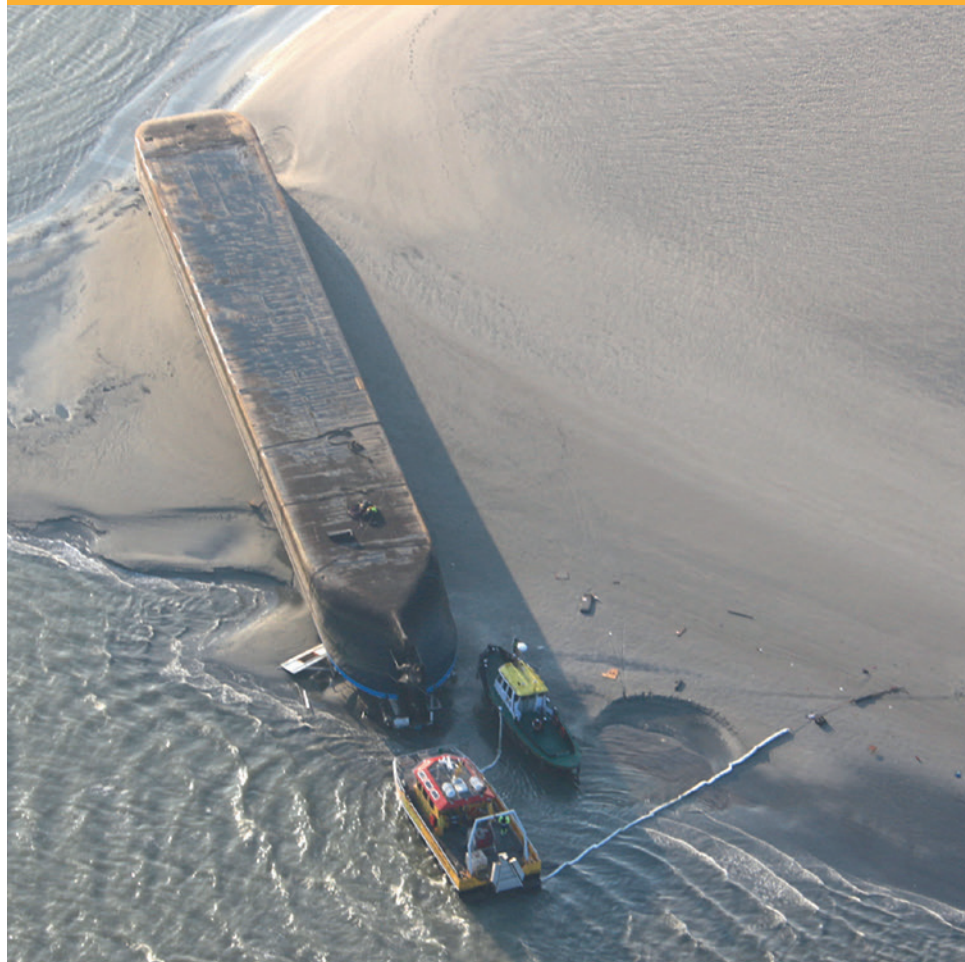




DUTCH  
SAFETY BOARD

# Summary

## Capsizing barges



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*The Hague, April 2016*

*The reports issued by the Dutch Safety Board are open to the public.  
All reports are also available on the Safety Board's website [www.safetyboard.nl](http://www.safetyboard.nl)*

*Photo cover: ANP/Provicom*

## **Dutch Safety Board**

When accidents or disasters happen, the Dutch Safety Board investigates how it was possible for them to occur, with the aim of learning lessons for the future and, ultimately, improving safety in the Netherlands. The Safety Board is independent and is free to decide which incidents to investigate. In particular, it focuses on situations in which people's personal safety is dependent on third parties, such as the government or companies. In certain cases the Board is under an obligation to carry out an investigation. Its investigations do not address issues of blame or liability.

	<b>Dutch Safety Board</b>	
Chairman:	T.H.J. Joustra E.R. Muller M.B.A. van Asselt	
Secretary Director:	C.A.J.F. Verheij	
Visiting address:	Anna van Saksenlaan 50 2593 HT The Hague The Netherlands	Postal address: PO Box 95404 2509 CK The Hague The Netherlands
Telephone:	+31 (0)70 333 7000	Fax: +31 (0)70 333 7077
Website:	<a href="http://www.safetyboard.nl">www.safetyboard.nl</a>	

On the night of 5 to 6 February 2015 the Rick, a self propelled inland waterway hopper barge (barge), capsized while loading spray sand on the Western Scheldt. The captain lost his life in this accident. During manoeuvring different forces acted together to cause a keeling over motion and make the Rick capsize. A little over a month and a half later, on 30 March 2015, the Willem, a self propelled inland waterway hopper barge, capsized. This also took place on the Western Scheldt, also while loading spray sand. The crew of the Willem were able to abandon the ship in time. Before loading the spray sand, leaks arose on the Willem that adversely affected the stability of the ship to an extreme degree. The leaks arose due to a lack of strength, caused in part by the poor condition of the ship. Both ships had been converted from hopper barges to self propelled hopper barges. None of the parties concerned had thought to question what effect this would have on the stability of the ship and whether the ship would be suitable following the conversion for loading spray sand on open water (zone 2). A study by the Dutch Safety Board showed that both ships were susceptible to instability when loading spray sand. Since, in practice, once a ship becomes unstable there are very few options for manoeuvre, so it is important to focus on the strength and stability of the ship for use on open water beforehand.

