Australian Transport Safety Bureau

Bringing an independent lens to bear

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The responsibility for the investigation of shipping accidents and incidents that occur within Australian waters or involve Australian-flagged vessels has rested with the Australian Transport Safety Bureau (ATSB) since its formation in 1999, with the amalgamation of the former Maritime Accident Investigation Unit with the Bureau of Air Safety Investigation (and the creation of a national rail investigation capability).

In that time, the ATSB has conducted over 200 independent "no blame" investigations into shipping accidents and incidents.

Most recently, these have included highlighting underlying safety issues with the effectiveness of ECDIS type-specific training, ECDIS software updates and the use of a single point feature to represent relatively large physical features on electronic navigational charts stemming from our investigation into the grounding of the patrol vessel Roebuck Bay in 2017, and stressing the importance of safe and effective container stowage planning with the investigation into the loss of 81 containers from the YM Efficiency in 2018.

Knowing of this excellent reputation for world-leading investigation, I was very privileged to have been appointed the first Chief Commissioner and Chief Executive Officer of the ATSB to have come from a maritime industry background, taking up my appointment on 2 September 2021.

I joined the ATSB from Maritime Safety Queensland, where, as General Manager, I oversaw the safe and efficient movement of vessels in to and out of Queensland's 21 ports, and was responsible for compliance activities and safety investigations for Australia's largest recreational maritime fleet.

Prior to leading Maritime Safety Queensland, I was the Executive Director of NSW Maritime, overseeing our most populous state's primary maritime regulatory, investigative and compliance agency. Before that, I served as Deputy Harbour Master – Operations for Sydney Ports, with responsibility for managing day-to-day port operations for Sydney Harbour and Port Botany.

I began my career serving as an officer in the Royal Australian Navy, undertaking a number of operational and policy roles.

When I joined the ATSB, much of the agency's staff had been operating under various lockdown restrictions. It is a testament to their resilience and commitment to the important work of this agency that we have been able to maintain business continuity with minimal disruption.

Our pandemic challenges have been minor in comparison to those experienced by transport networks and the shipping industry across the globe over the last two years; disruption that I saw first-hand at Maritime Safety Queensland (which recently was recognised with an Australian Industry and Shipping Award for its role in managing international shipping throughout the COVID pandemic and supporting the welfare and safety of international seafarers).

So as a former seaman officer, harbour master, and maritime safety head of agency, I hope that valuable perspective assists the ATSB in further ensuring the safety of all mariners operating in Australian waters and in Australian vessels through our independent no-blame investigations.

A case study that highlights just how our investigations can contribute to safer transport is our recently released final report into a fire on board the bulk carrier, Iron Chieftain.

The 202 metre, Australian flagged self-unloading bulk carrier Iron Chieftain was discharging its cargo of dolomite at Port Kembla, in the early hours of 18 June 2018 when friction - probably from a failed bearing - generated enough heat to ignite a rubber conveyor belt in the C-Loop internal cargo handling space.

The ship's crew initiated an emergency response, but shipboard efforts to control the fire proved ineffective, with the fire soon establishing itself and spreading to the exterior of the ship, setting the discharge boom alight. The ship's crew were eventually evacuated and Fire and Rescue New South Wales firefighters took charge of the response. The fire was contained and eventually extinguished about five days later.

The fire caused substantial structural damage including breaches of two fuel oil tanks, and much of the self-unloading system was destroyed. The ship was subsequently declared a constructive total loss.

The accident demonstrates how the effectiveness of a shipboard response

to a fire depends primarily on the ability to detect the fire at an early stage and quickly extinguish it at the source.

Iron Chieftain's self-unloading system was not equipped with a fire detection or fixed fire-extinguishing system in the C-Loop space, but nor was it required to be, highlighting the lack of adequate international standards or regulations for dedicated fire detection and fixed fire extinguishing systems in cargo handling spaces of self-unloading bulk carriers.

The ATSB's investigation report also notes that the initial emergency response by the crew, in particular, stopping the conveyor belts, aided the fire's early development as heat could not dissipate.

Following ignition, the combination of high fuel loads in the form of rubber conveyor belts in the C-Loop space and airflow from the vertical design of the loop and its ventilation fans, meant the fire quickly established itself and travelled along the C-Loop's rubber conveyor belt system to the ship's exterior to the deck discharge boom and set it alight.

In addition, heat from the fire in the C-Loop space caused thermal stress, cracking and deformation to the adjacent heavy fuel oil tanks, releasing additional fuel for the fire and increasing its intensity and complexity.

In releasing the investigation's final report, the ATSB recommended international standards for suitable fire detection and fixed fire-extinguishing systems in the cargo handling spaces of self-unloading bulk carriers be introduced and improved, and that standards for the fire resistant properties of their conveyor belts be introduced.

The absence of these measures has been a contributing factor in at least three major shipboard fires over a 25 year period, including Iron Chieftain.

As this case study shows, ATSB investigations place considerable focus on identifying safety issues that can be addressed by the parties that are ultimately responsible and best positioned for managing risk, including operators and regulators.

The ATSB has a deep commitment to striving for continuous improvements in transport safety, and I look forward to continuing to work with our colleagues in industry, whether that be operators, industry representative bodies or regulators, to that end.

Our independent role means sometimes those conversations may be robust, but the ATSB best serves the transport system by bringing our independent lens to bear.