

Investigation Report No. 99/13

Date: 9 October 2015

Serious marine casualty

Fire on the con-ro carrier ATLANTIC CARTIER on 1 May 2013 in the Port of Hamburg

1 Summary

Heat and smoke emanating from an enclosed vehicle deck was detected on the Swedish-flagged con-ro carrier¹ ATLANTIC CARTIER, laden with containers and vehicles, at about 1925² on 1 May 2013. At this point, the ship was at her berth in the Port of Hamburg. Cargo handling did not take place.

After locating the fire inside vehicle deck 3 B, attempts were initially made to extinguish it from on board the ship. The action taken in this respect had to be aborted unsuccessfully after about 30 minutes because of the rapid spread of fire and huge build-up of smoke. After that, the master of the ship requested shore-based assistance immediately. The first operational units of the Hamburg fire services arrived at the ship at about 2012 and after receiving a briefing on the ship from the ship's command assumed control of the rest of the firefighting operation. In the course of the ensuing eight hours, additional extensive firefighting resources were mobilised and deployed ashore and on the water to cool the shell plating and later extinguish the fire. At the same time as what was initially the actual priority, the intense cooling efforts carried out mainly from the water, the time-consuming survey of the scene by the fire service and the manifold preparations for the primary firefighting operation, preparations were made to discharge the containers in the immediate vicinity of the seat of the fire, with priority given to those carrying dangerous goods, and gradually executed.

Activation of the shipboard CO₂ extinguishing system and any measures necessary in this regard were discussed exhaustively between the ship's command and operational command of the fire service between 2200 and 2230.

The decision to use CO₂ was finally taken immediately after the fire service's conventional extinguishing action in deck 3 had to be abandoned at about 2234 for reasons of safety. This had been ongoing since about 2119 and was implemented from the main deck via two access points. This involved the affected forward part of cargo hold 3 being completely sealed off by means of two hydraulic sliding doors installed on the ship – one of which was open when the fire broke out – in the interest of effective use of the CO₂ extinguishing system. At 2258 and again at 2318, CO₂ was discharged from the system's two tanks into the burning vehicle deck. Use of the CO₂ combined with the external cooling efforts finally had the desired effect, meaning the conventional extinguishing action could begin at 0344. The fire was completely extinguished at 0410.

¹ Con-ro carrier: Special type of ship designed for the simultaneous carriage of **containers** and **rolling cargo** (cars, lorries and trailers).

² Time according to the deck log book. All times shown in this report are local = CEST = UTC + 2 hours.

Neither crew members nor operational units of the fire services were injured as a result of the accident. The vehicles parked in the forward part of ro-ro deck 3 B, the area affected most by the fire, were destroyed. The extent of damage to the ro-ro cargo in other places on the ship varied depending on distance to the seat of the fire. The ATLANTIC CARTIER was able to resume regular service for the charterer after an extensive repair.

2 SAFETY RECOMMENDATION(S)

The following safety recommendations do not constitute a presumption of blame or liability in respect of type, number or sequence.

2.1 Owner of the MV ATLANTIC CARTIER

2.1.1 Disabling certain parts of the smoke detection system/monitoring of the area

The Federal Bureau of Maritime Casualty Investigation recommends that the owner of the ATLANTIC CARTIER supplement its safety management system in relation to welding operations carried out on board the ship and her sister ships so that shutting down certain areas of the smoke detection system is reduced to an absolute minimum. Permanent monitoring of the area should be organised for areas where it is absolutely necessary that they be disconnected from a remote monitoring system.

2.1.2 Safety instructions for welding teams

The Federal Bureau of Maritime Casualty Investigation recommends that the owner of the ATLANTIC CARTIER regularly instruct the repair teams deployed on board on its behalf on the specific fire protection requirements during welding operations on board ships. In addition to the need to pay particular attention to the absolute necessity of ensuring that the vicinity of the required welded joint is protected against an excessive heat build-up, such instruction should include the correct behaviour in the event of the discovery of an outbreak of fire, in particular.

2.2 Owner of the ship and the classification society

2.2.1 Inspection of the electric wiring

The Federal Bureau of Maritime Casualty Investigation recommends that the owner of the ATLANTIC CARTIER and the ship's classification society— as far as is still outstanding – conduct a careful inspection of the ship's and her sister ships' electric wiring, especially in respect of defects in the splices between the original and the new section subsequently inserted.

2.2.2 Serviceability, documentation, and labelling of the CO₂ installation

The Federal Bureau of Maritime Casualty Investigation recommends that the owner of the ATLANTIC CARTIER and the ship's classification society – as far as is still outstanding – inspect all the components of the ship's and her sister ships' CO₂ extinguishing system, especially in respect of any leakage. Technical documentation should be corrected and/or brought up to date. In addition, existing labels should be reviewed for accuracy and intelligibility, and renewed if necessary.

2.3 The vehicle manufacturer VOLVO Car Corporation

The Federal Bureau of Maritime Casualty Investigation recommends that the vehicle manufacturer Volvo Car Corporation review whether it is structurally possible to minimise the risk of spontaneous combustion in the vehicles it produces due to possible faults in the on-board electronics even further than has already been the case.

2.4 Ministry of the Interior and Sport of the Free and Hanseatic City of Hamburg and Zentralverband der deutschen Seehafenbetriebe e.V. (ZDS) (Federal Association of German Seaport Operators)

The Federal Bureau of Maritime Casualty Investigation recommends that the Ministry of the Interior and Sport of the Free and Hanseatic City of Hamburg (in relation to the Port of Hamburg) and the member cargo-handling companies of the Federal Association of German Seaport Operators (in relation to all German seaports) liaise to search for solutions, which ensure the short-term availability of port personnel in the Port of Hamburg and all other German sea ports in the event of an urgent need to discharge part of a ship's cargo for reasons of safety on general rest days.