सुरक्षा अलर्ट / SAFETY ALERT

OISD/SA/2025-26/PL/03 Dated: 24/07/2025

Introduction:

Title:	Fire Incident due to illegal pilferage attempt on product pipeline.
Location:	Pipeline common Right of Way (ROW)
Loss/ Outcome:	One villager injured (with minor burns), ~64 KL MS burnt.

Brief of Incident:

Recently in June 2025, village headman spotted fire and oil spillage along common ROW having two product and one crude pipeline of different companies. The village headman alerted the Line Walker Supervisor, who in turn sent an alert to control room triggering an emergency response action of pipeline operator. Within one minute, pumping operation in mainline and product line of one of the operators was stopped. The central control room, another pipeline operator and DDMA were also informed. The other pipeline operator took shut down of its product pipeline immediately. All MOVs and HOVs on all pipelines were closed within 10 minutes. The State Fire Service doused the fire within 25 minutes duly supported by both pipeline operator's teams. The local Police secured the area immediately, maintained a cordon around the incident area. One villager was reported having minor burn injury. Although both operators halted pumping immediately upon alert, multiple pipelines on the same ROW hindered identification of the leak source. A strong MS odor suggested leakage from product pipeline, prompting one of the operator teams to manually excavate and pinpoint the leak.

A post-incident excavation was carried out and found that one ball valve was fitted on one of the product pipelines. A wooden cork fitted on valve bore caused continuous product leakage; also, product was oozing out from the valve welding joint. Ignition was suspected from a discarded cigarette. After carrying out emergency repairs, including split-sleeve welding and static testing, the pipeline was restored within 38 hours of the incident. Subsequently, an FIR was also lodged, and four persons were arrested in this connection.

Site Photo showing illegal Valve Fitting

Site Photos: Containment & Repair Operations

Observations:

- It was observed that patrolling by line walkers was not effective resulting in failure to detect suspicious activity at the site of incident, which was going on for more than a week.
- Line patrolling was not effectively monitored by pipeline operator and no centralized management system was available to analyze the non-compliance to patrolling schedule.
- No significant pressure drop & alarm from LDS (Leak Detection System) was observed during the incident which are key indicators for such occurrences like pilferage or leak incidents.
- Pipeline intrusion detection system (PIDS) for real time monitoring and detection of third-party activities was not installed in these pipelines, which might have caused deterrence to such illegal activities.
- The operations team of the pipeline operator, in coordination with the state administration, promptly implemented containment measures to prevent public movement near the leak site
- Due to the hazardous nature of excavation near a suspected product line leak, the use of JCB was avoided in the immediate leak zone. Instead, manual excavation was done using workmen with non-sparking tools strictly adhering to safety norms.
- Based on the leads from the investigation, the police have arrested four individuals involved in the illegal valve fitting and the resulting fire. During interrogation, it was revealed that the miscreants have accessed ROW posing as scrap dealers developing scrap yard near ROW.

Root Cause:

- Inadequate ROW surveillance by line walkers and ineffective monitoring system by pipeline operator.
- There was a lack of deterrent signage on ROW.
- Effective liaison with villagers along ROW was also found inadequate resulting in lack of information of illegal activities by miscreants near ROW.
- Illegal pilferage created a breach in pipeline integrity which caused MS leakage along the ROW and ignition likely happened by discarded smoking material near the leak point.

Recommendations:

- The line patrolling system is to be enhanced including the following:
    a. Effectiveness of line patrolling with GPS tracking system is to be ensured.
    b. Centralized surveillance facility to monitor line patrolling activities with GPS device are to be ensured.
    c. Changing the patrolling schedule and timings to enhance alertness and effectiveness of line patrolling.
    d. Penalty provision including removal from service for repeated offenders.
- Vigil along pipeline ROW and adjoining dwellings are to be increased to identify any suspicious activity. Inputs like movement of loading vehicles/ construction of new house/ facility/ structure near to pipeline ROW are to be collected and investigated.
- In line with clause no. 14.4.2 (d) of OISD-STD-141, in pipeline stretches prone to pilferage a more intense special patrolling plan having electronic surveillance by drone survey and or any other suitable techniques may be explored.
- Villagers / public along the right of way shall be adequately made aware of the possible consequence of hydrocarbon leaks on a regular basis.
- Efficacy of dynamic and static LDS system during pipeline operation and shut down are to be checked at regular intervals.
- To avoid unauthorized intrusion in the ROW, appropriate electronic warning system like Pipeline intrusion detection system should be used for monitoring in line with clause no. 14.4.2 (e) of OISD-STD-141.

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