



# Buncefield Incident Learnings

25 April 2024

# LFI: Buncefield Incident

## What happened at Buncefield tankfarm?

- Storage tanks were overfilled, resulting in a loss of 250,000 liters of petrol from containment.
- Tank level indicator and high level trip system not operational resulting in operators not having direct control over tank filling.

## What is PetroSA doing to prevent similar occurrence?

- Weekly monitoring and reporting of activation of Safety Instrumented Systems targeting nuisance alarms, triggering of safety interlocks, high levels ESD trips and pump trips.
- Automated monthly job cards for routine calibration of instruments and containment systems
- Use of a Moja Day assessment tool in monitoring LOPC targeting ZERO Hydrocarbon or Chemical Leaks (as per API RP 754: Tier 1 & 2 Categories)

# LFI: Buncefield Incident

## What happened at Buncefield tankfarm?

- The product release created an explosive vapour cloud that drifted beyond the tank bund wall and into the surrounding facility, which was ignited and exploded.

## What is PetroSA doing to prevent similar occurrence?

- Regular plant safety checks / inspections being conducted to identify unfamiliar conditions / undetected hazards.
- Gas testing for possible ignition source, i.e gas monitoring for vehicle entry into restricted plant areas such as LPG loading gantry.
- All field gas detectors were lowered to 0.5m above ground in 2008

# LFI: Buncefield Incident

## What happened at Buncefield tankfarm?

- The blaze took more than 1,500 firefighters over four days to extinguish.

## What is PetroSA doing to prevent similar occurrence?

- Basic firefighting knowledge training has been mostly conducted as dry mock drills involving external supporting municipal firefighters
- Training of firefighters (emergency preparedness by plant operators) has been affected by resources that were not in good condition to provide live fires training in the last four years, example firewater impairment.
- Firewater impairment have prevented regular testing of early emergency response plans, example deluge systems

# LFI: Buncefield Incident

## What happened at Buncefield tankfarm?

- Throughput had increased, shifting the emphasis to process operation margins instead of Process safety.

## What is PetroSA doing to prevent similar occurrence?

- Making use of risk assessment tools (SORA/MOC/HIRA/ORR) to assess hazards brought by changes to operation.
- Present Safety Stand Down biweekly to bring impact awareness of LSR and PSF.



# *Questions*