**PRESS RELEASE**

Protecting mining vehicles from fire

***14 July, 2016:*** *Mining vehicles are high-value assets operating under harsh conditions that could result in a fire outbreak at any moment. The appropriate protection should therefore always be available at hand. ASP Fire assists companies to prepare for potentially fatal vehicle fires that could also cost millions in unplanned downtime.*

The design and installation of a vehicle fire protection system requires that mining vehicles go through a fire risk evaluation, which includes the Hazard Identification and Risk Assessment (HIRA) of potential fires. Each vehicle needs to be carefully assessed within its operating environment to understand what hazards and fire risks that vehicle is exposed to.

“During the assessment, the inherent fire risks in the vehicle are identified, such as the turbo chargers and the brake system, which could overheat, as well as high-pressure hydraulic systems and electrical equipment that may cause an ignition of a combustible or flammable component of the vehicle. This is done for small vehicles such as an excavator, through to massive mining vehicles such as haul trucks and drag lines,” says ASP Fire CEO **Michael van Niekerk**.

ASP Fire designs a system to suit each vehicle and its requirements. They look at the conditions not only inside the vehicle, but also within the surrounding environment. “For instance, a bush fire may encroach a vehicle operating in a timber forest, or hot slag from a foundry can cause a vehicle's tyres to catch fire within seconds,” adds van Niekerk.

Although DCP extinguishers are highly-effective in extinguishing flames, they offer minimal cooling properties. This results in re-ignition of flames, particularly in liquid fuel and rubber fires, thereby increasing the risk of property damage and loss of life.

The powder inside DCP extinguishers can also compact as a result of vibration when placed on a moving vehicle. This compacted powder increases the risk of malfunction when activated. As a result, DCP extinguishers placed on mobile equipment need to be serviced more frequently, which results in higher costs for mining operations.

DCP extinguishers also pose serious operator and environmental hazards too. When used in confined spaces, they can affect the fire respondents visibility and their ability to effectively suppress the fire or safely evacuate an area should the fire grow out of control.

A more effective and environmentally-friendly solution is the I-CAT range of Water Mist special risk and handheld fire extinguishers, available through ASP Fire. Utilising water as the main agent and nitrogen as a propellant, this handheld range is capable of extinguishing most types of fire, including; rubber and plastic fires; kitchen cooking oil fires; diesel and petrol fires; and electrical fires rated up to 350 kV.

The atomised mist generated by the extinguisher firstly increases the surface area of water by more than a hundredfold. These micro droplets then turn rapidly into steam when they come into contact with burning or very hot materials. The endothermic reaction of water converting to steam rapidly and effectively cools down any hot surfaces in the immediate environment, extinguishing the fire and cooling down hot spots without causing thermal shock. It also creates a thermal heat radiation barrier between the operator and the fire, allowing the operator to get close to the fire without the risk of being burned when operating the extinguisher.

The Water Mist range is environmentally-friendly and ensures greater operator safety. Each litre of water is converted to 1,700 liters of cold steam, making it extremely safe and efficient in knocking down and thereafter extinguishing a fire. What’s more, the small quantity of water used also results in little or no consequential damage.

Van Niekerk indicates that the fixed, special risk I-CAT Water Mist system includes a protection mechanism that eliminates false alarms. “It boasts a heat sensitive pressurised activation tube, which requires heat to rupture and open a differential valve on the main cylinder to activate the system.

“There are no false alarms, eliminating expensive and unnecessary down time caused by typical dry chemical systems. It also has an operational lifespan four to five times longer than standard Dry chemical systems, to ensure greater cost-savings too.”

In addition to pure water based systems, ASP Fire also utilises an Aqueous Film Forming Foam (AFFF) solution, which provides superior fire extinguishing and vapour suppression for hydrocarbon fuel fires. The AFFF blanket blocks oxygen supply to the fuel and cools the hot flammable liquid by sealing the surface of the fuel.

Van Niekerk notes that it is essential to undertake pre-shift and weekly inspections on mining vehicles that operate in demanding environments to ensure that the fire system is in working order. “During the inspection, the technician needs to check that the nozzles are still correctly attached covering the high-risk areas effectively, that the blow off caps are still on and there is pressure in the detection line and in the system.

The removable pressure gauges in both the primary cylinder and pressure tube can be safely removed and reinserted to verify correct operation of the gauge and to confirm that the systems are still pressurised. This option is currently not available in typical vehicle fire suppression systems, often resulting in systems that are depressurised due to a leak going unnoticed.

There should also be a minor inspection once a month, with a major service taking place at least annually where every component of the system is examined and verified fit for service. Depending on the type of vehicle, a monthly inspection can last from five minutes to half an hour, while annual services are coordinated to coincide with a service on the vehicle, resulting in very little or no disruption to the serviceability of the vehicle.”

***Ends***

**Notes to the Editor**
To download hi-res images for this release, please visit <http://media.ngage.co.za> and click the ASP Fire link to view the company’s press office.

**About ASP Fire**
ASP Fire operates across the entire African continent from its Gauteng base, providing professional, accredited fire risk management and support to its clients. ASP Fire designs, installs and maintains a full range of fire detection and suppression equipment suited to clients’ needs. ASP Fire provides a holistic, proactive and preventative fire solution based on integrated fire risk assessment, training and consulting, with the installation and maintenance of fire detection and suppression systems that meet SABS, NFPA, FPASA, FDIA and SAQCC standards.

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