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## Welcome

It's been a busy few months for Drilling Systems with various ongoing Oil and Gas projects. The Industry is starting to reap the benefits of integrated pipe-handling, drilling, well control and crane operating training for modern mechanised rigs. Some Operators are now identifying the need and including the supply of the advanced DrillSIM-6000/KraneSIM-6000 simulators as part of the rig-build tender. For two years BP's operations in Azerbaijan have benefited from well structured training programmes using state of the art simulators, culminating in a staggering 96% rig uptime. In addition to the Azeri and Shah Deniz projects, BP have had successful simulator projects for Thunder Horse, Mad Dog and Holstein in the Gulf of Mexico and will roll out the technology to new field developments in the future.

As well as winning contracts in emerging markets, the Company was pleased to secure the contract with Diamond Offshore in Houston for nine DrillSIM-20s. The contract demonstrated our ability to support our US based customers and provide the Industry with cutting-edge technology to match modern day drilling practices.

**Julian Jones, Managing Director**

## KCA DEUTAG on-board with simulation



At the IADC World Drilling Conference in Rome, June 2005, **Claus Chur**, Director - Europe, Middle East & Russia, KCA DEUTAG (KCAD) gave a keynote address which touched on the importance of training. Since that speech, KCAD have placed orders for four simulators for their global operations.

**Roger Hodgson**, Head of Well Engineering Services, KCA DEUTAG, said of the orders, "the training of the national work force is critical to the success of operating in these emerging markets. By using state of the art full-size, real-time training simulators, we significantly reduce the learning curve for the Drilling Contractor and Operator, with skills training being able to be practised in a cost effective, safe and controlled environment. We have a long track record with Drilling Systems who provide innovative solutions to meet our training needs."



**Robin Carter**, Commercial Director, Drilling Systems commented on the KCAD orders, "we are extremely pleased to continue our excellent relationship with KCA DEUTAG, supporting their growth in the international market place. Since the first DrillSIM-6000 was installed in Aberdeen in 1998, our two companies have strived to deliver first-class training products to the industry, taking 3D visual technology and realism to new levels."

How did **BP** and **KCA DEUTAG** achieve a **96% uptime** in the first 10 months of operating a new mechanized rig in Baku ?



# Sakhalin II Lunskeye A & Piltun Training



In the summer of 2005, Drilling Systems upgraded the KCA DEUTAG DART facility in Aberdeen, replacing the existing touch screen plasma consoles with up-to-date equipment reflecting the current control systems on modern day rigs. The Driller and Assistant Driller chairs, seen below, feature HMI (human machine interface) touchscreens, with the operators looking out the doghouse window to the 3D virtual world of rig and pipe-handling equipment. The 3D virtual world was also updated to reflect the Lunskeye A platform (a four legged concrete gravity base substructure) developed for Sakhalin Energy Investment Company (SEIC) on the Sakhalin II project.

Following the success of the Lunskeye training in Aberdeen, Drilling Systems has just received the go-ahead from KCAD for the provision of a 45ft container featuring Driller & AD chairs to be delivered to Yuzhno, Sakhalin Island. To complement KCAD's global simulator fleet, a team of dedicated DART instructors have undergone extensive training.



## DrillsIM-600 for Russia



Recently awarded, Drilling Systems is building a DrillsIM-600 single operator's chair (Mini-DART), to be used for KCA DEUTAG's operation in Russia for TNK-BP. The simulator will reflect the operator consoles and rig structure of a Bentec HR-5000 rig.

**Phil Hassard**, DART Manager, said "The Mini-DART solution is a cost-effective, yet powerful tool in mechanised rig training. The software team in Bournemouth will be emulating the Bentec InfoVIEW control software, adding further realism to the training process." The simulator will be on display at the NEFTEGAZ Oil show in Moscow (20-23 June), before onward shipment to Tyumen, Siberia.



## DrillsIM-50 for Libya

In addition to the three pipe-handling simulators, a DrillsIM-50 Mini-Portable Well Control Simulator was ordered for KCAD's Libyan operation. The simulator was available from stock and shipped within two days in March '06.

