Building a “New Normal” on the Bedrock of Risk Management

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Historically, our industry has been driven by a series of inflection points to re-examine best practices, technologies, or philosophies on how we conduct our business. The most notable of these have often been associated with tragedies such as the 1988 Piper Alpha disaster in the North Sea and, most recently, the Macondo disaster in the US Gulf of Mexico. Piper Alpha led to a wide-scale focus on health, safety, and the environment (HSE), fundamentally changing the way companies viewed safety, and led to orders of magnitude improvement in HSE practices. While the full impact of Macondo is only now being fully understood, it is clear that we will see a similar effect on the way we handle quality, competency, safety critical systems, and contingency planning.

In both of the incidents, external pressure precipitated the cultural or technical shift to a new operating norm, while the capabilities and technology for bridging the gap were available. Until we consider risk management and operational sustainability as business drivers and an equal part of our mission, we will never make the paradigm shift from a reactive to a proactive business model.

The industry’s goal should be an incident-free environment, but government regulation alone will not help the industry achieve that goal. The reservoirs our industry is targeting are more challenging, the environments are harsher, and the technology required is ever more complex. As an industry we must be willing to go far beyond what is regulated—we must fundamentally change the culture of our business to address risk management in our processes, our technology, our talent management, and our safety programs.

Consistent processes and procedures across our business are the foundation for this change. A common operating system not only ensures that we meet regulations in all areas where we work, but also establishes repeatable performance that takes us far beyond what is required. Generally, there is one best way to perform an activity, whether it is solving problems for our customers or developing new products and technology.

An operating system encompasses critical operation management systems and captures the latest information and best practices. Such systems are widely used in industries such as automobile and fast food. Of course, the challenges facing the oil and gas industry are more diverse and highly complex. However, in general, the companies that pay attention to every aspect of their business and work smarter to capture the true power of their intellectual property win in the market.

Reliability assurance programs are becoming part of our industry’s core operating standards and increasingly are a central part of our product and service research and development. These programs are starting to define sigma level performance versus traditional percentage-type measures. Other industries, such as aerospace, show that with full commitment from all parties involved, both internally and with the customer base, a three sigma-level shift can be accomplished in a decade. What would our business look like today if, at the system level, performance was measured in failures per 10,000 operations rather than failures per 100 operations?

Several years of data collection have provided meaningful insight into the critical factors affecting the performance of our operations. Procedures, training,
and competency problems are almost as prevalent as technical issues in non-productive-time statistics. Armed with a better understanding of the factors relating to reliability, we are building more comprehensive reliability assurance programs targeting both human and technical components in our improvement processes.

Designing for reliability is only part of our technology initiative. Technology innovations designed to advance the science of safety and lower the risk factor are now a major focus for oilfield service companies. Remote surveillance, real-time data management, and real-time monitoring systems that incorporate materials such as fiber optics are a few of the areas being researched today. Researchers are not working on the next generation technology—they are working on the next step change in technology to provide orders of magnitude more capabilities in the inherently riskier reservoirs and harsher exploration regions where we work today and where we will work tomorrow.

While technology designed to mitigate risk is important, no amount of technology innovation can overcome poor decisions. We must recognize that people are the true differentiators. Consequently, competency assurance programs are becoming a holistic part of employee development. Although training has long been in our vocabulary, certification has not and it has a wider set of implications. As the complexity of our daily activities continues to rise, perhaps the toughest challenge is developing a sustainable workforce for our operations. We have to define more rigorous programs to prepare our next generation of senior managers for the environments they will be expected to manage.

More than 20 years after Piper Alpha, safety programs have improved to the point where incident rates are well understood and, in general, are at acceptably low levels. However, we are also starting to look at “safety on the job” and “safety by design” programs, which take a more overarching view of the systems we are interacting with in our operations environment. We believe this is where real progress can be made.

None of these far-reaching goals can be achieved if our industry is not committed to a cultural shift that makes risk assessment, management, and mitigation integral parts of the way we do business. And this is where the highest level of leadership comes in. In the new normal, occupational safety is no longer enough. Top-level executives in the oilfield service sector have a responsibility to ensure that all levels of their organization—from procurement and manufacturing to research and development, and field operations—fully understand and embrace safety and risk management as the foundation for decisions. We also have a duty to constantly communicate our commitment to employees, customers, investors, governments, and the public.

But one company alone cannot effect the necessary change. The oil industry is a complex, diverse, competitive business and every company—from the largest to the smallest—must commit to higher standards. Partnering with industry institutes and associations is the most effective means to facilitate industrywide self-regulation that surpasses government requirements. These groups are the link that binds us and it is our responsibility to support their efforts.

The bottom line is that every employee must be empowered to do the right thing without fear of consequence. An empowered workforce and a cooperative industry will enable world-class processes, procedures, technology, and competency-based training programs to achieve the desired step change. It is on this bedrock of risk management that we will build the oilfield service industry of the future. JPT