



FUELS INDUSTRY
Association of South Africa

LEARNING FROM COOLING WATER INCIDENT

2024



INCIDENT DESCRIPTION

- A service provider mechanical team was aligning a cooling water line reducer for fitment when a mechanical fitter was exposed to raw gas. The raw gas was released into the cooling water due to a tube leak.



INCIDENT ROOT CAUSE

Root cause

Inadequate risk perception (hazard not recognised)

- Raw gas entering the cooling water system through a tube leak is known, however, the risk of the contaminated cooling water entering was not anticipated and therefore not managed.

Direct and underlying causes

- No battery limit blanks were installed.
- The equipment that was worked on was not positively isolated.
- A final cooler of the phase that is online tube leaks caused CO to enter the cooling water system.
- The hazard of raw gas in the cooling water was not understood/appreciated.



INCIDENT LEARNINGS

- Consider risks that can be introduced between hazardous and non-hazardous interfaces in systems - Do not assume non-hazardous systems are always risk free (e.g., gas heating/cooling systems where equipment interface with mediums such as water or steam can be contaminated when leaks on the interface occur)
- Ensure reaction to early warning systems e.g., alarms, communication etc. are sufficient and correct.
- Take time to understand and reflect when permit conditions change to determine decision making and risk mitigation.
- If there is a risk of hazardous material being present in a system deemed non-hazardous, the system must be treated as hazardous with all relevant controls applied and gas tests must be done at the work front.
- Ensure interfaces are managed effectively and information is updated and handed over properly.
- Description on permits should be clear and specific to the task.
- Initial response to an incident involving loss of consciousness in risk areas should be taken as possible exposure (example: if gas is detected, press the gas alarm)



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Thank You

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