

# Companies think ahead on people, HSE

## RECRUITMENT AND RETENTION

**A FORWARD-THINKING RECRUITMENT** and retention program by KCA DEUTAG allowed an effective and trouble-free start-up for a cyber platform rig offshore Azerbaijan. The recruitment challenge in sourcing some 500 expatriates and Azerbaijani nationals for 4 cyber rigs between 2003 and 2005 required a new approach.

This paper will demonstrate how the company's approach to recruitment and retention can be directly linked to performance in the platform rig start-up. Key areas covered in the paper include:

1. High-level recruitment planning, including risk assessments;
2. Cross-functional support team and integrated recruitment and training plans;
3. Identification of role models and banded recruitment;
4. Cradle-to-grave investment to assist with recruitment and aid retention; development of an experience pool.

This paper will show how the lessons learned from KCA DEUTAG's approach can be transferred to other start-ups.

*From 0 to 500 in Under 3 Years The Caspian Recruitment Challenge* (IADC/SPE 99004) R Richardson, T Steel, KCA DEUTAG Drilling Ltd.

## MAKING SAFETY NO. 1

If asked to vote if "Safety is No. 1" or "Safety is not No. 1," the former is always an unanimous selection. In theory, it works. In reality, safety is challenged on a daily basis by culture, work habits and processes, and individuals who don't share the same prioritization. When safety becomes a core value, it cannot be compromised.

Over the past two years, ConocoPhillips has undertaken a challenge to establish safety as a core value in its drilling and completion operations in the ArkLaTex region, with positive results. By working together with our contractors, decreases in trailing indicators have been realized along with increases in leading indicators. The paper details this journey.

*Safety Is Not #1; It's a Core Value* (IADC/SPE 98956) GH Schwall, PA Nealis, ConocoPhillips.

## 6 YEAR LTI FREE

Well service operations involving heavy machinery, bulky equipment, heavy lifts, hazardous chemicals and increasingly challenging logistical constraints have typically been seen in the oil industry as a threat to good HSE performance and statistics. There has, however, been a lot of learning, understanding and research work stemming from these earlier failures. These, coupled with a tremendous shift in awareness and attitudes toward the HSE aspects of operations, have brought about progress in reaching our goal of safer and greener operations.

On 1 June, 2004, a major international operator in the Asia Pacific Region achieved a milestone of 6 years LTI free coiled tubing/well servicing operations.

In a real sense, safety is no accident. Even if it appears to be that way over a narrow time frame, it generally won't last long. For more sustained periods of time, safety needs concrete systems, skills and work practices to rest on. We believe that sharing of information and experiences is the most effective way of encouraging combined efforts in these areas to lead the HSE performance of our industry as a whole to great heights.

A critical review of the whole process has been attempted in this paper to identify the critical components which have played vital roles in the achievement of this great milestone. We believe that the learning from this study would greatly contribute to improvements in safety performance of similar operations worldwide.

*Safety Is No Accident* (IADC/SPE 98045) NM Al Araimi, Shell; M Mahajan, CJ Blades, BJ Services.

## HELICOPTER SAFETY

This paper describes a study on helicopter airworthiness and risk mitigation that shows how seven key initiatives could make offshore helicopter operations as safe as flights on good commercial airlines.

These seven key risk mitigations can and should be applied in all helicopter uses, including offshore transportation, pipeline surveillance and seismic operations.

Whereas good commercial airlines currently experience less than one fatal accident per million flying hours, helicopter flights in support of the offshore oil and gas business currently experience six to seven fatal accidents per million flying hours, which is about the same as the commercial airline rate 30 years ago.

Shell Aircraft recently analyzed the measures taken by the commercial airlines during the past 30 years to improve their safety record and found that most of these same measures are available for helicopters but have not been fully implemented. The paper and presentation show that while high standards for aircraft operations have dramatically improved Shell's helicopter safety record over the past 12 years, the goal of making helicopters as safe as commercial airlines cannot be achieved in the older helicopter types. These older helicopter types lack many important safety features that have been addressed by the latest regulatory design requirements.

