



Safety Alert

From the International Association of Drilling Contractors

ALERT 11-19

DRILLING LINE SLIPS OUT OF RETAINER CLAMP RESULTS IN RIG DOWNTIME

WHAT HAPPENED:

While tripping in the hole, the driller was hoisting the top drive and empty elevators to latch a stand when a loud “slapping” noise was heard from the drawworks and severe vibration was noted in the brake handle. The block’s travel was stopped, and a large “bird’s nest” was seen on the drawworks drum. The rig floor was cleared of all personnel and a risk assessment was performed. It was decided to install a short hang-off line in the mast to hang the traveling block in its then-current position. When the drilling line was inspected, it was discovered that the drilling line had pulled out of the drilling line clamp in the drawworks. The loose end of the drilling line striking the drawworks guards was determined to have been the cause of the “slapping” noise heard at the time of the incident. The damaged drilling line was removed from the drum, and a new line clamp was installed including new bolts, nuts and lock washers. The line was spooled back onto the drawworks and the blocks were lowered and re-hung at the normal height for slipping and cutting drilling line. A thorough inspection of the drawworks, top drive, mast and drilling line were then performed. Minor damage was repaired on grease lines and crown-saver air lines. The crown-saver was tested and the rig resumed normal operations. This event resulted in 13 hours of rig repair time; no injuries were reported.

WHAT CAUSED IT:

- The rig had last slipped and cut drilling line approximately two weeks prior to this event and no problems with the drilling line or clamp had been noted since the last cut.
- The ton miles since last cut were within acceptable limits at the time of the event.
- The drilling line clamp on this drawworks uses four hex bolts to retain the drilling line. Upon examination of the drilling line clamp, it was noticed that the two of the four bolts on the clamp had been tightened about two rounds of the nut less than the other two bolts.
- Further examination revealed excessive wear of the clamp itself, as evidenced by a widening of the grooved throat of the clamp body by approximately 7 to 8 mm (5/16”).
- This led to a conclusion that the immediate cause of the event was that the clamp had been under-tightened at the time of the last slip and cut.
- It is less clear to what extent the generally worn condition of clamp reduced the clamping force on the drilling line, but the condition of the clamp cannot be eliminated as a possible contributing factor in the result that the line slipped over time and eventually worked its way out of the clamp.

CORRECTIVE ACTIONS: To address this incident, this company did the following:

- The written rig operations policy guidelines for slipping and cutting drilling line were amended to include:
 - Requirement for visual inspection of drilling line clamp;
 - An inspection guideline, with acceptance/rejection criteria, for visual inspection of the drilling line clamp, bolts, U-bolts and nuts;
 - Proper clamp tightening procedures, including recommended nut torque;
 - Appropriate interval for dimensional and non-destructive testing (NDT) inspection of drilling line clamp;
 - Appropriate interval for replacement of bolts or U-bolts, nuts and lock washers.
- A pre-job meeting must be conducted prior to slipping and cutting drilling line to review the procedures as a reminder of the importance of proper inspection and tightening of clamps and fasteners.
- Inspection of wire rope retainers and retaining clamps on all lifting equipment which utilizes wire rope for lifting including but not limited to drawworks, floor winches, man-rider winches, utility winches, casing stabbing boards, cranes, etc. to be performed on all rigs.
- Lessons learned and corrective actions requirements to be distributed to all operations and maintenance personnel.

The Corrective Actions stated in this alert are one company’s attempts to address the incident, and do not necessarily reflect the position of IADC or the IADC HSE Committee.

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