

Gilbarco optimises DRC's mining operations

Gilbarco AFS is currently rolling out fuel monitoring and management systems for the depots on the Tenke Fungurume Mine and those operated by Eurasian Natural Resources Corporation (ENRC) in the Democratic Republic of Congo (DRC).

Large open cast copper and cobalt mines, like those in the DRC and other areas in Africa, haul masses of ore across the surface and consume millions of litres of diesel each month to fuel the large fleets of vehicles, plant and machinery required to operate a mine successfully and safely. With the increasing costs of fuel, it is crucial to the profitable operation of a mine that there is vigilant, reliable and timely monitoring of the fuel and other lubricants used daily.

"With ever-increasing pressure to manage input costs, mine managers must establish effective control and measurement of fuel costs, particularly in open-cast operations, where fuel can account for up to 30% of the overall daily operating costs. In addition, this is essential for mitigating risk to oil companies who provide fuel to the mines on consignment," says Graeme Trautmann of Business Development at Gilbarco AFS.

Minimal interruption

Their system solutions rely on the latest hardware and software technology along with the support of extensive on-site resources in the form of skilled and experienced technicians as well as site and facility managers. "As specialists in technologies and services that control and measure the various elements of the fuel supply chain, AFS seeks to not only reduce fuel management costs, but to also manage fuel and the related equipment and technical services in a way that allow mines to run at optimum levels with minimal interruption," Trautmann states.

AFS offers a full facilities management package that includes the provision of automation and infrastructure on site such as filtration, customised self-bunded tanks, lighting and generators. They offer permanent on-site support staff to provide supervision as well as maintenance and technical assistance. "By offering a total solution that accounts for every drop of fuel from receipt to issue, we ensure accountability of utilised fuel to relevant various cost centres, virtual elimination of theft, greatly reduced spillage and better health, security, safety and environmental management at fuel depots. The result is savings not only on the total fuel bill, but also the overall cost of running the mining sites," explains Trautmann.

Comprehensive reports

With sites receiving up to 50 deliveries of fuel each day, it is vital to record and verify the delivery when it is made. "By installing our own personnel and equipping the sites with our world-leading tank gauging and electronic metering technology, we are able to verify every delivery," Trautmann says. "We compare the metered delivery and temperature compensated delivery recorded by the tank gauge, with the delivery tanker's meter reading, ensuring that the ordered quantity is in fact supplied in full."

Gilbarco AFS consolidates and analyses all refuelling data in order to generate comprehensive reports to allow for better control of fuel usage. A full reconciliation of the site is done through data collected from all the gauges, registers and controllers and a comprehensive and accurate variance report is generated, including a full wet stock and delivery analysis plus vehicle consumption and usage reporting. This service is of particular importance when consignment stock is provided.

The financial reporting capability of the system compares delivery volumes to invoices generated on SAP, or other financial systems. "With these reports we can root out any inefficiencies right down to vehicle level and enable mine managers to accurately see the costs per ton," adds Trautmann. To ensure complete control, the computer systems and software used have been locally developed based on Gilbarco AFS' own experience with mining conditions. Factors such as weak network signals, power outages, dust, vibrations and inclement weather conditions have been taken into account to provide functionality not seen before in the industry.

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