

HSEQ ALERT



June 2023

Operative exposed to Carbon Monoxide emissions from petrol motor in an outdoor environment

ALERT – 09/06/23

Description of event

The injured party (IP) was changing a fitting on a petrol-powered water pump unit which was in a fenced off pump farm of 5 units in total. The first two pump units were nonoperational, and the IP was in a kneeling position working on pump unit 2. This took 15-20 minutes. Pump units 3 to 5 were still operational and the exhaust of pump unit 3 was pointing towards the IP. Near the end of the repair work the IP started to feel unwell. His Buddy who was standing 1 metre away noticed this and assisted the IP to move from the site and laid them down on the ground. He called for assistance and shut down all pumps. The IP was unconscious for 1-2 minutes and then came around asked for some water to drink. The Senior Supervisor called an ambulance, and he was taken to hospital. They were treated for Carbon Monoxide exposure at the hospital and was discharged the following day.

Causation/contributing factors.

- The preferred configuration/placement of the water pumps (block/square formation) was not achieved due to lack of room on site.
- The hazard relating to Carbon Monoxide emissions and exposure from the pumps in an open-air environment was not identified (*Pre-incident*).
- The adjacent energised petrol motors were not isolated prior to the IP entering the work area.
- IP worked in the area for a sustained period. Respiratory PPE was not considered.
- IP was exposed to Carbon Monoxide emissions from the energised petrol motor in front of him.

Immediate Actions to Prevent Reoccurrence

Divisional Manager instructed his Operations Managers to implement the following actions:

- If a pump requires maintenance, or any other work that takes longer than 2 minutes then all pumps must be isolated before the work can be undertaken. (Eliminate the risk).
- The pump farm should be set up where there is free movement of air to disburse exhaust vapor away from the site.
- A site using single pumps units should not exceed 4 pumps and there should be a minimum of 1.5m between the pumps.
- The barrier around a single pump unit setup should be increased to 2 metres from the pumps.
- Access within the barrier around a single pump unit site is permitted for up to 2 minutes max to turn pumps on and off or minor matters only.
- WorkSafe NZ were notified.
- ICAM investigation instigated by SRG.