# Diamond Offshore “goes wireless” with 9 DrillSIM-20s



DIAMOND  
OFFSHORE

In the Summer 2005, Diamond Offshore in Houston set out to re-evaluate the portable simulator market, with the purpose of standardising their simulator fleet with the best drilling and well control simulator available in the marketplace, that reflected modern day drilling operations.

Competition was intense from a local US simulator provider, but detailed technical evaluation highlighted DrillSIM’s accuracy of modeling the downhole process, outclassing other products. Together with Drilling Systems’ 18 year history in simulator development and a product range of over 20 different simulator models, encompassing upstream, downstream, crane and transport, Diamond’s Training Team selected Drilling Systems. In January 2006, nine DrillSIM-20s were delivered to Diamond’s Training Centre in Houston.

**A.J. Guiteau, Manager-Training & Development** commented, “Drilling Systems showed a great willingness in working with us to deliver the final end solution. An example of this is the software modifications to include our Diverter system”.

The DrillSIM-20 was also supplied with two DrillSIM-5 Instructor Licenses, that enabled the Training Instructors to remotely access each simulator via a wireless IP connection. Students have quickly learnt that if the Instructor is near the computer, something is about to happen, so they are on alert. With the remote IP connect facility, the Instructors can monitor the students performance, identifying those who are struggling and provide additional assistance. For the groups that are more comfortable, the Instructor can introduce a range of malfunctions to challenge the operators, without their awareness of an impending problem being triggered by the Instructor.



A.J. Guiteau continued, “the simulator with the remote access feature is a great way to enhance the theoretical training. Since the arrival of the new simulators, the class debrief sessions have been extremely favorable. A recent group of students from the North Sea and US operations learning the fundamentals of well control generated great excitement when ‘competing’ with each other, which is pretty unusual for a well control class!”

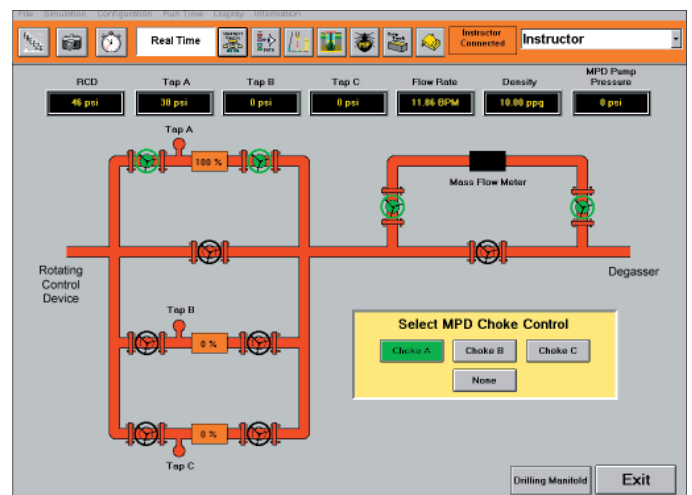
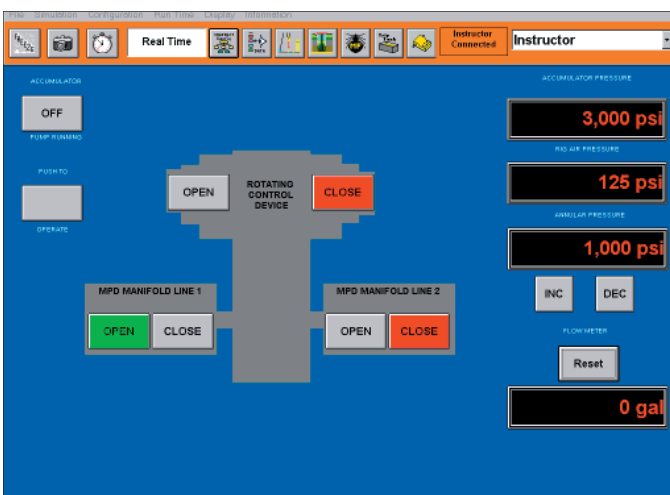
## Simulator for Closed Loop Drilling (SecureSIM)



For the last 18 months, Drilling Systems has been working with Helio Santos of the **Impact Solutions Group** to develop SecureSIM. For existing DrillSIM customers, the software is available as an upgrade while for new customers, the SecureSIM simulator can be purchased from Impact. ([hsantos@impact-es.com](mailto:hsantos@impact-es.com))

