



CASE STUDY

OISD/CS/2020-21/E&P/02

Dt.: 05.11.2020

INTRODUCTION

Title: Accidental Removal of Structure Pins Caused Fall of the Dog House.

Location: On-land Drilling Location

Loss/ Outcome: Fatal Injury.

BRIEF OF INCIDENT

Shift in charge conducted Tool Box Talk at start of the morning shift and crew started dismantling work for inter location movement of the rig. The doghouse structure with doghouse positioned on it was alongside the rig floor structure in erected position and its two diagonal supporting beams were pinned with base structure. Injured Person 1 climbed the base structure and released the pins of two diagonal beams, which were holding doghouse structure in its place. As a result, the doghouse structure got destabilized and started drifting away from rig floor and fell down. The skid on which doghouse was placed fell and rested in slanting position on base structure while the dog house tumbled sideways and rested on the ground. IP1, who was on the base structure, was caught in between the falling beam of doghouse structure and base structure. Another IP, who was on the rig floor, close to doghouse also fell with doghouse and sustained injuries. He along with IP2 shifted to the nearest hospital in site ambulance.

Hospital authorities declared IP1 brought dead while IP2 was admitted for treatment. Later he was discharged from the hospital after treatment.

OBSERVATIONS/ SHORTCOMINGS

- Job Safety Analysis was not carried out before the commencement of the job. Crew members may be unaware about the hazard associated with the operation they were carrying out.
- SOP was not prepared and followed for rigging and derigging for this type of rig.
- Injured Person who later succumbed to his injuries though was having 10 years of experience in the company; however, he was having only eight months experience on this rig.
- Operation as critical as dismantling doghouse structure was not supervised by any competent person.
- Though four cranes were available at site, however, no crane was assigned for lowering/ holding of dog house structure.
- Sequence of operations to dismantle an erected structure was not followed. The lowering sequence should be the reverse of the raising sequence which implies that dog house should have been removed first.
- Two persons were deployed on derrick floor to remove railings etc. It appears the two persons on derrick floor had no idea of pins being removed from umbrella pole/ diagonal beams and the team below may not be aware of persons working on derrick floor.

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- SIMOPS checklist/ program in accordance with OISD GDN 186 was in place but prescribed conditions agreed in checklist were not adhered to. There were four wells on this drill site. Out of these four wells three wells were flowing including the current well.

REASONS OF FAILURE/ ROOT CAUSE

- Without removing dog house from its structure and holding of dog house structure, pins of the diagonal beams were removed which were holding dog house understructure in vertical position.
- Adequate supervision was not available for such critical/ hazardous job like dismantling of an elevated structure.
- Lack of knowledge of hazards on the part of the injured persons and other crew members who were involved in the assigned activity.

RECOMMENDATIONS

- Rig specific detailed sequence of operations (for all type of rigs) for rigging up and dismantling operation shall be prepared and strictly adhered to avoid such recurrences in future. (Clause 3.4 of OISD-GDN-218)
- Job Safety Analysis should be carried out in more focused manner so that personnel are aware of the associated hazards and accordingly specific safety instructions to be rendered to working personnel.
- All Activities should be supervised by competent person(s) as per clause 3.4(1) of OISD-GDN-218.
- Each team involved in rigging up or dismantling operation should be led by a leader who shall possess experience of carrying out that operation.
- Before removing pins of an elevated structure, it should be held by the crane to control the stability and movement.
- Every crew member involved in the job should have clear knowledge about his role and responsibility.
- SIMOPS checklist/ program in accordance with OISD GDN 186 should be followed strictly.
- Refresher training programs should be planned for drilling crew to minimize such incident.
- Lateral stability of doghouse structure needs to be examined. Adequate arrangement to arrest swing of the dog house structure in case of accidental removal of pins of diagonal beams should be done. OEM should be consulted in this regard.
- Weekly Safety Meeting should be held on all rigs and record be maintained.
- Mines Manager should carry out HSE inspection of all rigs under their jurisdiction.
- As per clause 3.4(ii) of OISD-GDN-218, equipment necessary to handle any emergency situation arising during production testing shall not be dismantled/ removed from the site until testing/ well completion is over.

After the accident



At the new location after Rig Building



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