



FUELS INDUSTRY
Association of South Africa

SAPREF – Mogas LOPC October 2024

2024



INCIDENT DESCRIPTION

Description of Incident: On 16th Oct 2024, at approximately 23h35, during a planned Ship to Shore discharge of a gasoline vessel into shore Tanks that had started on dayshift, an additional MOGAS Rundown line (Leg 1) was commissioned to increase the rate. Approximately 35 minutes later, the field operator discovered MOGAS flowing out of the MOGAS Rundown line (Leg 2) that had been commissioned upstream. The discharge to this line was subsequently isolated.

There was carryover of product to the stormwater system which resulted in an impact to the bay between Berths 7-10.

Estimated 250m³ of gasoline was released into the atmosphere (Air, Soil, Water).

There were no injuries during the incident.

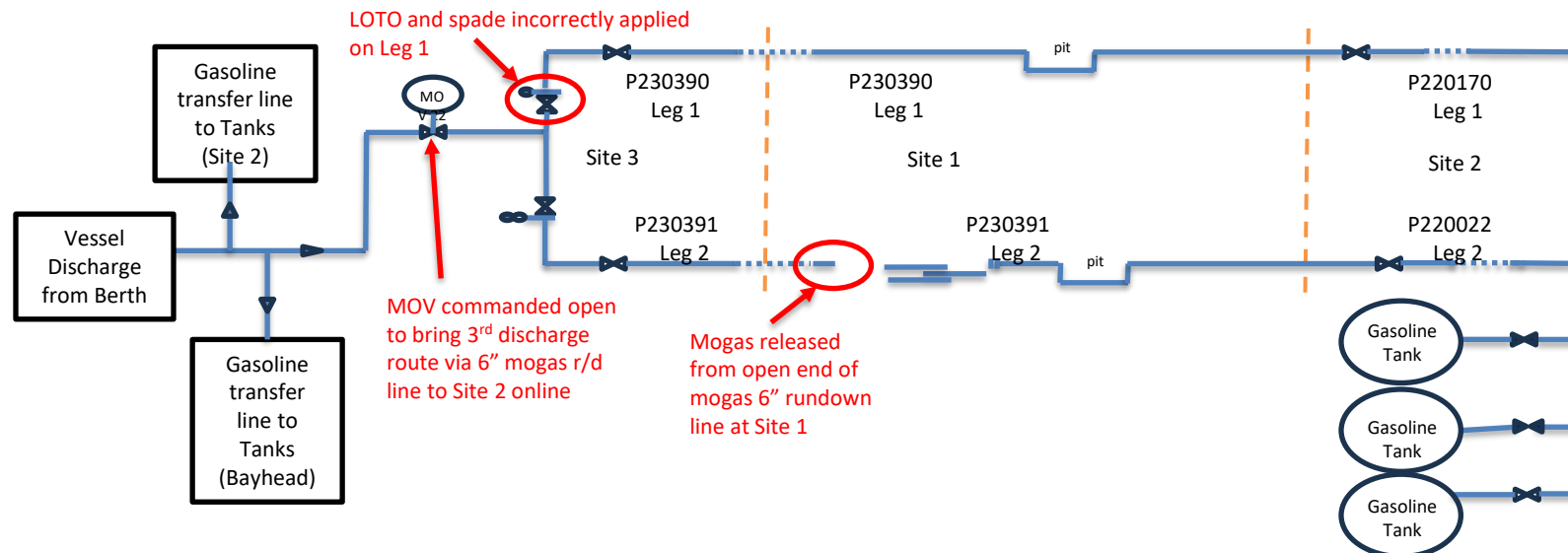


Figure 1: Simplified process flow during mogas discharging



INCIDENT UNDERLYING AND ROOT CAUSE

Main Causes:

- An incorrect MOGAS line was isolated and decontaminated in preparation for maintenance activity.
- The verification of the isolations prior to cold cutting commencing was ineffective
- MOGAS vessel discharged product into an open- ended pipe resulting a release of MOGAS.

