

High potential: spontaneous opening of hydraulic release shackle (HRS) pin

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During lifting operations on a vessel, a hydraulic release shackle pin opened on its own.

What happened?

The incident occurred when the main crane auxiliary block was connected to the flare lifting slings, hydraulic hoses, and Hydraulic Release Shackles (HRS). A blue colour coded HRS spontaneously opened from its original secured position and dropped approx. 4-5 meters from its position and was left hanging from the hydraulic hose. An “All STOP” was called. No-one was harmed.

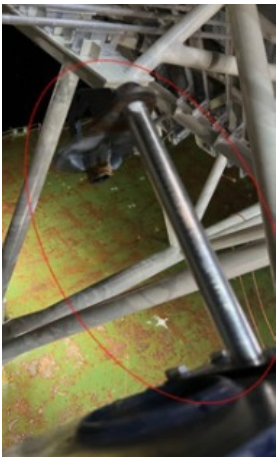
IOGP Life Saving Rules:



Bypassing safety controls



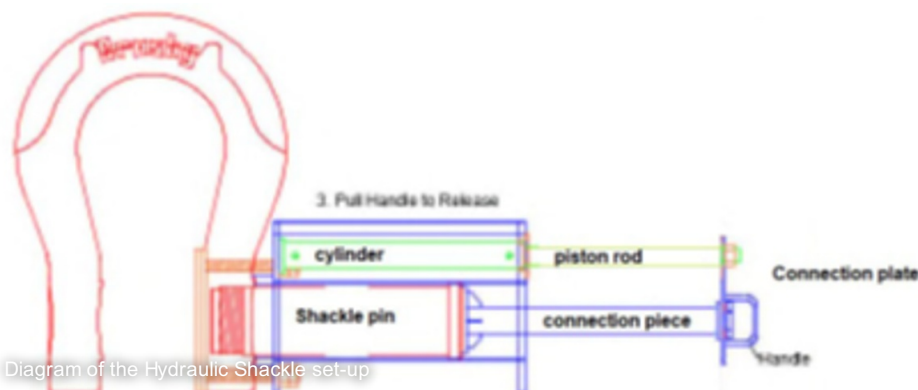
Safe mechanical lifting



Broken connection



Bent connection plate



What went wrong?

After rigging back the 'blue shackle' to its position and performing function tests to

this same shackle and the other 3 HRS units, it was then identified that the 'yellow colour coded' HRS was damaged (broken piston) and further damage was identified to the initial 'blue colour coded' HRS (bent piston rod). The operation was subsequently abandoned.

Our member's findings included:

- There was some complacency: assumptions and decisions were made without full compliance or verification against requirements (manufacturer manual, company procedures, etc.).
- The way the job was to be done, was changed before it started, without any form of Management of Change process taking place.
 - The method chosen was to do set up the hydraulic release shackle (HRS) using vessel crane Hydraulic Power Unit (HPU). There was evidence that the procedures and manufacturer's requirements for operating the vessel crane Hydraulic Power Unit were not adequately complied with.
- There was evidence that some crew involved did not comply with and were not even aware of, certain other procedures and documentation pertaining to this work.
- There was no operational risk assessment, nor task risk assessment for the change of set-up, and general non-compliance with procedures.
- An opportunity was missed to have detailed review of the risks and controls for the HRS system and its compatibility to the vessels crane hydraulic system.

Lessons

- Communication: there was less than effective communication between the main parties involved in this operation.
- Remain curious: take nothing for granted. Keep questioning all aspects of what may go wrong. Ask "What if?" Dedicate time to go through all potential risks to consider and implement adequate mitigation controls.
- If in doubt, **STOP the JOB!!**
- Addressing change: ensuring we respond to the need for change in an open-minded and positive way.

Actions

- Ensure all decisions made regarding changes to critical equipment set up are conducted in line with manufacturer requirements.
- Conduct general review for similar equipment across projects and worksites.

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