UK

Fairbanks, a specialist in wetstock *monitoring and management services, has been awarded a three-year wetstock management contract by Shell. It will partner with Tokheim as part of the contract to deliver its services to more than 3,000 service stations, in 25 countries, across three continents. A combination of hardware and software applications will provide automatic, real-time data to a team of Fairbanks analysts. These experts will provide detailed statistical inventory reconciliation (SIR) analysis of wetstock data to Shell to help the company benefit from improved wetstock protection and reduce the potential for fuel loss incidents.*

The first meeting of the reconvened *UK Downstream Oil Distribution Forum (UKDODF) was formally opened by Edward Davey, Secretary of State, for Energy and Climate Change, on 25 July. The forum, last active in 2007, has been reconvened as part of the proposals agreed between Unite Union and Haulage Companies Employers in April 2012. The Secretary of State had formally requested both Cogent Sector Skills Council and Skills for Logistics Sector Skills Council to reconvene the UKDODF as the platform to facilitate a review of best practice in health and safety and driver training standards.*

EUROPE

The European Commission has *approved regulatory clearance for Gunvor Group's acquisition of the assets of the 100,000 b/d Petroplus' refinery in Ingolstadt and related German marketing activities. The clearance marks a key milestone for Gunvor in the closing process.*

Technology reduces Taliban successes in Afghanistan

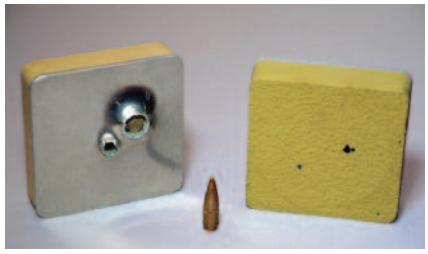
News that in mid-July the Taliban destroyed 22 fuel tankers coming from Uzbekistan with fuel for NATO forces in the south, exemplifies the difficulty military forces in Afghanistan have in providing for the safe transportation of fuel both within the country, and to the front-line.

Yet despite headline news like this, developments in technology are responding to the problem, writes *Brian Warshaw*.

US troops are using modified road tankers with coatings of self-sealing polymers produced by High Impact Technology (HIT), which react almost immediately by expanding when in contact with hydrocarbon products. When a hole is punched through the shell of the tank by a bullet or piece of shrapnel, the outflow of fuel is reduced to a dribble, before blocking it entirely within 15 seconds, thereby minimising the fuel on the ground that could ignite.

The three-coat HIT's BattleJacket® Fuel Cell Containment System (FCCS) is sprayed directly on to the tank. The first coat creates a tight bond with the metal tank. The second coat is a composite containing micro expansion beads that swell rapidly on contact with a hydrocarbon product. The topcoat provides not only durability, but shrinks on drying by about 1%, preventing the middle layer migrating to the outside of the tank, forced by the pressure of the petroleum cargo released when the tank is punctured. The total thickness of the three coats is controlled at between 7.5mm and 25mm depending on tank profile, material and the nature of the ballistic threats.

It has been reported that a road tanker examined after several combat missions in the Afghan combat zone was found to have in excess of 500 bullet rounds inside the tank. On examination it was seen that the holes caused by the bullets had been completely sealed by the BattleJacket coating system.



Effect of a bullet on BattleJacket coated tank – (right to left) external view, internal view
Source: HIT

The British Ministry of Defence confirmed that while 'there is currently no operational requirement for tankers to be coated in this material [BattleJacket FCCS]', it has awarded a five-year contract worth in excess of £2mn for Air Portable Fuel Containers (APFC) from GKN Aerospace.

GKN's Mark 5 APFCs are being used to deliver transport fuel to inaccessible areas such as forward airstrips, helicopter landing zones and front-line positions. Each unit can hold 1,955 litres of fuel and are fitted with an Aircraft Type 63.5mm (2½-inch) male dry-break coupling, used as standard. Whereas earlier versions of the APFC used solvent-based rubber, different materials and a new manufacturing process have enabled GKN to reduce the weight by 25% and cut the cost by 30%.

The Mark 5 APFC employs a polyurethane compound sprayed onto Kevlar® aramid fibres. When full, the container has a diameter of 1.37 metres; however, because of its semi-flexible construction, it is able to be collapsed by one or two service personnel to 12% of its filled volume for recovery or storage. Operating in ambient conditions between –26°C and 71°C, it can be stored in temperatures down to –46°C.

A full APFC is resistant to small-arms fire and shrapnel, and can be delivered by parachute from a cargo plane, towed behind a road or tracked vehicle for up to 10 miles, or dropped singly or in pairs from a height of 25 feet hanging below a helicopter.

Technology in the form of polymer engineering, fibres and composite materials will undoubtedly continue during the next decade, further improving the protection of vital supplies to troops in conflict zones.

APFC in front-line use in Afghanistan
Source: ©MOD 2011