Register for 11/14 IADC DEC tech forum today – “Impact of Advances in Technology on Equipment Performance and Reliability”

The IADC Drilling Engineers Committee’s 14 November Technology Forum, “Impact of Advances in Technology on Equipment Performance and Reliability,” will look at how improved technology has advanced equipment performance and reliability, both downhole and at the surface.

Agenda:

08.15-08.35 Refreshments and networking

08.35-08.45 Welcome, review agenda and JIP updates (handouts) – Dennis Moore, Marathon Oil, Chairman

08.45-09.15 Real-Time Monitoring of Top Drives Using Physics-Based Models and New Sensor Technology: Eric van Oort and Pradeep Ashok, RAPID (Rig Automation and Performance Improvements in Drilling), The University of Texas at Austin

The top drive is a critical piece of equipment in well construction. When the top drive fails, drilling halts and operations are suspended until the machine is fixed, at considerable cost to all parties. Three separate health monitoring techniques may be considered for a top drive: thermal analysis, vibration analysis, and oil analysis. A thermal model in combination with a fault detection algorithm is very effective in monitoring the lubrication and electric motor subsystems of an AC electric top drive. As an added advantage, the thermal analysis method can be implemented with already existing sensor suite available on most top drives today. The advantages and disadvantages of other relevant sensor technologies and methodologies (vibration and oil analysis) will also be presented briefly.

09.15-09.45 Engineering an RSS: Wei Zhang and Hasib Uddin, Halliburton

This presentation will discuss multiple applications of advanced technologies used in developing an intelligent rotary steerable system that enables drilling automation. This includes digital predictive control model for accurate steering and well placement with no human intervention; diagnostic and prognostic model based on adaptive fault-tree to improve reliability; additive manufacturing used in production downhole tool design to “free the imagination”; and CFD-based erosion model to optimize flow geometry and improve hydraulic efficiency.

09.45-10.15 Technology Based Rapid BOP Risk Assessment: Garry Davis, BOP Risk Mitigation Services

The first standardized technology-based Subsea BOP Rapid Risk Assessment System delivers a full review based on design merits and incorporates both industry and regulatory considerations. The system has gained a designation as a STAR (Safety, Technology and Review) Initiative with the BSEE HQ Program Office BAST (Best Available and Safest Technology) section. Drilling contractors and operators who deploy the system will have access to complete information on potential failure modes and can articulate the equipment's capabilities prior to placing the system into service. Further, a comprehensive study has been completed on fault
finding and troubleshooting, fault verification and a contingency plan based on the design of the system to prevent gaps in well control capabilities.

10.15-10.30  Break

10.30-11.00  Automated Tubular Makeup and Autonomous Evaluation System Verifies Connection Integrity: Federico Amezaga, Weatherford

Tubular connections are essential to life-of-well integrity. Simple, operator-influenced makeup errors – from applying incorrect torque to misreading a connection graph or miss keying an entry – can adversely impact connection quality, operational efficiency and long-term well integrity. Especially in premium-connection casing or completion installations, operators must account for the torque and integrity of each connection. This presentation discusses how an automated tubular-make up and evaluation system meets those needs while improving efficiency and enhancing safety.

11.00-11.30  DeepView 3D: Chad Rabitoy, Intertek: Scanning for Advanced Inspections

Intertek has developed a new inspection methodology that combines 3D laser scanning, precise 3D metrology data and advanced NDT results in 3D space to provide an accurate representation of current equipment condition and mechanical integrity of critical offshore assets. This inspection solution can form part of a condition-based maintenance (CBM) program, with applicability in different areas of subsea, BOP, drilling, and well control. The technology can be used to determine future equipment condition, work scope, and maintenance schedules while building a complete and updated digital condition record throughout the lifecycle of the equipment.

11.30-12.00  IOGP/IADC BOP Reliability Database: Mark Siegmund, BP

The IOGP/IADC BOP Reliability JIP, known as RAPID-S53, began collecting BOP performance data in 2015. A collaborative venture between drilling contractors, operators, and OEMs, it is gradually evolving from a failure reporting system under API Standard 53 to analyze trends to assist in predicting BOP component reliability. This update will focus on recent developments to benefit the industry.

12.00-12.30  BOP Operational Risk Estimation Using Real-time Data: John Holmes, Baker Hughes, a GE company

BHGE, in close collaboration with operators and drilling contractors, has developed a risk model for BOP system equipment. The novelty is that risk scores get updated using real-time data from the BHGE SeaLytics v3 system. This enables custom, condition and use based risk estimates, eliminating conservatism. This helps a great deal with moving out/eliminating unnecessary tests and minimizes NPT.
**12.30-13.00** Optimizing Remote Operations Support Using an Effective Real-Time Model for Improved Drilling Performance: Josh Myers, Nabors Drilling Technologies USA, Inc.

The quantity, depth and complexity of wells drilled today requires an improved level of behind the scenes support to keep a drilling fleet operating 24/7. Nabors utilizes an Enhanced Drilling Support Ecosystem that combines field service software, real-time data and analytics, smart equipment, competent technicians, and a real-time remote center to drive equipment and performance reliability.

**13.00** Adjournment and lunch (sponsored by Halliburton)

To register, go to link. Please note that IADC has a new e-commerce system. If you experience technical difficulties, please contact IADC at membership@iadc.org or webmaster@iadc.org, or by calling 713.292.1945.

For questions about the agenda or DEC in general, contact Linda Hsieh, 713-292-1945 or linda.hsieh@iadc.org.