

Stored pressure release – hydraulic oil

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A member has reported an incident in which there was an unexpected high pressure oil discharge causing injury to someone's left hand.

What happened?

The incident occurred during the reconfiguration of a trenching ROV. A crewman was disconnecting hydraulic pipe fittings to the chain tensioning cylinder on the mid digger section when there was a high pressure release of oil from a pipe fitting, which hit his left hand and sprayed on to his face causing a skin irritation.

The on-board medic assessed the injured person and raised concerns that chemical injection to the left hand was a possibility; the injured person was medevaced by helicopter to hospital for further assessment.

Our member's investigation noted the following:

- Hydraulic pressure was trapped in the annulus side of the digger chain tensioning cylinder and owing to the hydraulic circuit configuration it was not possible to relieve this pressure without opening a pipe fitting.
- The pressure gauge for the digger chain was piped to the full bore side of the cylinder to measure the pressure exerted on the digger chain; it was possible to have no pressure in the full bore side but pressure may still remain in the annulus side, creating a situation where the annulus side could be pressurised with no indication.

The following actions were taken:

- Installed adaptor plates and drain fittings to cylinder as a means to detect and relieve pressure.
- Revised Safe System of Work with detailed information for checking for and relieving stored pressure in circuit.
- Started review on all jet trenchers and WROV to rule out the possibility of a repeat incident on another vehicle.

according to IOGP's Life Saving Rules.

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