CASE STUDY

OISD/CS/2020-21/E&P/04 Dt.: 29.01.2021

INTRODUCTION

Hit by the drill pipe during simultaneous operations of running in hole & lifting of drill pipe single

Location: On-land Drilling Location

Loss/ Outcome: Fatal Injury.

BRIEF OF INCIDENT

A newly inducted Graduate Trainee (Drilling) was working at Rig Floor in the day shift. During running In of 5" drill pipe single by single into the well, he was seriously injured by hitting of drill pipe. He was immediately rushed to Rig medic at Drill Site Accommodation and further to hospital, where he breathed his last.

OBSERVATIONS/ SHORTCOMINGS

- Job Safety Analysis was not carried out before the commencement of the job. Crew members may not be unaware about the hazard associated with the operation they were carrying out.
- No mentor/ guide was assigned to the victim during on the job training at the Rig.
- Rig crew were doing simultaneous activities i.e. running in hole of drill string in well and 5" drill pipe single into the mouse hole.
- Drilling crew were using sling rope in place of lifter which resulted in tilted lifting of D/P Single. No thread protector on drill pipe was used while lifting drill pipe from catwalk and lowering in mouse hole on rig floor. This is violation of OISD-STD-190.
- Air winch operator was not alert and he did not act promptly when D/P single rested on rig floor. Driller was also not alert and was not observing movement of the Travelling Block, when it hit the D/P single. There was a lack of co-ordination among drilling crew.
- Mouse hole rest plate is close to rotary table & almost touching and also this welded surface is higher than the rig floor, this creates trip and fall hazard.
- After victim was hit by D/P single, he immediately fell down on rig floor and became unconscious as victim was unknowingly standing at a hazardous place and may not be aware about safe places to move to in case of emergency.
- Since no stretcher with straps during shifting was available at Rig Floor, drilling crew shifted the victim into ambulance by lifting with his hand and leg. No first aid trained person was available at Rig at the time of accident (Violation of OISD-GDN-204).
- Victim was given first medical help by the Rig medic after half an hour at DSA which is about 11 KM away from drill site.
- Rig Medic observed only negligible pulse and no movement of victim on arrival and only after giving CPR he could observe some pulse.

- Housekeeping of rig floor was not satisfactory as unwanted equipment were observed creating fall and trip hazard.

REASONS OF FAILURE/ ROOT CAUSE

Immediate cause of the incident was lack of alertness and co-ordination between Air winch operator and Driller.

The root causes of incident are:

- Lack of Rig orientation training to the newly inducted graduate engineer (victim) & other safety related training to drilling crew. (OISD-STD-176)
- Non adherence to the requirements as per OMR-2017, OISD standards & ONGC SOPs
- Lack of competency of key personnel
- Lack of supervision.

RECOMMENDATIONS

- New trainee should be allowed to work only after completion of induction training and a mentor/ guide should be assigned to him for supervision during on the job training.
- Tool box talk should be given to crew covering hazards involved in each operation prior to start of operation by Shift In-charge/ Installation Manager/ Safety officer as per clause 8.2 of OISD-STD-190 and should be documented.
- Installation specific Standard Operating Procedure for various operations including single by single running in should be prepared and followed.
- It should be ensured that D/P lifter and thread protector should be used as per OISD-STD-190 while lifting drill pipe.
- The crew working on derrick floor should always be alert and watchful to the movement of travelling block and drill string.
- A competent HSE officer should be posted at the Rig and he should ensure high level of HSE compliance.
- Since the drill sites and installations are mostly located in a remote area therefore, emergency life saving medical kits like “Ambubag”,” portable auto fibrillator”, shall be made available with rig medic at Rig Dispensary/ Installations.
- The stretcher with straps should be available to shift victim safely from derrick floor. The same should also be practiced during the mock drills.
- Rig crew should be imparted safety related training as per clause-6.1 of OISD-STD-176. They should be imparted first-aid training from the specialized /accredited agencies like St. John’s Ambulance Association (India) as per OISD-GDN-204/ Mine Rules 1955.
- Competency level of key persons like Installation Manager, Safety Officer, Rig Manager, Shift Incharge shall be ascertained prior to their work assignment and they should be given orientation training upon their new assignment as per the requirement of OISD-GDN-178.
- Simultaneous activities should be carried out under proper supervision.
- No temporary shed should be allowed to erect at rig floor which may hinder the view of driller to watch the movement of travelling block.
- Mobile phone shall not be allowed in the hazardous area as per clause-8.7(e) of OISD-STD-190.
- There should be regular HSE tour by senior management to assess safety management system of the installation. They should record their observations and ensure implementation of their instructions.

- Agenda for Safety Committee Meeting at Base office should cover lessons learnt from incidents, External Safety Audits/ Internal Safety Audits compliance status, compliance of regulatory requirements, status of HSE KPI, unsafe act & conditions observed and inputs received from Rig safety officer. Implementation of safety committee recommendations should be ensured on timely basis.
- Internal safety audit should be conducted by Multi Diciplinary Team as per clause-5.2 of OISD-GDN-145, and its observations and recommendations should be monitored on regular basis.
- The workman inspector should visit the drill site and communicate his observations to the Installation Manager, Mines manager and to Safety Committee. The observations of workman inspector should be implemented in time bound manner.
- Weekly Safety Meeting should be held in the installation with the agenda including safety issues, lesson learnt from incidents, ESA/ ISA compliance status, compliance of regulatory requirements etc.
- Mangement should explore ways to penalize those violating policies, HSE Rules, SOP etc.
- Instructions related to operations and safety should also be given in writing.

Photograph of the accident site:

Provided for information purpose only. This information should be evaluated to determine if it is applicable in your operations, to avoid recurrence of such incidents.