### Key Features

- Secure Drilling™ (Automatic Kick Detection/Control • Dynamic annular pressure control • Realistic choke response with the actual field Secure Drilling™ Control) • Continuous circulation during connection • Dual gradient • Multiple fluid injection options (At the surface and at the BOP level) • Parasitic string • Different fluid densities



# DrillsIMs around the globe

## Abu Dhabi

In August 2005, **The ADNOC Petroleum Institute** took delivery of their DrillsIM-5000, Full Size Rig Floor simulator. In addition to the base supply, the Institute purchased the full size workover land manifold, Christmas tree, cement head, cement pumper console and land diverter. The DrillsIM-5000 complements the existing DrillsIM-500 supplied in 2004.

## China

The **Great Wall Drilling Company** in China ordered a selection of DrillsIM drilling and well control simulators for their international operations. The DrillsIM-5000 full size simulator is complemented by a DrillsIM-500 (super-portable) and three DrillsIM-20s (compact-portable). The simulators have arrived in Beijing and are awaiting installation, acceptance and instructor training at a new facility currently under construction.



DrillsIM-5000 installation at  
The ADNOC Petroleum Institute

# Offshore Crane Operator Training in Europe

## Aberdeen

In 2005, **Transocean Training Centre** in Aberdeen took delivery of our KraneSIM-6000 Offshore Crane Operator Training Simulator. The trailer based unit, featuring a mini-dome, is used extensively in improving the skills of operators. A wide variety of cranes and offshore installations are modeled within the simulator including the Sedco Express, as well as the Transocean Shelf Explorer jackup, drawn up specifically for the contract.



In January 2006, a second crane simulator was installed in Aberdeen for **A1 Safety Training**. The A1 team worked with Drilling Systems on the original KraneSIM R&D project featuring the UK Health & Safety Executive (HSE) in 2002, so the HSE was pleased to see the application of the simulator in Aberdeen.

## The Netherlands

Following an initial evaluation period, **SBW**, based in Harderwijk have been using the KraneSIM-600 for refresher training of certified offshore crane operators. Specific training scenarios have been setup in the simulator to re-asses the competency of crane operators in the Dutch sector.



# Technical News

No.	Depth	Thick	Status	Thickness/Pressure	Reservoir Pressure/Leak Pressure	Pressure	Depth of Flow	Flow Status
1	38.00 m							
2	3.000 m			2.100 psi	2.200 psi			
3	5.100 m	Shale	Active	2.000 psi	2.000 psi	0.150 psi		
4	5.500 m			3.000 psi	3.100 psi			
5	9.000 m			3.100 psi	3.100 psi			
6	10.000 m	Active		3.100 psi	3.100 psi	0.100 psi	0.100 m	Active
7	5.600 m			3.100 psi	3.100 psi			
8	5.600 m			3.100 psi	3.100 psi			
9	5.600 m			3.100 psi	3.100 psi			
10	5.600 m	Active		3.100 psi	3.100 psi	0.100 psi		
11	5.100 m			3.100 psi	3.100 psi			
12	5.100 m			3.100 psi	3.100 psi			
13	30.000 m			10.000 psi	10.000 psi			
14	30.000 m			10.000 psi	10.000 psi			
15	30.000 m			10.000 psi	10.000 psi			
16	30.000 m			10.000 psi	10.000 psi			
17	30.000 m			10.000 psi	10.000 psi			
18	30.000 m			10.000 psi	10.000 psi			
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41	30.000 m			10.000 psi	10.000 psi			
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100	30.000 m			10.000 psi	10.000 psi			

The DrillsIM downhole model has been enhanced / extended to allow 30 formations of which 28 can be reservoirs or loss zones. This allows complex well control scenarios such as reservoir cross flow and drilling through several kick zones without having to re-start an exercise. **Dr. Guanlu Chen**, Director of Simulation, says "Drilling the Well on the Simulator (DWOS) is now even closer to reality and allows clients to simulate drilling of wells that **walk the line**".

Further enhancements under development include parasitic and concentric strings which will push the boundaries once again, proving the Company's long term commitment to advance drilling simulation.

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