### **Primary responsibility**

The transshipping of spray sand on open water is a risky activity. It involves transferring a load between two ships that are not well-matched to one another in a location that is not ideally suited for this purpose. Captains and owners of barges and hopper dredgers hold primary responsibility for the safety of their vessels. The owner of the vessel must ensure a safe ship and the captain must satisfy himself that he is setting sail with a safe ship. The interaction between the hopper dredger and barge implies they are jointly responsible for the safe transfer of spray sand on open water. It was found that when transshipping the spray sand there was a separation of responsibilities and the captain of the barge took the lead in the loading operation. This does not take away from the fact that the captain of the sand dredger can act in the event of a hazardous situation. The Dutch Safety Board is of the opinion that adequate attention needs to be paid to the location and conditions in which transshipment takes place, the configuration of the vessels during the transshipment and the interests of both sides. Time pressures and economic factors must not be allowed to cause a lack of safety. Communication and coordination between both vessels during transshipment is essential.

### **System of certification**

To be allowed to sail, a barge must have a valid certificate issued by the Human Environment and Transport Inspectorate (ILT). The Safety Board has found that a valid certificate, which should mean that the vessel is in compliance with the applicable laws and regulations, does not form any guarantee that a barge is fit for purpose.

In the case of stability for inland waterway vessels, the law describes the intent of the regulations and not how this should be achieved. The stability of inland waterway vessels should be adequate for the purpose for which the vessels are intended. The strength of the hull must be such that it is suitable for the load to which the hull is subject under normal circumstances. The investigation showed that no inspection of the conversion work on the two capsized barges was carried out to determine if that the stability of the rebuilt ship was sufficient for loading spray sand on open water. It also showed that, within a year of the conversion, defects had appeared on one of the vessels such that the Safety Board was surprised that a certificate had been issued to the vessel.

### **Open standard versus supervision and industry culture**

Owners of inland waterway hopper barges are mostly small independent businesses. There is strong competition in the transport market and margins on the transport of sand are small. Operators seek to avoid additional costs and to keep investment to a minimum. The industry is not eager of its own accord to invest more in safety than is strictly necessary under the law. The policy pursued in the inland waterways sector assumes that owners and operators will fulfil their own responsibilities adequately, but it contains no incentives for those involved to manage safety risks better. Where these incentives are lacking, the use of open standards in this industry may result in safety falling between two stools.

In 2013, ILT outsourced the various activities necessary for issuing a certificate, such as carrying out inspections and checking calculations, to parties in the market. The role of the ILT is limited to supervision of the market parties and therefore has less oversight of the sector. The Safety Board questions whether this is an effective way of working in this industry. The Safety Board considers it essential that ILT plays an active role in order to identify and flag up risks in the inland waterways sector, as a mechanism to bring about improvements if current certification practices are not effective enough.

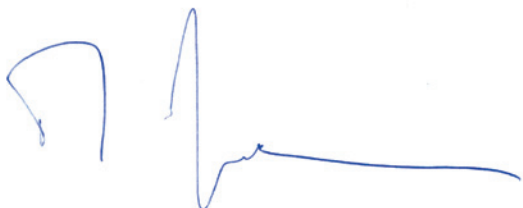
### **Recommendation**

The captains and owners of barges hold ultimate responsibility for the safety of their vessels. With open standards allocation needs to occur in practice, where the application is tuned on the use of the ship. Therefore, the Safety Board will not issue any statement within the context of this investigation on precisely how the open standards for strength and stability should be fulfilled. The Safety Board aims at doing the following recommendation that a process is set in to allocate open standards in practice. This requires collaboration between multiple parties, where the Safety Board sees a directorial role for the Minister of Infrastructure and the Environment.

### **To the Minister of Infrastructure and the Environment:**

Apply a process on where the Human Environment and Transport Inspectorate, in cooperation with owners of ships, insurance companies and industry associations in inland navigation, guarantees the safety of self propelled inland waterway hopper barges that handle spray sand on open water by ensuring that with the cultivation of or conversion to a self propelled inland waterway hopper barge the stability and strength are checked, taken into account the use on open water.

Note: The check on the stability and strength is also relevant to existing, converted hopper barges that sail on open water. The Safety Board therefore expects that the interested parties inform the owners of these ships on the possible risks they run at the handling of spray sand on open water.



T.H.J. Joustra  
Chairman, Dutch Safety Board



C.A.J.F. Verheij  
Secretary Director



**Visiting Address**

Anna van Saksenlaan 50  
2593 HT The Hague  
T +31(0)70 333 70 00  
F +31(0)70 333 70 77

**Postal Address**

PO Box 95404  
2509 CK The Hague

[www.safetyboard.nl](http://www.safetyboard.nl)