HARDING™

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Document title: REPORT ON THE M/V CARIBBEAN FANTASY	

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Date: 12.10.2016	Date: 13.10.2016	Date: 13.10.2016

Disclaimer

The investigation was carried out for the sole purpose of discovering any lessons learned with a view to preventing repetition. It is not the purpose of this investigation to establish liability or to apportion blame, except in so far as emerges as part of the process of investigating that incident.

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1. SUMMARY

1.1. On August 17th, 2016 M/V CARIBBEAN FANTASY, at 2 nautical miles from San Juan Puerto Rico, the vessel experienced a fire in the engine room. The passenger and crew had to use all available means to evacuate the ship. While evacuating the ship, lifeboats #1 and #3 were not available for immediate use.

1.2. At the request of the United States Coat Guard (USCG) Cruise Ship Center of Expertise (CoE), a HARDING SAFETY representative attended onboard the M/V CARIBBEAN FANTASY to conduct an investigation into the causal factors that affected the correct performance of the LSA during the evacuation process.

1.3. The investigation identified a number of risk factors deemed to have contributed to the lifeboat being unable to perform as intended and these are discussed in detail within the report.

1.4. The report makes recommendation on further actions that may be taken to prevent reoccurrence of the same.

2. SHIPS PARTICULARS

Vessel:	M/V CARIBBEAN FANTASY
Type:	Cruise Ship
Management Company:	Baja Ferries
IMO NO:	8814263
Year Built	1989
Place of Build:	Mitsubishi Heavy Industries Ltd. KOBE
Flag State:	Panama
Class:	Bureau Veritas

3. MARINE CASUALTY INFORMATION

Station	Davit	Winch	Lifeboat	Hooks
Lifeboat #1 Starboard	Schat Harding Type: VIP18FDL SN: 1178/1176	Schat Harding Type: W120LLD SN: 1122	Schat Harding Type: MPC36SV SN: 170191#2	BC Service Type: U Hooks
Lifeboat #2 Port Side	Schat Harding Type: VIP18FDL SN: 1177/1179	Schat Harding Type: W120LLD SN: 1121	Schat Harding Type: MPC36SV SN: 170191#4	BC Service Type: U Hooks
Lifeboat #3 Starboard	Schat Harding Type: VIP1000 SN: 1013/1014	Schat Harding Type: W120R2 SN: 1537	Schat Harding Type: KISS 800C SN: 133071#1	BC Service Type: U Hooks
Rescue Boat	Schat Harding Type: SPLC 26/16 SN:	Schat Harding Type: 03-13-03 LDV/H	Allusafe Type: MOB 600 SN: 77	Schat Harding Type: RRH15 SN: 2152

4. NARRATIVE OF EVENTS

4.1. On 17th August 2016, once instructed by the Master, the crew lowered lifeboats #1, #2 and #3 to the water level. The Lifeboat station winches and davits worked properly with no reported functional problems.

4.2. Once waterborne, the crew could not open the on load release hooks on Lifeboats #1, #2 or #3.

4.3. In lifeboat # 1 and #2 the crew had to manually remove the lifting rings from the hooks to release the lifeboats from the falls.

4.4. Lifeboat #1 engine started but stopped shortly after and could not be started again. Lifeboat #1 then had to be towed by a USCG vessel.

4.5. Lifeboat #2 had no further reported operational problems.

4.6. The crew was unable to release the on-load hook as required on lifeboat #3. Consequently, the crew attempted to hoist lifeboat #3 to the deck level.

4.7. While hoisting lifeboat #3 with all passengers still in the lifeboat, the winch stopped hoisting at approximately 2.5 meters above the water level and would not resume hoisting.

4.8. The passengers were transferred directly from lifeboat #3 to a shore vessel that was assisting in the evacuation.

4.9. With the passengers off, lifeboat #3 could then be recovered to the main deck and the ship's crew was able to use the marine evacuation chute (MES) to abandon the ship.