Shell Aircraft studied the most detailed accident records available and evaluated the risk mitigation available from these latest design standards and the other measures taken by commercial airlines over the last 30 years to prevent accidents. The results showed that seven key mitigations could prevent up to 84 percent of the helicopter accidents currently occurring.

*Helicopter Safety in the Oil and Gas Business* (IADC/SPE 98672) E Clark, C Edwards, P Perry, G Campbell, M Stevens, Shell.

## CYBER RIG START-UPS

In planning for the safe, effective and trouble-free start-up of major cyber rig operations in locations as varied as Caspian, Sakhalin and Angola, KCA DEUTAG has learned that you have

to be flexible when it comes to training personnel to operate and maintain the new technology. This is particularly the case when you have crews drawn from the local and international work pool, some of whom who have no drilling experience at all, let alone cyber rig experience.

This paper will describe how operational and maintenance training was tackled for operations in three geographic areas with distinct cultural and operational differences.

Key areas covered in the paper will be start-ups for:

- Multi Rig — Big Budget Operations
- Single Rig — Low Budget Operations
- Twin Rig — Mid Budget Operations
- Dealing with the language barrier
- Keeping the momentum rolling
- Planning for succession

The paper will demonstrate how having planned and well-executed pre-operational training shortens the learning curve on the rig, thereby minimizing downtime and delivering a safe, effective and trouble free start-up.

It will also discuss how, with vision and planning, flexible training systems can be put in place not only to ensure the training of future crews but also to allow the introduction of additional equipment or entire rigs while minimizing exposure to risk, both operational and commercial.

*State of the Art Training for State of the Art Rigs Options in Training for Cyber Rigs in New Locations* (IADC/SPE 98944)  
D Cormack, KCA DEUTAG.

## OPERATING REMOTELY

In the oil and gas industry, remote operations have been applied to unmanned platforms, subsea equipment and satellite wells. The potential for remote operations is significant for offshore platforms, but it is a common misconception to believe that all human interactions at offshore platforms can be eliminated.

A pilot study was performed for Petoro AS to determine the risks and rewards for implementing remote operations on several platforms in the Norwegian sector of the North Sea. Activities such as remote equipment monitoring, use of a centralized control room, specialists serving multiple platforms and campaign maintenance planning were assessed for impact on operating expenses, functionality, reliability and safety. Reward potentials included reduction in OPEX, reduction in offshore personnel, less lost production and improved safety.

*Remotely Operated Platforms Fact, Fiction, or Future* (IADC/SPE 99185) BA Levett, Det Norske Veritas.

## NEW APPROACH TO SAFETY

Historical accident rates, while lower than they were a decade ago, remain at unacceptably high levels despite the use of a wide range of safety systems.

A potentially novel approach to improving safety performance has been piloted by Shell Oil Company. This approach — Intrinsic Safety Analysis — uses a measurement system based on first principles to examine the inherent safety of each operation on three parameters — the energy in the operation, the containment of that energy and the exposure of personnel to the energy. The resulting Intrinsic Safety Exposure (ISE) gives a direct measure of the potential for an accident in each step of an operation, regardless of the novelty of the operation or the historical experience with it.

Having this measure of the ISE enables several potent approaches that yield increasingly significant long-term improvements by:

1. Allowing contractors and operators to identify which operations are intrinsically less safe and to put in place remedial measures for those with high exposure;
2. Pointing the way for engineers to redesign operations and equipment such that they are intrinsically safer;
3. Integrating ISE thinking across the lifecycle of equipment and entire assets;
4. Enabling a rigorous value ranking of alternative investments to improve safety performance;
5. Benchmarking and comparing ISE across assets and between competing operations;
6. Establishing long-term corporate goals for ISE.

The long-term benefits this approach may be to drive the safety performance to new levels while reducing costs and time.

This paper intends to expose the industry to this new approach.

*Intrinsic Safety Analysis — Driving Safety Performance to a New Level* (IADC/SPE 99036) RH Orlean, Orlean Technical Solutions Inc; R Patterson, Shell. ■