



Bundesstelle für Seeunfalluntersuchung Federal Bureau of Maritime Casualty Investigation

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The Federal Bureau of Maritime Casualty Investigation (BSU) published the investigation report pertaining to the loss of containers from the MSC ZOE on 1 and 2 January 2019 in the Traffic Separation Scheme Terschelling – German Bight on 25 June 2020. The joint investigation report was drafted under the leadership of the Flag State Panama and intense involvement of the coastal states Netherlands and Germany. The investigation report is available on

https://www.bsu-bund.de/EN/News/neueVeroeffentlichungen/neueUnfallberichte_node.html

Very serious marine casualty – Loss of containers overboard from MSC ZOE

In the late evening of 1 January 2019 and the early morning of 2 January 2019, the Panama-flagged ultra large container ship MSC ZOE, laden with 8062 containers, lost 342 containers in stormy sea in the Traffic Separation Scheme - Terschelling – German Bight in the North Sea. 297 containers were lost in the Netherlands and 45 in German waters. For the most part, the containers were destroyed by the swell and foundered in the coastal sea. No crewmembers were injured. Cargo remnants were washed onto the Frisian Islands and had to be recovered costly together with the container debris out of the sea and from the seabed. Fuel and supplies did not escape.

Immediately after the accident, the Flag State Panama agreed upon a joint investigation with the investigation authorities of the affected Coastal States Netherlands and Germany. The investigation focussed on the question how the massive loss of cargo could happen and whether and how the decisions made by the

ships command, to use the Vessel Traffic Separation Scheme close to the coast when passing the Frisian Islands instead of the deep-water way to the north, exerted any influence. The investigation authorities evaluated several accident data and technical recordings, commissioned several expert opinions, discussed intensively and liaised with the consulted external experts about the interim results.

The investigation arrives at the conclusion, that the MSC ZOE's design and structural induced high stability, respectively, typical for ultra large container ship, is the primary cause for the accident. Thus, the deck cargo and the lashing material was exposed to enormous accelerations and forces in the swell. The lashing material, properly certified and dimensioned in every respect according to the applicable regulations did ultimately not withstand the extraordinary load. Single components of the system in different positions of the ship parted. This resulted in toppling and collapsing of container stacks on deck and containers falling overboard. As regards grounding of the ship, meanwhile discussed as cause of the accident and sporadically observed in model tests true to scale, no indications could be detected at the ship's bottom.

Because of the accident, the investigation authorities recommend that the responsible institutions in their countries address the IMO. The IMO committees and working groups should be requested to adapt the international applicable regulations for the construction, operation and particularly the cargo securing on large container ships to the practical requirements resulting from the increased dimensions of the ships.

As regards the selection of the route in the area of the Frisian Islands, the investigation authorities agreed in their report to recommend that the Dutch and German institutions continue with the risk assessment already started. If this identifies a need for action, the mentioned institutions are recommended to initiate the required international negotiations.

All investigation reports, safety recommendations as well as other publications of the BSU are available on

https://www.bsu-bund.de/EN/Publications/Publications_node.html

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