. - Staff of licensed businesses on a ship should receive the same safety training as received by other regular crew members. - Appropriate fire detectors should be installed in areas that have potential fire risk and can be separated from other areas protected by fire detection system. - It is important to ensure that alarm and public address systems in different areas of a ship are audible. - A final head count should be included in the evacuation plan of a ship to ensure that all passengers are accounted for. The Master’s decision to initiate muster signal at an early stage of the fire is considered appropriate, as mobilization of a large number of passengers will take time. Clear instructions and proper guidance to passengers are important to avoid confusion and panic under an emergency situation.	Report noted.
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Type of Casualty Ship's name Type of ship Flag Authority Tonnage Reporting State Second ship (if any)					STW 36/16/7 ANNEX Page 4	
					Issues raised	
					Human factor	Action
MACHINERY DAMAGE SUN VISTA PASSENGER SHIP BAHAMAS 30440 BAHAMAS						
20/05/1999 The vessel suffered a power failure at 14:32 hrs LT while at sea with 456 passengers and 632 crew on board. A fire started in the engine room at or about the same time. Initial efforts to locate and extinguish the fire were unsuccessful. The engine room was sealed off and carbon dioxide smothering gas released. Auxiliary and emergency sources of electrical power also failed and the vessel drifted thereafter without power. The engine room skylight and a side shell door in the engine room were then opened to facilitate the clearance of smoke and entry of a fire fighting party which also failed to locate and extinguish the fire. The fire subsequently spread to the boiler room, where it later burned with great intensity, and into the accommodation and service spaces surrounding the engine and boiler room casings. Passengers and crew were evacuated to the open decks as a precautionary measure soon after the power failure and remained there until the order was given to proceed to muster stations at 18:05 hrs. The order to abandon ship was given at 18:30 hrs. All passengers and the majority of the crew had been evacuated in lifeboats by 18:52 hrs. A small operational crew remained on board after the main evacuation and were evacuated before the vessel sank. Although some problems were experienced in proceeding to muster stations and boarding the lifeboats, all passengers and non-essential crew were successfully evacuated from the vessel without any serious injury. A distress signal was transmitted from the vessel and received by a number of merchant ships in the area. It was also forwarded to the Malaysian Search and Rescue Co-ordination Centre at Port Klang by Falmouth MRCC. An offshore supply tug with fire fighting capability and two container vessels responded immediately to the request for assistance. The tug pumped water into the vessel as requested to assist in limiting the spread of the fire. This resulted in the vessel listing and flooding of the machinery spaces through a shell door in the engine room. The door was					The fire most probably originated in the main switchboard, following problems with electrical equipment and circuit breakers which were resolved by temporary measures, and the vessel sank because of failure to ensure that a shell door and watertight doors in machinery spaces were securely closed, leading to progressive flooding when the vessel heeled under the effect of water pumped from one of the assisting vessels.	
					The condition of the ship, and in particular the auxiliary and propulsion machinery, created the circumstances in which a fire was likely to develop. A closer scrutiny of the vessel by the Classification Society might have identified the most serious of the mechanical failings and required remedial action to be taken. Some of the safety systems were lacking when required. The fire detection system was ineffective in locating the seat of the fire and the fire dampers allowed the fire to spread when it might have been more successfully smothered. No electrical power was available from the emergency alternator and the emergency lighting failed to operate. The emergency fire pump could not be used because of lack of electrical power. These factors made the work of the fire-fighting team more difficult. Had the condition of the machinery spaces been recognized by the ship Managers, Owners and Classification Society, it is possible that the fire might have been more effectively contained. The ease with which fires can spread and intensify is well illustrated in this case. However, if the watertight doors had been closed, the spread of fire would have been less rapid, and if the engine room workshop shell door had been kept closed, the vessel would have remained afloat. It would still have been necessary to evacuate passengers and crew but the ship would have survived, though probably extensively damaged by the fire. The general condition of the vessel created the circumstances in which the risk of mechanical failures and fires increased, and this, compounded with the errors in fire fighting, led to the loss of the vessel. It is the opening of the engine room workshop shell door and failure to close the engine room watertight doors to limit flooding to the engine room that were responsible for the vessel sinking and no acceptable justification for this has been identified. The competence of some of those in charge of lifeboats was inadequate. This was in part caused by the engagement of some lifeboat commanders on fire fighting and other supervisory duties related to abandoning ship. Some crew designated to operate lifeboat engines were also engaged on fire fighting duties and their duties in the lifeboats had to be performed by other crew. The vessel was however evacuated in daylight hours without serious injury to any person as a consequence of the timely commencement of the procedure and an appreciation by the Master of the problems encountered. Although some of the lifeboat commanders lacked the skills and experience required to handle a lifeboat in an emergency, most of them displayed an acceptable level of seamanship. The lifeboats were successfully marshalled and remained together in a group. This facilitated the rescue from the lifeboats by the three merchants ships which responded to the call for assistance. The crew undoubtedly faced a complex situation in attempting to control the fire. While they had been trained in fire fighting and	
					It should be noted that the flag State has already made the report available to IMO for use in its review of the safety of large passenger vessels to avoid any such recurrence.	

Type of Casualty					STW 36/16/7	
Ship's name					ANNEX	
Type of ship					Page 5	
Flag Authority						
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Second ship (if any)						

opened earlier to gain access and was not thereafter closed. Flood water entered the adjacent machinery spaces culminating in progressive flooding which led to the sinking of the vessel at 01:22 hrs on 21/05/99.

exercised in regular drills on the vessel, this would not have replicated the scale or complexity of the situation which they faced on SUN VISTA. They might have benefitted from enhancement of the normal fire fighting training required by the STCW Convention to include specific training for control of major fires on large passenger vessels.

Although the proposal to open the engine room workshop shell door was made by the Chief Engineer, the Captain and the members of Sembawang Emergency Response Team agreed to it without question. This was an error of judgement by all concerned. In view of the obvious risks of flooding, the opening of this door should have been questioned. It also allowed air to flow into the engine room and diluted the concentration of CO2 in the engine room, thereby re-activating the fire which until then had been partially controlled.

The closing of the workshop shell door was delegated to two engine room ratings working under difficult conditions without supervision. They were expected to perform a task which is judged to have been beyond their physical capabilities in the conditions in the workshop. In view of the importance of closing the workshop shell door, it should have been performed under the supervision of a responsible Officer. It is clear from the photographic evidence that the workshop shell door was not closed, though there is some conflict in the evidence as to when this became known to the Captain, Chief Engineer and Sembawang Emergency Response Team. The entry in the Sembawang Emergency Response Team log gives reason to conclude that all three knew that this door was open while the vessel was heeling 5° at 19:20 hrs on 20/05/99, and that steps should have been taken to ensure that the watertight doors in the engine room were closed in order to limit flooding to the engine room.

Some confusion and misunderstanding resulted from the inability to give instructions to all passengers and crew simultaneoulsy over the PA system, and some disorder resulted from undue haste and crushing in making way to the lifeboats. Stricter control of the passage of passengers and crew in going from deck 10 to the lifeboat embarkation stations would have avoided the disorder in reaching the boarding gates.