4.10. In lifeboat # 1 and #2 the crew had to manually remove the lifting rings to release the lifeboats from the falls.

5. ANALYSIS

5.1. Lifeboats #1 and #2 were originally fitted with Norsafe TOR on-load release hooks and re-hooked in the vessels last dry dock with the U-Hook manufactured by BC Service.

5.2. Lifeboats #3 was originally fitted with Schat Harding KH6.5 on-load release hooks and re-hooked in the vessels last dry dock with the U-Hook manufactured by BC Service.

5.3. HARDING Safety completed the annual service on-board the Caribbean Fantasy in March 17th 2014. The 2014 inspection results were satisfactory at that time. A copy of the 2014 Service Report is attached for reference. HARDING Safety has not been on board for any service after the mentioned inspection and it could not be confirmed if an inspection was completed in 2015 or 2016 as no reports were available for review.

5.4. It was confirmed that BC Services completed the retrofit, however it could not be confirmed if the installation was carried out in accordance with the IMO MSC Cir 1392. Further there was no information available on the IMO GIGIS website to confirm the U Hook was on the IMO's white list for release and retrieval systems.

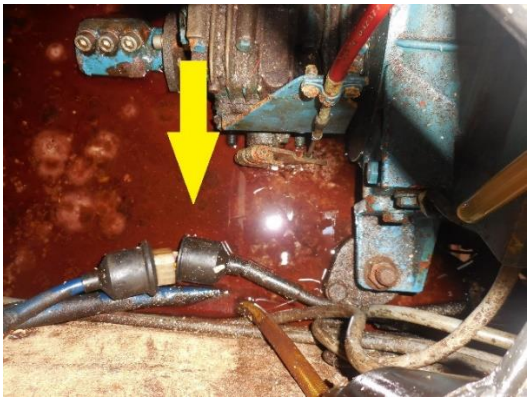
5.5. The W120R2 winch used to lower Lifeboat #3 is designed to hoist with a crew of 6 and not with a fully loaded boat. The excess weight on the electrical motor caused the circuit breaker to trip and prevented further hoisting.

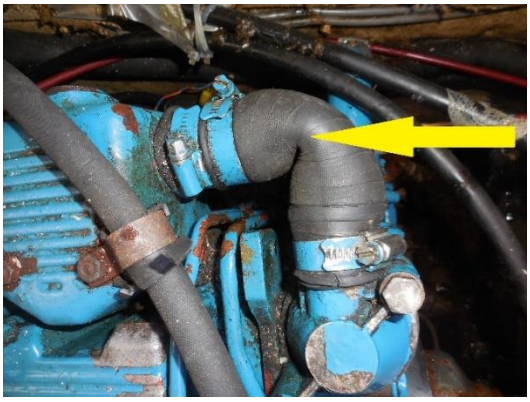
5.6. On September 16th, 2016, when the HARDING SAFETY representative attended to carry out an investigation, all bolts surrounding the engine compartment in lifeboat #1 were found removed and the brackets holding various cables and tubes were unfastened.

5.7. The end cover was missing, suggesting that lifeboat #1 engine was undergoing repairs at the time of the incident thus rendering the lifeboat engine inoperable (see picture below).

5.8. Lifeboat #1 engine's oil level was excessively high and water was present mixed with the engine oil. Further, the engine coolant tank was empty.

5.9. Lower portion of the engine compartment in Lifeboat #1 was full of oily water. The coolant hose from the manifold to the pump is not the original elbow type and is excessively kinked.





5.10. There was water intrusion once the lifeboat was waterborne through the keel drainage hole and the bailing pump did not work.

5.11. The drain plug was not in place and could not be found inside the lifeboat. The drain plug, even if opened would have stopped the water intrusion by means of the floater ball that will close the opening when waterborne.

5.12. The drain plug holds the floater ball in place and without it water intrusion is possible.

5.13. On September 16th, 2016, the HARDING representative tested the bilge pump and it was found in good working conditions. It is probable that the ball valve to switch the pump to extract water from the bilge was not used. The valve was found in the closed position.

