

# SAFETY FLYER TO THE FISHING INDUSTRY

### Fatal accident to a deckhand on board the beam trawler *Cornishman* (PZ 512), 44 nautical miles south-south-west of the Isles of Scilly, England on 6 February 2021

#### Narrative

At about 0630 on 6 February 2021, the crew of the beam trawler *Cornishman* were repairing the port trawl gear between fishing operations when the suspended steel trawl beam suddenly fell to the deck, striking and trapping a deckhand who was working underneath. The deckhand was declared deceased 1.5 hours later by the attending helicopter paramedic.

The investigation established that a 32mm Grade 8 chain link forming part of the port trawl gear's quick-release mechanism supporting the port beam had fractured and allowed the beam to fall. The chain was operated over a 150mm diameter fixed steel pin (**Figure 1**) at the top of the derrick; both the chain and its links were found to be corroded, heavily worn, and cracked.

## Safety lessons

- 1. *Cornishman*'s chain over fixed pin arrangement resulted in side loading and bending stress of individual chain links due to the low ratio between the diameters of the 150mm fixed pin and the 32mm chain link, known as the D/d ratio (Figure 2).
- 2. High alloy Grade 8 chains are not recommended for offshore use due to their susceptiblility to envrionmental cracking, resulting in loss of strength and risk of catastrophic failure while loaded.

Image courtesy of Devon & Cornwall Police



Cornishman



Figure 1: Quick-release chain over fixed steel pin

- 3. Chains are primarily intended for straight line point-to-point loading. Where a change in direction is required a chain lifter, such as found on an anchor windlass, or a high D/d ratio arrangement is necessary.
- 4. The side loading of individual chain links on *Cornishman* resulted in out of plane stresses, which the chain was not designed to withstand. This caused heavy wear on the fixed pin and chain links as the links were operating under dynamic loads. Alternative quick-release designs are available and should be considered as a safety improvement to minimise the opportunity for sudden failure. A safety bulletin, issued by MAIB in February 2024, provides more details <u>https://www.gov.uk/maib-reports/safety-warning-issued-following-a-chain-failure-on-scallop-dredger-honeybourne-iii-with-loss-of-1-life</u>



Figure 2: Representation of chain loading over fixed steel pin, showing links subjected to out of plane bending stress point loads

This flyer and the MAIB's investigation report are posted on our website: www.gov.uk/maib

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