

High potential near miss: Nitrogen hose failure during transfer of gas

Safety Flash Published on 25 August 2020 Generated on 24 January 2025 IMCA SF 25/20

What happened?

As nitrogen gas was being transferred from the pipelay tower accumulators to storage bottles located within the pipelay HPU room, the pipelay supervisor noticed a sudden drop in pressure. He immediately went to the door of the HPU room to assess the situation.

He could hear the sound of a high pressure gas release within the room, and decided not to go in. He ran to the nearest emergency stop button located on the main deck to stop the system.

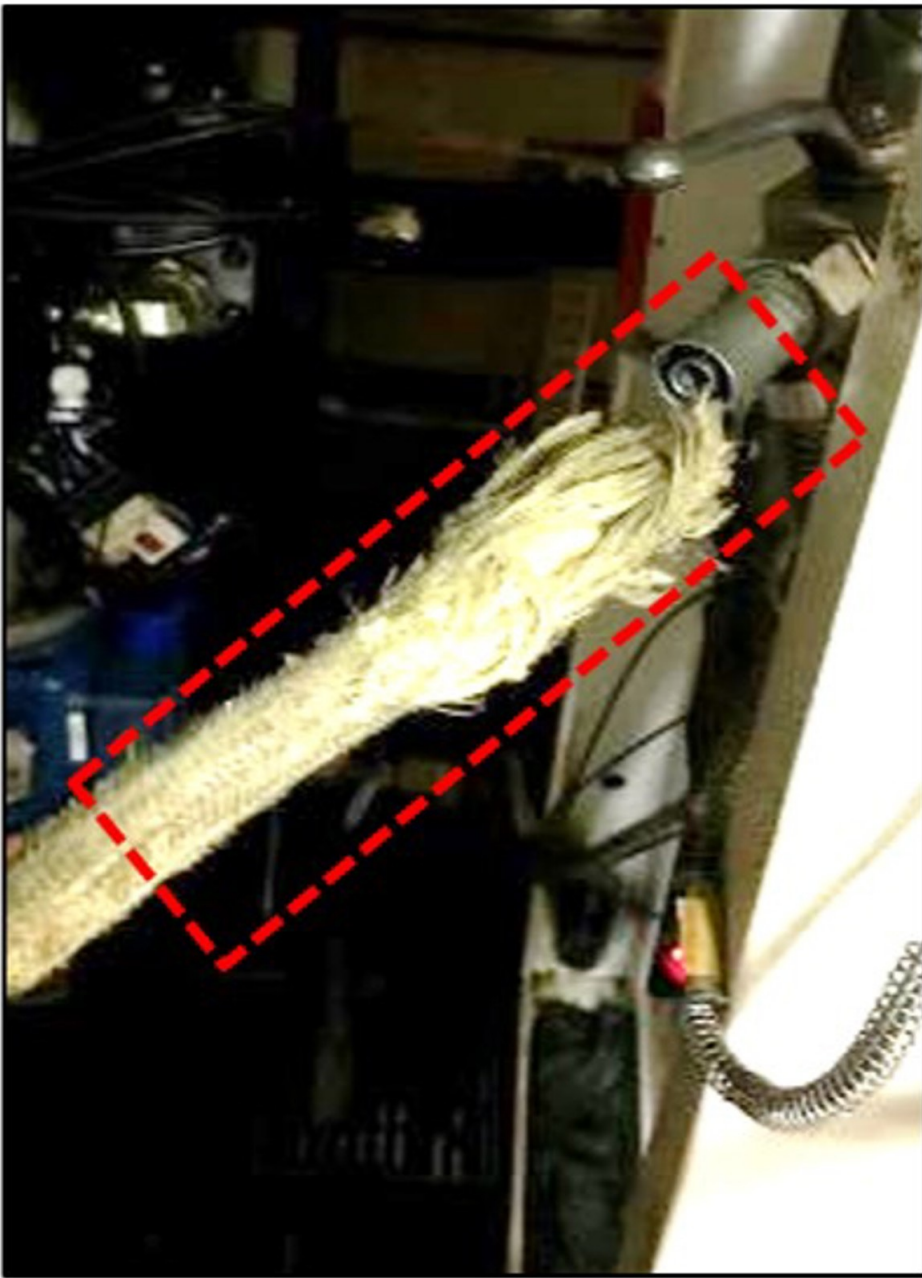
IOGP Life Saving Rules:



Bypassing safety controls



Energy isolation



What were the causes?

The hose had been in place since 2010 and there was substantial degradation along its full length.

The hose was not identified on a hose register and therefore not subject to any planned maintenance or inspection regime.

What went wrong?

It was later identified that a supply hose had detached from its ferrule and approximately 165,000 litres of pure nitrogen was released into the room. Consequently this reduced the oxygen levels in the room to approximately 17.4% (normal oxygen content in the atmosphere is 20.8%).

Actions

- All pressurised hoses should be correctly secured and coupled using properly rated hose whip check restraints.
- All hoses and fittings should be visually inspected prior to use and should be examined regularly in service for wear and should be changed out as necessary or as part of a planned maintenance schedule

Our member also:

- Ensured adequate 'Restricted Access' signage is posted at all entrances to the nitrogen storage area.
- Ensured suitable low oxygen detection alarms are installed within the immediate area.

Members may wish to refer to

- IMCA D065 *Guidance on the use of whip checks (hose restraints)*
- Damaged High Pressure Content Gauge Hoses On Bail-Outs
- Proper Care Of Oxy-Acetylene Cutting And Welding Equipment
- Potential Engine Room Flooding: Maintenance And Equipment Failure Issues On A Laid-Up Vessel

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