SAFETY ALERT

OISD/SA/2026-27/P&E/04 **Date: 13.04.2026**

INTRODUCTION

Title: Fatal incident during lifting of pipe by EOT crane at project site.

Location: Ultra Filtration Reverse Osmosis (UFRO) project site in refinery

Loss/ Outcome: One fatality.

BRIEF OF INCIDENT:

A 14" carbon steel pipe spool piece (approx. 6 m long, 700 kg) was being lifted using an EOT crane at the UFRO shed of the RODM plant construction site by team of contract personnel. During the lift, the crane's pendant control panel malfunctioned, and the limit switch failed resulting in uncontrolled upward movement of pipe. This led to the web slings being pulled against the EOT girder, where they sheared, causing the pipe spool piece to fall. The spool bounced and struck a rigger standing beneath the structural platform. The injured rigger was taken to hospital where he later succumbed to his injuries.

OBSERVATIONS/ LAPSES

a) The pipe spool was to be lifted and placed on a platform/ structure (almost in the east side portion of the shed) at a height of about 5 M.

b) An EOT crane, recently commissioned (4 days before the incident), was being used for the lifting and erection activity. As per MOM (installation and commissioning of EOT), following operational checks were performed:
   - Main hoist operation with limit switch with auto cut
   - Cross travel operation with limit switch with auto cut
   - Long travel operation with limit switch with auto cut

   Functioning of emergency stop button was not recorded in MOM.

c) A lifting team, consisting of 2 riggers and 1 operator, assembled at the site for the task. Supervisor (Engineer) of contractor was also present at site.

d) The riggers positioned the pipe for lifting and installed two web slings, each rated for 3 MT capacity, around the pipe.

e) Guide ropes were fixed on both ends of the pipe to control its horizontal movement during lifting.

f) After receiving signal from the riggers, the crane operator started lifting the pipe vertically using the pendant type control panel of hoist system.

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g) During the lifting (hoisting) of the pipe spool piece, the vertical-up movement button on the EOT crane pendant panel got stuck. The operator attempted to stop the upward hoisting by tapping and releasing the button, but it remained engaged. As a result, the hoist and pulley moved past the bridge-girder level where they were supposed to stop.
h) The Limit Switch also did not function, and the upward movement of the pipe went out of control of the operator. The operator also tried to engage the emergency stop button on the pendant but that also did not work.
i) Initially one web sling, holding the pipe, came into contact with the edge of the girder and sheared/tore due to tension. The second web sling also failed subsequently, compromising the stability of the load. The pipe got detached and fell from height of about 6M onto the ground.
j) The pipe spool piece fell on the ground and apparently bounced and hit one of the riggers on his lower body near knee level. Though the rigger was standing under a nearby structural platform, which was found otherwise safe, the pipe spool while bouncing intruded/entered about 1.5M inside the platform (towards south side) and hit the Rigger.
k) The injured rigger was assisted, and emergency response actions were initiated. He was taken to hospital where he later succumbed to his injuries.
l) The stuck “UP’ button in the pendant panel, malfunctioning of limit switch probably due to contact failure/ control-contactor/ wiring related issue, and failure of emergency push button indicated improper inspection and questionable reliability/ workmanship of the EOT.
m) No record of pre-job EOT check was evident.

CONCLUSION/ ROOT CAUSE

Inadequate/ improper inspection/ questionable reliability/ workmanship of the various safety provisions (limit switch, emergency stop, etc.) of the EOT.

RECOMMENDATIONS

a) Pre-check-up of the system shall be ensured without fail before commencement of the lifting job.
b) Commissioning process should include testing of all safety provisions.
c) Controls should include fail-safe interlocks to prevent unintended hoist movement.

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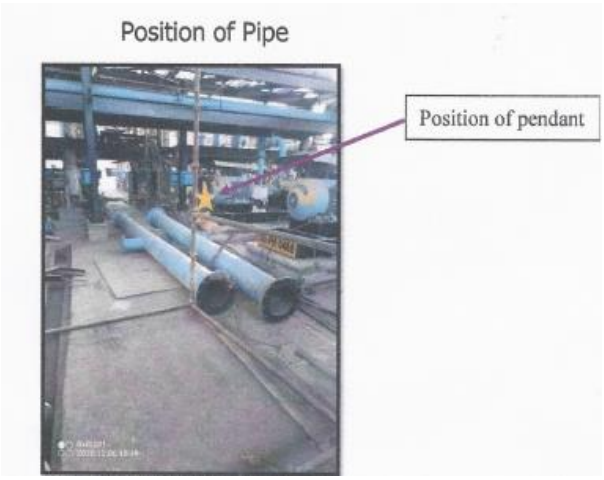
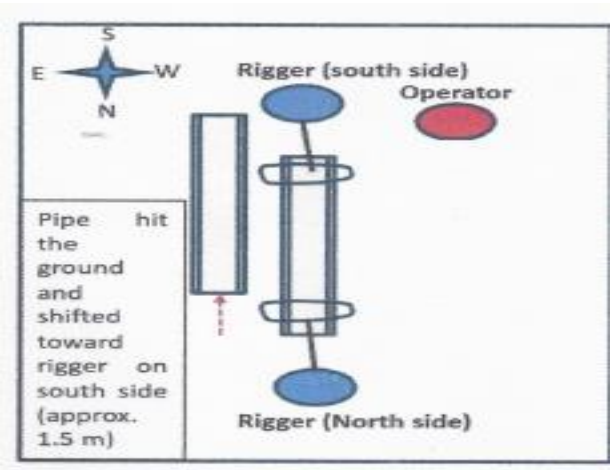
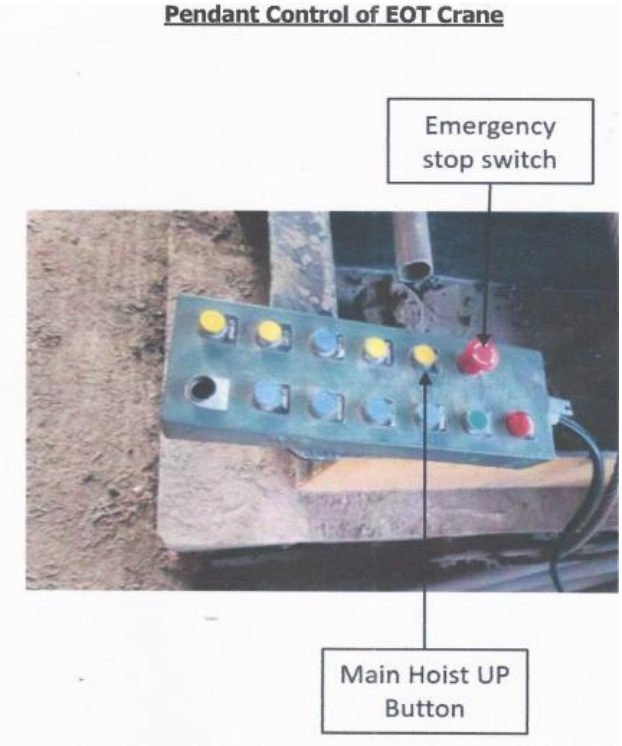
PHOTOGRAPHS







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