5.14. Failure of a lifeboat motor to start and remain on, is a detainable deficiency and is considered very serious deficiency. In cases when a ship lifeboat motor is not operable, the Operator, would need a temporary exemption from the Administration, after having implemented contingency measures or reducing the carriage capacity prior to continue operation.

5.15. There was no evidence that CARIBEAN FANTASY had such an exemption.

5.16. During the independent assessment, the HARDING representative observed considerable GRP, hand rails and hatch damage on Lifeboats #1, #2 and #3 that included fractures and laminate shearing.

5.17. The observed damages are considered repairable, however, it may not be feasible depending on the estimated cost of repair when compared against the purchase of a new lifeboat.

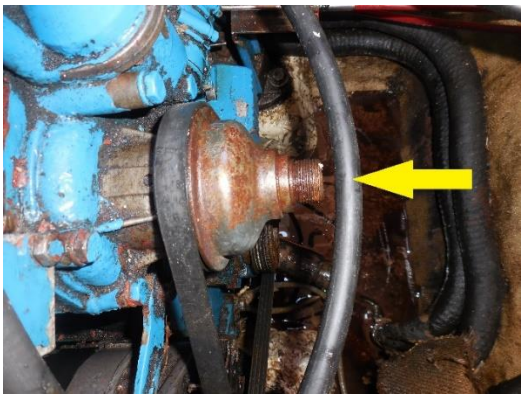
5.18. Evidence suggests that the hook systems of lifeboats #1, #2 and #3 suffered considerable damage caused by improper lifting of the lifeboats by means of a shore crane with a single lifting point.

5.19. An unloaded lifeboat has to be lifted attaching to the maintenance/lifting lugs designated for this purpose. The use of a spreader bar or alternatively, if a single lifting point is used, both slings have to have with a minimum length each, of 1.5 times the length of the lifeboat.

5.20. It is unclear if the hook damage was sustained before or after the incident.

5.21. One possible causal factor that may have resulted in the crew being unable to open the hooks once waterborne is that the aft release cables; as installed; on Lifeboats #1 and #2 were considered too long The excessive length increased the resistance in the push pull cables.

5.22. Another causal factor is that release cables should not be installed near moving part or element that may affect the release cables integrity. The aft cable was considered to be too close to the engine belt pulley and directly over the insulated exhaust pipe. See pictures below (yellow arrow indicating the release cable).



5.23. The HARDING SAFETY representative was unable to confirm if the responsible crew was appropriately trained in the use and operation of the U-Hook.

6. RECOMMENDATION

6.1. Operators should ensure that critical life-saving appliances such as lifeboat motors are ready for use at all times. Where it is known that equipment is not operable as required, Operators should obtain an exemption from the flag administration subject to an acceptable contingency plan or equivalent arrangement being put in place.

6.2. Operators should ensure that hooks retrofitted into existing lifeboats are compatible with the existing lifeboat design, and the installation is completed in accordance with the regulatory requirements.

6.3. Operators should ensure that hooks installed are on the IMO's GIGIS whitelist at www.imo.org.

6.4. Operators should ensure that the responsible crew are appropriately trained in the use and operation of the installed release and retrieval system.

6.5. Operators should be made aware of winch design hoisting limits to prevent the accidental failure of the system that may result from overloading a winch during hoisting.

6.6. Careful attention should be given to the installation of release cables and the routing thereof to prevent unnecessary resistance in the push pull cables.

6.7. Operators should ensure that unloaded lifeboats be lifted attaching to the maintenance/lifting lugs designated for this purpose. The use of a spreader bar or alternatively, if a single lifting point used, both slings have to have with a minimum length each, of 1.5 times the length of the lifeboat. The reasoning for this is that the lifeboat hooks are designed for a vertical pull force and horizontal pull forces should be minimal to prevent damage to the canopy or misalignment of the release gear.

6.8. The lifeboats, davits and winches should only be put back into service, following a satisfactorily full inspection equivalent to that of a five yearly being conducted on all the equipment with the issuance of a certificate deeming them fit for service.