



CASE STUDY

OISD/CS/2025-26/E&P/05

10.06.2025

INTRODUCTION:

Title: Fatal Accident at Workover Rig

Location: Onshore- Workover Rig

Loss / Outcome: One fatality

BRIEF OF INCIDENT

On 27th March 2025, following rig setup, an attempt was made to kill the well by injecting brine (Specific Gravity 1.05) through the annulus. However, reverse circulation was not achieved due to unscrewed sucker rods and a stuck plunger. A wet pull-out was initiated after observation, during which sucker rods were recovered and found unscrewed at various depths. Due to broken rods, both tubing and rods had to be pulled out individually, leading to a major oil spill.

On 28th March 2025, the pull-out operation resumed. At 09:55 AM, a topman, after taking all required safety precautions—including cleaning his shoes, wearing a full-body harness, and properly securing the Fall Prevention Device (FPD)—began climbing to the monkey board. Tragically, as he neared the top, the FPD unexpectedly opened, causing him to fall from approximately 20 meters from ground. He was rushed to the hospital and declared dead.

Observation / Lapses

- a) The victim was recently approved for the role of Topman on February 27, 2025, but he had not received any hands-on training on how to use safety gear, spot dangers, and respond to emergencies.
- b) No mentor or supervisor was assigned to provide on-the-job guidance, leaving the victim potentially unaware of essential safety procedures and associated hazards.
- c) CCTV footage reveals that the victim relied solely on the Fall Prevention Device (FPD) during ascent and did not engage the double hooks of his full-body harness with the monkey ladder.
- d) While ascending the ladder, the victim paused at three locations, with a prolonged stop at the point from which the fall is believed to have occurred. This extended

pause may indicate physical exhaustion, potentially resulting from a second consecutive ascent of the monkey ladder within a short time frame.

- e) The gooseneck with Kelly hose of the standpipe was positioned halfway across the monkey ladder, partially obstructing the monkey ladder and creating an additional climbing hazard. This seems to be something unusual. The ladder should always remain free of obstructions.
- f) Crude oil spillage due to wet pull-out was observed on the derrick floor and monkey ladder, making the surfaces slippery and posing a significant risk of slipping or instability during the victim's ascent.
- g) Despite the presence of clearly unsafe condition of oil-contaminated surfaces, no corrective actions or additional safety precautions were implemented. Furthermore, these hazards were not identified or addressed in the Job Safety Analysis (JSA) or during the Toolbox Talk (TBT).
- h) Climbing the ladder and pulling out the tubing were carried out at the same time, which is unsafe. These activities should be done separately to avoid risk. Not separating them may have led to the unsafe condition that may enhance the chance of the incident.

PROBABLE REASONS OF FAILURE / ROOT CAUSE:

- a) The gooseneck with Kelly hose of the standpipe partially obstructed the ladder, forcing a sideward ascent. This likely caused the FPD wire rope to become entangled with the hammer union or similar obstruction. In attempting to manually free it, the device may have inadvertently disengaged, leading to a fatal fall.
- b) The victim had no training in working at heights and was not assigned a mentor or supervisor. This lack of competency and oversight contributed directly to unsafe practices and poor hazard recognition.
- c) Crude oil spillage resulting from a wet pull-out was observed on the derrick floor and monkey ladder. The presence of oil-contaminated surfaces likely created hazardous footing conditions, significantly increasing the risk of slipping or loss of stability during the victim's ascent. This environmental factor may have directly contributed to the fall.

CONCLUSION:

The accident on 28th March 2025 happened due to a mix of unsafe conditions and lack of proper training. The ladder was partly blocked by the gooseneck and Kelly hose, which forced the topman to climb from the side. This likely caused his safety device (FPD) to get caught on equipment, and while trying to free it, the device may have accidentally opened, causing him to fall. The topman had no training for working at heights and was not supervised, which meant he may not have fully understood the risks. Also, oil spilled during the wet pull-out made the ladder and floor slippery, increasing the chance of losing balance. These issues together led to the tragic fall.

