

Dropped Object from Derrick

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What happened?

While running in drill pipe on a drilling vessel, part of a guide sheave failed and fell approximately 15 m to the drill floor.

A 'Red Zone' was in place to restrict access to the derrick floor during hazardous activities. Nobody was injured.

IOGP Life Saving Rules:



Line of fire



What were the causes? What went wrong?

The sheave had seized and failed due to a combination of:

- Design – lack of inspection hole in the sheave.
- A small fleet angle resulting in lateral forces on one side of the sheave.
- Installation – incorrect thickness spacer fitted by a contractor during refurbishment and a lack of a protective coating (paint).
- Quality control – inadequate inspection & testing of the installation / contractor's work.
- Maintenance and inspection – failure to spot equipment defects and inadequacy of secondary retention.

Lessons learned

- Planned preventative maintenance systems should take account of all equipment including ancillary equipment, irrespective of whether or not the equipment was original or retrofitted.
- Robust supervision and quality control of contractors is essential to ensure that the technical specifications, installation process, functional testing and documentation requirements are complied with.
- A dropped object 'Red Zone' is intended to keep unauthorised personnel out of the potentially hazardous area and should be continually assessed for effectiveness.

Actions

- Amended vessel preventative maintenance system to include more detailed requirements for the inspection of ancillary equipment (e.g. sheaves, floodlights and other potential dropped object hazards) including the details of any applicable standards.
- Implemented Work Report templates to be prepared and submitted by contractors describing completed refurbishment / maintenance works.
- Revised designated 'Red Zones' to include "Safe Standing Zones" with overhead protective shielding.

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