Title: Fall of pulley assembly from crown block to rig floor.
Location: On land Drilling Rig Derrick floor
Activity Type: Routine operations
Result / Outcome: Fatal accident.

What happened?

Air operated winches were being used for material handling on the rig floor. The air winch pulley is usually hung on the structural member below the crown frame. Rope guards were provided on pulley assemblies to prevent the wire rope running out of the sheave groove.

At the time of incident, fishing operation was to commence for which running in of 5" heavy weight drill pipes was in progress when snatch block of winch line (also known as cat line) fell all of a sudden on the rig floor seriously injuring the Floorman / Rigman. The crew members carried injured person from derrick floor to the company dispensary, which was situated about 27 km from the drill site, where the injured person was declared brought dead. According to the extract of the post mortem report the cause of the death of deceased was due to head injury.

What caused it?

The 'D' shackle was connected to the structural member below crown block below which a Johnson swivel assembly and the winch line pulley was in position. In the previous shift, during lifting of guide shoe from pipe rack, the fabric rope got parted off and the winch line travelled up, jumped the pulley and fell on the derrick floor along with the 'D' shackle. An inspection was carried out and ascertained that the pulley was ok. Due to impact of the shackle the swivel assembly had been badly damaged which may have resulted in pulley hanging precariously. When operations were resumed next morning the pulley fell all of a sudden on the Floorman / Rigman after getting detached from lower part of the Johnson swivel assembly.

Corrective actions:

- Pulley assemblies should be inspected periodically and record should be maintained.
- Equipment subject to torsional force to be provided with secondary support system to avoid free fall in case of damage.
- The existing design of hanging of pulley from the Johnson swivel needs to be modified for better locking and fall protection.
- Any abnormal/ unsafe condition observed at the well site must be analysed properly before resuming operations.