

## 4 RECOMMENDATIONS

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The investigation focuses on the occurrences involving the UK-165 and the UK-171. Both vessels were beam trawlers with a length of less than 24 metres. To chart out the safety risk for trawlers of capsizing and sinking as a result of dangerous asymmetric loading conditions and with a view to achieving safety improvements, it is recommended that a more broad-based investigation be carried out within the entire sector. That investigation should focus on all trawlers - both those with a length of less than and more than 24 metres.

The Dutch Safety Board issues the following recommendations.

*To the Minister of Infrastructure and Water Management:*

1. Recognize that asymmetric loading conditions occur regularly on beam trawlers and that the stability of these vessels can be considerably less favourable than in symmetric loading conditions. On that basis, calculate and analyse the stability in asymmetric loading conditions as part of the legal certification process.
2. Ensure full compliance with the statutory obligations to include in the stability book loading conditions that have an unfavourable influence on vessel stability, and provide specific relevant instructions. Do this by also including asymmetric loading conditions in the stability book. Involve the fishery sector in drawing up these specific relevant instructions.
3. Investigate the scale of the safety risk of the capsizing and sinking of trawlers as a result of dangerous asymmetric loading conditions within the entire Dutch trawler fleet. Include all fishing vessels in this investigation, irrespective of their length. Take measures to counter this safety risk.

*To the Fishery Sector Council Foundation (Stichting Sectorraad Visserij):*

4. Ensure that crews of beam trawlers with a length of less than 24 metres receive structural information on the risk of dangerous instability in the event of asymmetric loading conditions. Assist the Minister of Infrastructure and Water Management in drawing up specific relevant instructions which must be included in the stability book in the event of loading conditions with an unfavourable influence on vessel stability.

The competences necessary to enable crew members to recognize and prevent dangerous asymmetric loading conditions are not a fixed element of fishery training programmes. To improve the potential for response by (future) skippers, the Safety Board issues the following recommendation.

*To the Foundation for Cooperation on Vocational Education, Training and Labour Market (Samenwerkingsorganisatie Beroepsonderwijs Bedrijfsleven) and Industry and the Fishery Sector Council Foundation:*

5. Ensure that within fishery training programmes, attention is focused explicitly on the safety risk of asymmetric loading conditions and how to respond in practice to manage this risk. Include this in the teaching material, for example.

In addition to improving the potential for response by skippers, it is equally important that safety gains be achieved through improvements in vessel design. For that reason, parties within the maritime manufacturing industry must also be involved in preventing the safety risk of asymmetric loading conditions on fishing vessels. These parties include shipyards, shipbuilders and ship designers. In the Netherlands, all these parties can be reached via the sector organization Netherlands Maritime Technology.

*To Netherlands Maritime Technology:*

6. Ensure that parties in the maritime manufacturing industry are informed of the safety risk of dangerous instability in the event of asymmetric loading conditions. Arrive at a situation in which these parties contribute to preventing this safety risk by including the principle of maintaining stability in asymmetric loading conditions in the design, construction and conversion of fishing vessels, and fishing equipment.