Contributing Factors:

Management System

- There is no consistent method of line identification utilized across the inspection, maintenance and operations teams which increases the likelihood of human error when identifying lines.

Poor Process Safety Awareness

- The process safety awareness of the personnel involved in planning, executing, and supervising the cold cutting activity was insufficient to enable personnel to recognize and understand the risk and implications on isolations applied to the line, when mogas was found to be present in the line.

Ineffective implementation of procedure:

- Multiple checks/verification steps are detailed in the LOTO, spading and control of work procedures to verify isolation design against field application, but these requirements were not followed as intended by the procedures.



INCIDENT LEARNINGS

- There needs to be more than one way of confirming line ups, whether for maintenance or for operations.
- Application of Stop Work Authority and escalation paths must be clear to all site staff and contractors
- Field verifications of drawings, scopes and plans must be done independently of the initiator and action parties for Plant Change Requests.
- Application of all Site Procedures must be adhered to 100% by all users.



INCIDENT UNDERLYING AND ROOT CAUSE

Emergency Response:

- 1a. The Team leader didn't give enough information about the incident to the Duty Manager and Fire Branch Director to decide whether there is a need for IMT. Communication skills was not effective during the emergency.
- 1b. The Island View Emergency Procedure is no prescriptive on the different levels of emergency.
2. Level of experience on Tactical Team, Duty Manager and Zone Leadership team may vary, which may lead to difficulties in enabling them to make the decision to activate IMT. TL on shift didn't know how the Duty manager could have assisted him in an emergency, because he didn't request any help when he struggled to secure resources. Shift 1 Panel Operator on the 17/10/2024 did not dial 1333 to activate IMT
3. The night shift panel operator didn't follow up on an LEL alarm during the LOPC incident. The critical alarm escalation was not followed. The second observation – The panel person immediately acknowledges all 3 alarms within seconds of annunciation. The process is to silence investigate and then acknowledge which was not followed.
4. If the IMT check-in meeting was not scheduled for the 17/10/2024 @ 08h30, there is a strong possibility that IMT activation would have been further delayed.
5. Service Provider (Clean-up) arrived on site at 02:25 on the 17/10/2024 and only started extracting product after 05:30. Took 3 hours for paperwork.
6. Fire crew didn't apply foam to suppress the vapors in the bund until fire officer arrived on site, 2.3 hours after the LOPC was found. Shift Fire crew was waiting for instruction from the fire officer before responding, although previous smaller incident on the same line was done correctly. Only the bund was covered with foam and not the pits.
7. People on the Standby callout list not reachable. Discipline issue.



INCIDENT LEARNINGS

Emergency response actions:

1. EMS to write up a one-page document on how to activate IMT and outline clear parameters for the different levels for an incident. A guide on what information must be communicated to the Duty manager and the IMT incident commander (For e.g., location, type of product, magnitude of product, any response that took place). Include in the one-page document.
2. Training on how to activate IMT for the shifts (TL, Area Specialist and Panel Operators) with an assessment to test for understanding.
3. Tier 2 oil spill escalation process for tactical team is also required.(Who, when and how)
4. Revaluation of Team Leaders, Panel Person and Fire Crew
5. EMS to roll out training on the IMT activation process (when and how) for all shifts including senior management for these combined observations.
6. Create an LMS module on how to identify the incident level and activate IMT. The role out can be a refresh training annually for operation staff.
7. During Pimad or emergency drills ensure people on the call out list for Incident Commander and Duty Manager get a turn to role play. Check if there is a gap in this process.
8. IMT Activation drill on night shift or Weekend should be tested for the response time. The drill must stop when the meeting is activated.
9. Refresher training required for Shift Fire Crew.
10. Address the issue of standby personnel not reachable. All disciplines to be addressed