



Safety Alert

From the International Association of Drilling Contractors

ALERT 09 – 35

DROPPED STANDS OF DRILL PIPE RESULT IN INCIDENTS

WHAT HAPPENED:

While the rig crew was tripping drill pipe into the hole the derrickman missed latching a stand of 3½" drill pipe and it was dropped across the derrick. In an effort to return the stand to the derrick man, the floor crew used the driller's side rig floor winch. They wrapped the winch's cable around the stand, anchored it to the rig floor near the V-door opening and began to pull it back to the derrickman. As the stand was being pulled back toward the derrickman, it slid or lifted up and went out the v-door, falling to the yard below.

Previously on another rig while the rig floor winch line was being used to pull back a stand, the rig floor crew gathered around the stand to push it toward the derrickman. As the winch operator operated the winch to pull on the stand, the pin end of the missed stand was lifted off the rig floor by the winch cable. The winch operator slacked off the line quickly to avoid lifting it further. The stand of pipe came down on the foot of a rig floor crewman just behind his steel toe, cutting off three toes.

On another rig as the winch line was pulling the dropped stand back, the line tension caused the stand to whip back striking the tip of the derrickman's board. The derrick board flipped up and struck the derrickman's leg breaking it.

WHAT CAUSED IT:

- The procedure for pulling back a dropped stand was inadequate.
- No JSA had been performed to define the hazards of the task or explain how to address them.
- When a stand is dropped, the rig floor winch is generally used to pull it back to the derrickman.
- No consideration was given to the movement of the pin end of the stand of drill pipe.

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

- A safety meeting was held immediately after each incident and the procedures were reviewed.
- The Operations Managers on the projects met with the crews emphasizing the company policy that anyone can stop the job if a hazard is perceived. The same was done for all other rig crews within the division.
- Instructed rig personnel that before attempting to pull back a dropped (lost) stand hazards must be discussed.
- Instructed rig personnel on three things to consider when performing this task:
 1. To prevent the bottom of the stand from moving, tie off the bottom of the stand to other stands in the derrick with a length of chain.
 2. Whip the winch line wraps around the stand to make the wraps travel up the stand before pulling with the winch. This will place the center of pull on the stand nearer the top, reducing the tendency to lift the stand. In other words, if the winch line is placed properly, the top of the stand will be moved toward the board rather than the entire stand being lifted up.
 3. Rig floor personnel should not be anywhere near the pin end of the stand when the winch is operated to pull the stand back to the board.

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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- **Message to all rig supervisors:** This is a non-standard operation yet pulling back a dropped stand seems to happen often. Develop a JSA for pulling back a dropped stand and discuss this JSA before performing this task. To help recognize the hazards of a job, everyone should be asking themselves and each other, “what can potentially go wrong with this job.” Communicate the hazards with one another in a pre-job safety meeting and address how the hazards can be avoided or eliminated.

IADC Note: At a Safety Engineering by Design Sub-Committee meeting one member discussed their use of a “Dropped Pipe” pull back line. See the following pages describing this company’s procedure and cable design. Note this is not an IADC Recommended practice, but one company’s effort to make pulling back dropped (lost) stands of drill pipe safer.

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LOST PIPE RECOVERY SYSTEM

IADC Note: The following information was previously shared with the IADC HSE Committee's Safety Engineering by Design Sub-Committee. This is not an IADC recommended practice, but a sharing of how one company addressed the issue of recovering dropped drill pipe.

- 1.1 Refer to the attached drawing of the Lost Pipe Recovery System.
- 1.2 Use a shackle to secure the end of the 70' length of wire rope to a stationary location on the derrickman's side of the rig floor. (See detail "A")
- 1.3 Secure the live end of the rig floor winch line to the D-ring attached to the end of the 70' length of wire rope by the use of a shackle. (See detail "A")
- 1.4 Next loop the five foot length of chain which is on the D-ring assembly around the lost stand of pipe and secure it to the D-ring (the chain will now encircle the pipe and both ends of the chain will be attached to the D-ring)
- 1.5 Raise the air hoist line while making sure the chain slides up the stand (just past the second tool joint connection) until the cable is in tension. (See "Position #1")
- 1.6 Slowly increase the tension on the winch line and gently pull the stand of pipe back to the Derrickman. (See "Position #2 and Detail "B")

Note1: The seventy (70) feet length of wire rope is required when pulling back a lost stand containing three average length joints of Range Two (2) drill pipe (27 – 30 feet). Rigs operating with stands of fewer joints or Range 1 or Range 3 drill pipe will need to adjust the length of the wire rope they order.

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Technical drawing illustrating the assembly and operation of a chain system for lifting a pipe joint, showing two positions (Position #1 and Position #2) and detailed views (Detail A and Detail B).

Position #1: Shows the chain assembly (around pipe joint) at the anchor point. The chain is connected to a pre-fab thimble (typ) and a D-ring. The chain is attached to a 90 ft pipe joint. The distance from the anchor point to the pipe joint is 70 ft. The chain is labeled "CHAIN LINE" and "SEE DETAIL 'A'".

Position #2: Shows the chain assembly at the drill floor. The chain is connected to a 90 ft pipe joint. The distance from the drill floor to the pipe joint is 70 ft. The chain is labeled "CHAIN (LIFTING PIPE) SEE DETAIL 'B'".

Detail A: Shows the connection between the chain and the pipe joint. The chain is attached to a pre-fab thimble (typ) and a D-ring. The chain is labeled "CHAIN" and "SEE DETAIL 'A'".

Detail B: Shows the connection between the chain and the pipe joint. The chain is attached to a pre-fab thimble (typ) and a D-ring. The chain is labeled "CHAIN (LIFTING PIPE) SEE DETAIL 'B'".

Other Labels: AIR WINCH, AIR WINCH LINE, SHACKLE (TYP), PIPE JOINT, 5 FT (APPROX), 70', WIRE ROPE (SECURED TO RIG FLOOR), MONKEY BOARD, ANCHOR POINT, ANCHOR END OF 70' WIRE ROPE, DRILL FLOOR, HOOK @ ELEV. (+)100'-0", MAXIMUM HOOK ELEV. (+)120'-0".