OTC Spotlight on New Technology Awards

THE OFFSHORE TECHNOLOGY Conference has announced the 14 winning technologies that will receive the 2007 Spotlight on New Technology Awards recognizing innovative technologies significantly impacting offshore exploration and production. The awards were presented at OTC, 30 April to 3 May at Reliant Park in Houston.

Winning technologies are selected on 4 criteria:
- New and innovative: The technology must be less than 2 years old.
- Proven: The technology must be proven, either through full-scale application or successful prototype testing.
- Broad interest: The technology must have a broad interest and appeal for the industry.
- Significant impact: The technology must provide significant benefits beyond existing technologies.

AKER KVAERNER’S SeaBooster increases production rate of oil wells requiring local pressure support by injecting sea water. The system allows the water injection system to be located close to the actual wells, avoiding installation of expensive flow lines and topside water injection pump at a host platform.

BAKER OIL TOOLS’ linEXX Solid Expandable Monobore Liner Extension System optimizes casing configurations for drilling deeper or isolating trouble zones without reducing critical hole size. The system consists of the RC9 series casing shoe, FORMlock expandable liner hanger/packer, linEXX solid expandable casing, RNX retrievable guide shoe and catEXX hydraulic, top-down expansion system.

JET-LUBE’S SEAL-GUARD ECF thread compound for premium casing and tubing connections and the NCS-30 ECF thread compound for drill string connections are entirely nonmetallic, yet provide protection against seizing and galling. Both comply with stringent North Sea environmental guidelines.

BAKER OIL TOOLS’ Diamond FRAQ is the first VES fluid with polymeric fracturing fluid performance properties and superior formation and proppant pack cleanup capability. Its micelle stabilizers extend VES fluid use to 300° F. Viscosity enhancers reduce VES loading and total system cost. Fluid loss control agents significantly reduce fluid leak-off to at least 2,000 md and 250° F to reduce fluid treatment volume and improve fracture geometry.

MODEC’S MOSES Self Stable Integrated Platform (SSIP) is a tension leg platform with inherent stability that allows quayside integration and commissioning of the topsides to the hull structure. It also allows wet towing of the integrated platform to the installation site and eliminates the need for temporary buoyancy or craned-assisted installation assistance.

AKER Kvaerner’s Cone Crusher assembly, run in conjunction with the PowerTrac Advance wireline tractor, is set up with a special rotation adapter, mill gear and shock absorber for weight-on-bit control. The technology is based on a design where a main body with 4 cutting cones are rotating. Each cutting cone is free-rotating in its own axis independent of the main body RPM.

VETCO GRAY’S NEW marine riser system, the MR-6H SE, combines field-proven technology of the H-4 subsea wellhead connector and the dog-style marine riser (MR). To make the fully automated connection of the MR-6H SE, hydraulic units on the spider engage a cam ring on the box, which actuates 6 dogs into the profile in the pin. This creates a full pre-loaded connection with an efficient and effective load path.
FARO TECHNOLOGIES’ portable computerized measurement device combines technology from 2 portable coordinate measuring machines (CMMs) — the FaroArm and FARO Laser Tracker — to measure geometric features and directly import 3D measurements into digital form for CAD model or part size verification.

SINGLE BUOY MOORINGS has completed development of the world’s first LNG Toroidal Swivel. The swivel, with its central opening, is key for any marine transportation system where LNG has been transferred through a weathervaning system, whether a turret or single mooring point. The design can be configured to allow the passage of multiple LNG streams up to 20 in. and a 16-in. vapor return.

WEATHERFORD’S OverDrive system is made up primarily of the TorkDrive heavy-duty and modular tools, which are mounted directly to the rig’s top drive for making up and breaking out casing. These tools provide complete casing running and drilling capabilities, combining the functions of conventional power tongs, bails, elevators, thread compensators and fill-up tools.

HALLIBURTON’S HONEY Comb Base bulk cutting storage tank can significantly improve safety and efficiency by eliminating the need for cutting boxes, the associated crane lifts and safety risks of handling cutting boxes, and freeing up valuable deck space. The HCB tank system can be easily installed and does not require proximity to the solids control equipment to function efficiently. Cuttings can be discharged both horizontally and vertically.

VERSABAR’S DECK RAISING system uses 32 synchronously controlled, 260-ton hydraulic cylinders to lift the platforms 14 ft each. The cylinders pin into lower pad eyes welded to the existing legs and upper pad eyes integral to the split extension sleeve. The 40 ½-in. diameter, 1 ½-in. wall extension sleeves capture the legs during the final leg cuts and, with rub rails, limit lateral movement during raising to ¼ in.

DYNAENERGETICS’ No Debris Gun System (NDG) leaves essentially no debris in the well from perforating jobs by closing the shot holes in the gun after the shot. This is achieved by an internal sliding sleeve. Tests with the NDG made in accordance with the new API RP 19b Section V standard proved that no debris can exit the gun during or after the shot.

THE SECURE Drilling System is a closed-loop system that analyzes available drilling data to detect kicks or losses and automatically manages backpressure at the surface to control influxes or losses. The system allows the volumes to be kept as small as possible — a micro-influx or micro-outflux. The system is designed to incorporate existing drilling and pressure control equipment with minimal upgrades and equipment additions.