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Can We Continue to Develop Our Natural Resources Safely After the Deepwater Horizon?

Proforma Safety President Scott Arnold offers his insight into the causes of the Deepwater Horizon tragedy and urges the energy industry to prioritize safety over cost and schedule.

On April 20, 2010, the United States and the oil and gas industry suffered the worst tragedy we have possibly ever faced with the Deepwater Horizon. Not only did we lose 11 lives, but we now are faced with an environmental disaster of untold proportions.

Which raises the all important question: Can we continue to develop our natural resources safely? The challenge we face today is no different than NASA's in sending a person to Mars. In the world of ultra-deep water exploration and production, we too are outside of our engineering comfort zone. We still are striving to understand and manage pressures, temperatures and reservoir dynamics.

Through my experience, I've learned that we have come a long way in the past few years in achieving safer operations and in our understanding of what influences people's safety. Today we have many processes that — if utilized correctly and with consistency — can prevent accidents from happening. The problem lies in the way we manage our business. As recently as ten years ago, if you asked a manager to prioritize schedule, cost, safety and quality, he might do so in this order:

1. Schedule
2. Cost
3. Quality
4. Safety

Today, most managers set priorities correctly with safety and quality leading, because they understand that if you get safety and quality right, schedule and cost usually take care of themselves. Some may argue that this is not always the case, but if you ask for evidence that they did truly place safety and quality first, their response may prove the point. We at Proforma Safety have managed hundreds of projects for companies with great success by prioritizing safety and quality first.

A critical and successful safety practice that everyone should be empowered to exercise is to "Stop the Job" without repercussion. While companies may state that this is their policy, the reality is that it's harder to implement than it would appear. But in instances where it has occurred, and we've taken the time to review why the job was stopped, we've found that it has saved people far more than it ever hurt.

We've used several powerful processes, among them HAZIDS (Hazard Identification) and HAZOP (Hazardous Operations identification), in which we identify hazards and risk created during executing a design or procedure. In addition to risks, we also identify mitigations that are captured as action items. For these processes to work



Proforma Safety International

efficiently, no work is performed unless all action items have been properly closed and closure can be verified. We've seen these processes used successfully time and time again.

Another very successful process that hasn't been around all that long is the MOC (Management of Change); used when there's a change to design, procedure or work process. In this process, the team stops to identify what change is needed and whether engineering, procedure revision or further testing is required. Once the change has been identified, engineering applied and procedures revised, management approval must be obtained. Following approval, the change is reviewed in a HAZID. Once the actions are closed, procedures must be reviewed by the field personnel and JSA's created before work resumes.

Given all these excellent, proven, commonly used tools and processes, one may wonder how the Deepwater Horizon accident could have occurred. Based on publicly available information disclosed to date, we've identified several factors that are strikingly similar to industrial incidents in the past. We believe the causative factors for the Deepwater Horizon disaster are rooted in how priorities were set, and how decisions were being driven by cost overruns and schedule delays. While the cause of the Deepwater Horizon explosion may not be due entirely to these factors, they were certainly contributory.

Developing in Deepwater Gulf of Mexico presents many economic and technological hurdles, with a project costing upwards of \$1 billion in upfront capital expenditures. Any delay can cost millions and influence decisions. Let's review some of these decisions to help us better understand how we move forward.

When a project is experiencing delays, its management starts to look for creative solutions to get things back on track. Some of these solutions are solid and well thought out; sometimes, if the delay is severe, they can amount to nothing more than short cuts. When a project experiences significant delay and cost overruns, it's not uncommon for this "creativity" to include looking at the processes or tools that appear to pose a hurdle. Call it human nature, but we manage to find loop holes to exploit or processes to circumvent to save schedule and cost.

Are we saying that managers under pressure blatantly disregard human life? Certainly not. In our professional practice, we have never seen evidence of this. When weighing risk and determining how much risk is acceptable, they consider time lost, additional cost, potential damage to equipment and reputation – but not anticipated loss of life. In focusing on these factors, however, they may not understand – or lose sight of – potential safety impacts or risk. To save time, processes such as the MOC and HAZID may not be used as intended or are circumvented. Tragically, it is times like these when these processes can be of greatest value.

The final line of defense – "Stop the Job" – is often the most challenging to execute, because workers become increasingly reluctant to blow the whistle as performance pressure increases. This is when a true, safety-focused culture really counts – when it's more than words on paper. Acting on that uneasy feeling that something doesn't feel right, that it is time to stop, to take a real hard look at what you're doing – despite time and cost pressures – is the mark of a true safety culture.

Every major energy and oilfield service company for which we have worked uses these valuable tools and processes. Typically they require their contractors to have similar systems and audit them to ensure expectations are met. Some may have more extensive programs, risk identification and mitigation tools. The industry has spent



Proforma Safety International

considerable amount of time and money developing these tools, but they are still only effective when used as they were intended every day, in every situation, by all involved.

So can we continue to develop our natural resources safely in the aftermath of this disaster? Yes we can, but each company must answer for itself. Company executives must set the bar that no short cuts will be tolerated; then they must stand by those words. Consistency is key; no company can afford to deviate from a safety culture because of cost or schedule delays. Both government and industry must ensure lessons are learned and applied across the industry. We can never afford to have another tragedy like this happen again. We have to remember the faces of those who were lost and their families each and every time we are faced with making decisions due to cost or schedule delays.

In closing, I challenge industry executives to remain steadfast in their commitment to safety regardless of cost or delay – and to building a true safety culture. Rather than falling into historic traps (“we’ve done it this way a thousand times”), look at each new well or project as if it has never been done before. Ensure the safety processes you’ve captured in your policies are implemented even if the pressure’s on to meet deadlines and curtail costs.

If we keep safety our top priority, schedule and cost will fall into line. The cost of shortcuts is measured in lives, not minutes, and the lives of our workers and our environment are more valuable than any rig, schedule, project or earnings report.