SAFETY ALERT

OISD/SA/2024-25/P&E/03 Dt.: 7/6/2024

INTRODUCTION

Title: Fatal accident while connecting hose to Gully sucker for emptying it.

Location: Refinery

Loss/ Outcome: Fatality of a contract worker.

BRIEF OF INCIDENT:

Two small Hydrogen Peroxide (H_2O_2) tanks in the chemical storage/ preparation area of Waste-Water Treatment Plant (WWTP) had been emptied and flushed with DM water for their scheduled M&I. The flush water had been drained into the chemical waste sump in the section. Both the pump used for transferring wastewater from the chemical waste sump to the inlet sump of WWTP were out of service due to casing and foot valve issue respectively. Hence, as the chemical wastewater sump was nearly full, gulley sucker was pressed into service to transfer the wastewater to the WWTP inlet sump.

The contract workman (driver cum operator) brought the filled gulley sucker from Chemical dosing area to designated unloading area near the slop oil tank (approximately 150m away from loading area) to empty out the wastewater into the inlet/supernatant sump. While he was connecting a hose to empty out/ discharge out the wastewater from gully sucker to the inlet sump, the hinged back cover of gully sucker swung open and hit the workman. The workman, who was standing on the edge of the road, got imbalanced and fell about half meter below onto the paved surface. The fall resulted in severe head injury. The injured person was rushed to the OHC for first aid and subsequently referred to neurosurgeon for further treatment. He succumbed to the injuries after four days.

OBSERVATIONS

1. The road, where the gulley sucker was parked, was slightly inclined. The rear of the gulley sucker was on the lower side.
2. No wheel chokes had been applied to the 3kl tractor mounted gulley sucker. The SOP did not include use of wheel chokes to restrict the inadvertent movement of the vehicle when vehicle is parked.
3. As informed by observers, the back cover of the gulley sucker had swung open.
4. The helper of the gulley sucker was away to get drinking water based on driver cum operator's advice and he saw the driver-cum-operator, who was fitting the hose, falling while approaching the gulley sucker. He immediately rushed to the location and called

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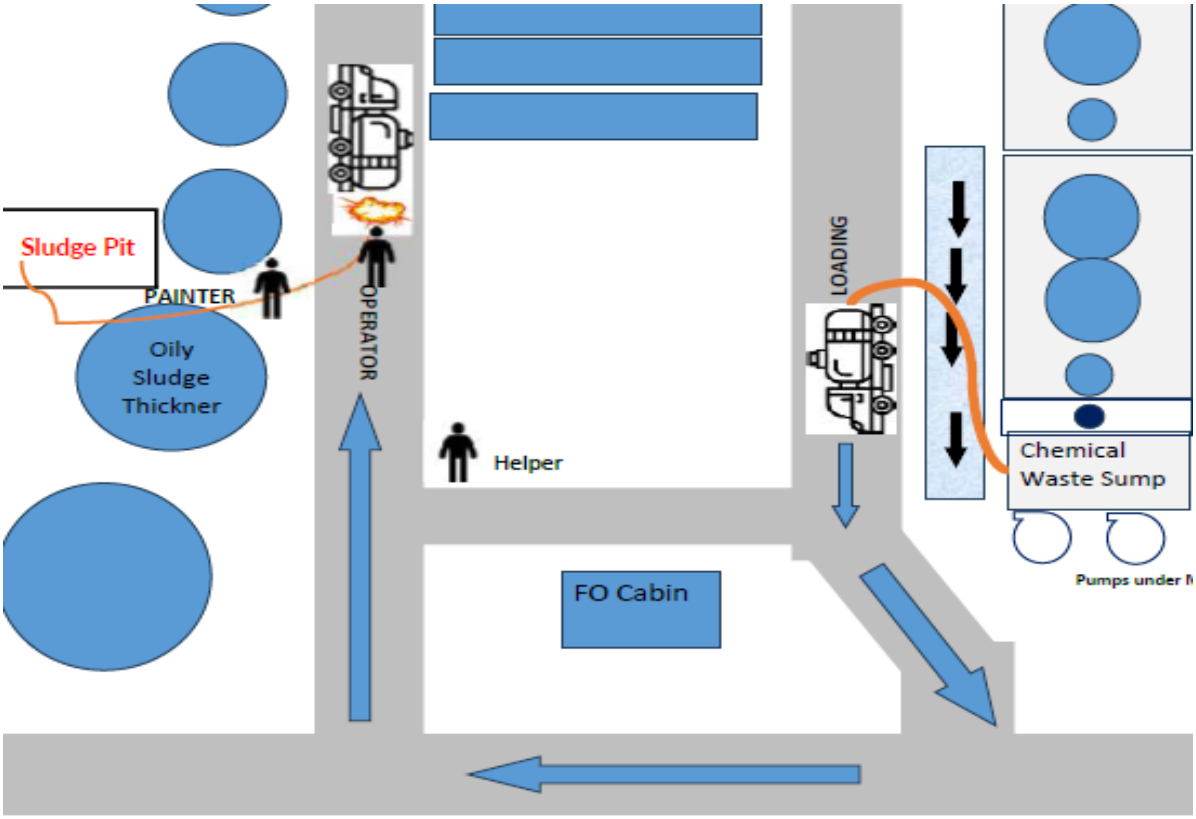
shift in charge working nearby at the site and sent injured driver cum operator to OHC. The injured person was shifted to city hospital for further treatment.

5. Gulley sucker SOP had a check point of “Check and ensure that the rear door clamps are tightened and properly secured”. However, the same was not part of checklist.
6. As per record, driver cum operator was imparted defensive driving training. The investigators observed that the helmet was kept on the seat of the tractor.
7. The residual contents of the gulley sucker was sent to lab for testing and no abnormality was noticed.



Probable cause of failure/ Conclusion

The cause is the probable backward movement of gulley sucker, which was parked on slope, resulting in swing opening of back cover due to its loose bolting and hydraulic load due to the incline**.**

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RECOMMENDATIONS

1. Ensure robust bolting mechanism in back cover of gulley suckers.
2. Prepare a schedule for preventive maintenance and corresponding detailed checklist to ensure healthiness of gulley sucker.
3. Review SOP to include and ensure application of wheel chokes while parking of heavy vehicles for loading/ unloading operations.
4. Review the location designated for loading/unloading of gulley suckers with respect to any incline creating unsafe condition to eliminate all such conditions.
5. Ensure availability of the regular transfer equipment (pumps) rather than resorting to temporary means. Investigate frequent outage of equipment and take corrective action. In case of double pumps, availability of one shall be ensured at all times.
6. Ensure compliance to PPE usage.

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