RECOMMENDATIONS:

- a) Everyone who works at height must get hands-on training on how to use safety gear, spot dangers, and respond to emergencies. Training as per the requirement of OISD-STD-176 should be imparted.
- b) Crew working on monkey board (at height) must use both the full-body harness with a lanyard and the Fall Protection Device (FPD) together. This provides extra safety in case one system fails. Specific Standard Operating Procedures (SOPs) for personnel working at elevated locations such as the monkey board, crown block, and similar high-risk areas should be developed.
- c) Before starting risky jobs, workers should attend a safety briefing that explains the job's risks and safe ways to do it. New or less experienced workers must be guided by a trained supervisor or mentor.
- d) Safe work procedures should be developed and documented based on Job Safety Analysis (JSA) findings, Toolbox Talk (TBT) discussions, and existing safe work practices to promote safe and consistent job execution.
- e) All safety gear like harnesses and FPDs must be checked before use. If anything looks damaged, it should not be used.
- f) Ladders and climbing areas must be free of anything that could block the way, like pipes or hoses etc. Before starting the job, workers must make sure the path is clear and safe.
- g) Promote a safety-first culture where workers feel empowered to stop unsafe work and report hazards without fear of repercussions. Supervisors must make sure everyone is trained, has the right safety gear, and follow safety rules.
- h) Steps must be taken to control oil leaks and spills before starting any work as it creates an unsafe condition.
- i) As per Clause 7.5.1 (j) of OISD-GDN-206, it is required to "ensure regular safety inspection of both the company's and contractors' equipment/tools and tackles by an authorized representative." critical equipment—such as FPD and FBH should be thoroughly inspected and documented prior to use in rigs." The internal audit should include verification of the mechanical integrity of handling tools used on the rig floor.
- j) Climbing the ladder and pulling out of tubing should not happen at the same time; they must be done separately to ensure safety.
- k) The travelling block shall not be moved until the competent operator on the brake confirms that the derrick man has suitable means to the full body harness on and is properly secured. (Refer Cl. 5.2.5 (A, iii) of OISD-GDN-182).

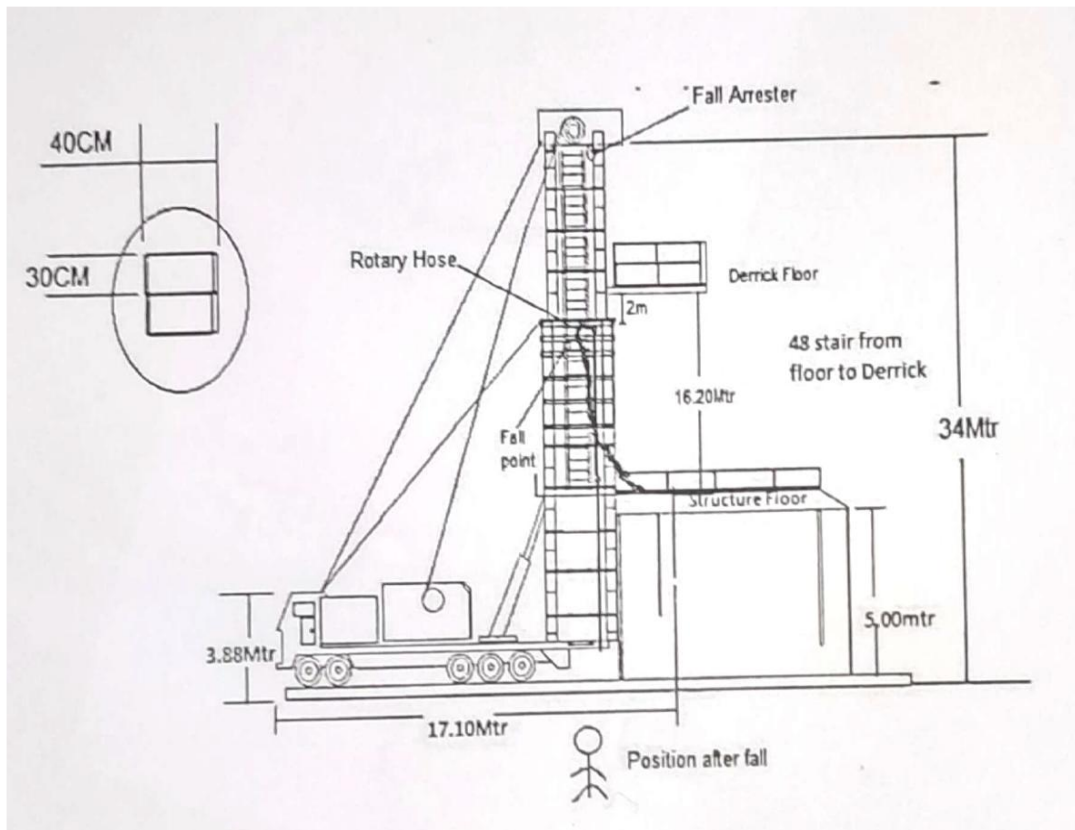
SITE PICTURES:



Approximate position from where the deceased fell down



Gooseneck with Kelly hose obstructing the monkey ladder.



Schematic diagram with IP position after fall.