MAIB

MARINE ACCIDENT INVESTIGATION BRANCH

FLYER TO SHIPPING COMPANIES

SAVANNAH EXPRESS:
ENGINE FAILURE AND SUBSEQUENT CONTACT WITH A LINKSPAN

On 19 July 2005, the 8400 TEU container vessel *Savannah Express* was entering the Upper Swinging Ground, prior to berthing at Southampton Container Terminal, when her main engine failed. The engine was unable to be started astern to reduce the vessel's headway, and she made heavy contact with a linkspan, which was seriously damaged.

Savannah Express had been delivered from the builders a few months before the accident. She was equipped with a slow speed diesel engine of a novel design. Her engine did not have mechanical timing gear (including camshaft and timing chains or gears) but, instead, was fitted with a fully integrated, and computer controlled, electro-hydraulic control system.

A guarantee engineer had sailed with the vessel for about two weeks after she had left the builder's yard, and the vessel's first chief engineer had attended a basic training course designed by the engine manufacturers. However, the engineer officers on board at the time of the accident had not received any type specific training from the engine manufacturers.

The engine control system had suffered a series of technical problems since the vessel had come into service. An engine failure had also occurred as *Savannah Express* approached the pilot boarding ground on arrival at Southampton. The engineers misdiagnosed the cause of this failure and, although they managed to

re-start the engine, they inadvertently disabled an integral part of the engine control system, which effectively prevented sufficient hydraulic oil pressure to be supplied for the engine to operate astern.

This led to the second failure as the vessel entered the Upper Swinging Ground. The cause of this second engine failure was also misdiagnosed by the engineers, and they resorted to repeatedly turning the engine on compressed air in an attempt to 'reset' the control system electronics instead of determining the cause of the failure. Eventually, low air reserves prevented any further attempts to re-start the engine.

Safety Issues – Training and Supervision

The generic training undertaken by marine engineers during courses leading to professional qualifications, may be insufficient on its own to equip engineers to operate, maintain and successfully diagnose and repair faults on fully integrated, complex engine systems. Therefore, shipowners should ensure that, where appropriate, their Safety Management Systems include the need for additional measures, such as:

- effective type-specific training for engineers;
- a longer period of supervision by guarantee engineers.

Further details on the accident and the subsequent investigation can be found in the MAIB's investigation report, which is posted on its website:

www.maib.gov.uk

Alternatively, a copy of the report will be sent on request, free of charge.

Marine Accident Investigation Branch
Carlton House
Carlton Place
Southampton, SO15 2DZ

Telephone 023 8039 5500
Email maib@dft.gsi.gov.uk

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