

Group SHE Learning

Learning number		FY20-001										
Operating Entity		Natref										
Date of incident		15 May 2019										
Incident Type	Occupational Safety	Process Safety	Environment	Product Transportation	Health	Security	Equipment Damage	Other				
	X											
Relevant Life Saving Rules												
	X								X			
Key Undesirable Event		Falling from elevated position Exposure to non-life supporting atmosphere Drowning										
Description of the incident (including certain hypotheses in the absence of confirmed evidence)		An employee went to prepare a permit for the repair of the cooling water line in a valve pit. As he was standing next to the barricade around the pit, his personal gas monitor detected gas (LEL). He climbed over/through the barricade and entered the restricted area. He removed his personal gas monitor and it is assumed that he then kneeled at the pit to conduct a hand held gas test to establish where the gas was originating from. At that moment, he probably lost his balance and fell into the cooling water valve pit. He was overcome by gas, lost consciousness and drowned. The standby observed that the person was in the pit and ran to the nearest alarm activation point and activated the emergency alarm. Colleagues who were on the scene shortly after the emergency alarm was heard, noticed that the injured lost consciousness and was lying with his face partially submerged in the water.										
Key learnings and control improvement recommendations*		- Re-evaluate and conduct risk assessments on all pits, sumps and sewers and consider standardisation through the adoption of permanent guardrails and/or gratings (allowing for pipe hatches); - Access to pit, sump and sewer areas to be controlled adequately to mitigate against the associated risk of falling and exposure to unprotected edges of pits, sumps and sewers; - Recognise and address the following where applicable: - The risks of drowning in all water bodies and areas where water can accumulate (regardless of the depth) in workplace areas; - The risk of falling into an area below grade as a risk of falling from heights; - The potential presence of hydrocarbons/chemicals in cooling water; - The risk of falling from heights as it relates to vehicle maintenance pits. - Assess and confirm the need for improvements on a case by case basis, i.e. the manner in which gas tests and monitoring are conducted in confined spaces (including pits/sumps/sewers) to ensure that physical exposure is adequately mitigated; - Assess and ensure that prescribed equipment is readily available in all areas for gas monitoring in confined spaces; - Re-evaluate and confirm the following with respect to the use of barricading: - The erection of and access control associated with barricades must be duly informed by a formal risk assessment, with due regard to the full scope of the work activities to be performed in the consequent restricted area and the associated exposure risks to personnel with authorised entry; - Barricaded areas should in all instances be subject to duly authorised entry and proper access control (via an entry/access point only), with the aim to prevent unauthorised access to restricted/barricaded areas on the basis of having due knowledge of risks in the specific restricted area; - Signage should be clear with regards to restricted access and requirements for obtaining authorisation for access; - The reason for barricading an area and the risks associated with the restricted area, must be communicated, and specific training requirements must be met prior to authorized access being granted.										

General insights and learnings

- In conjunction with Emergency Services, rescue plans that are informed by risk assessments to address incidents in pits, sumps and sewers, to be developed;
- A working culture to diligently adhere to procedures and to do pre-task risk assessments before task execution, to be further entrenched; and
- The process of managing additional tasks during shutdowns to ensure the proper allocation of task and risk ownership and to enable proper planning, coordination, communication and execution (in accordance with risk assessment and procedural requirements where applicable), to be reviewed.

Identification of standard or good practice related to the incident

Emergency response was at the scene within approximately 5 minutes after the alarm was activated.

To prevent similar future incidents, it is recommended that this incident learning is appropriately shared and implemented by relevant persons in your Operating Model Entity, where applicable.

*The key learnings and recommendations presented include general insights gained during the RCA investigation.

Together towards ZERO HARM and SUSTAINABILITY