

Marine Safety Flash

A15-06 (15th March)

Fuel Bunker Operation



Incident Overview

During fuel bunkering operations to a ship, the fuel transfer hose was observed to “jump” unexpectedly.

No one was injured and no equipment damage occurred.

Investigation revealed that there was undetected residual pressure of 3.5 bars in the receiving ship pipelines. The pressure had been inadvertently “locked in” to the pipes following a previous fuel transfer operation some days before. The receiving ship opened their manifold and inadvertently released the pressure into the hose. The rapid release of pressure caused the hose to stiffen and “jump”, however the hose and couplings remained intact.



Hose set-up for vessel bunkers

There was potential to injure crew standing and working in the vicinity, including a crew member making final adjustment to the hose securing slings. In addition, the pressure could have damaged the hose or couplings.

Key Findings

The bunker procedures were unclear about valve line up and order of opening. The procedures have now been updated to ensure that the receiving ship bunker lines are open to the receiving tanks and at atmospheric pressure prior to opening the manifold valve to the bunker hoses.

Bunkering is considered a “routine” operation on most vessels. Although the occurrences of incidents during bunkering are rare, the consequences can be high.

The energy hazards present include:

- Pressure - of fuel and or air in hoses and pipes,
- Gravity - working under and around suspended hoses,
- Chemical - contact with the fuel, spill to environment,
- Temperature - ignitions source leading to fire,
- Mechanical - working in proximity to mooring lines under tension, pinch points between hose and ships rail.

Recommendations

Don't become complacent about bunkering operations, consider:

- What energy hazard could harm or kill me or others?
- What are the controls in place to prevent an incident and are the controls in place effective?