



[COMPLIANCE TIPS]

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Keys to sustainable HS&E performance for offshore E&P assets

Process safety and major accident prevention practices for offshore exploration and production (E&P) facilities vary somewhat around the globe. In the United Kingdom, the safety case is “king.” Elsewhere, quantitative risk analysis (QRA) is widely used during the design process to ensure that fire and explosion risks are identified and either inherently safer measures are integrated into the design or appropriate “life-cycle managed” safety critical elements are employed during operation to manage residual process safety risks. Embedded within both the safety case and any underlying QRA is a presumption that appropriate management systems are employed to nurture the equipment throughout its operating lifetime to ensure stable risks.

Formal safety management systems have been in place in some companies for many years. To promote process safety management (PSM) excellence and continuous improvement throughout industry, in 2007 the Center for Chemical Process Safety (CCPS) created guidelines for risk-based process safety (RBPS) as the framework for the next generation of process safety management. ABS Consulting wrote this guideline for CCPS, which was primarily aimed at managing process safety for downstream facilities. In 2008, ABS Consulting adapted the

RBPS framework for use in the unique circumstances of the offshore environment.

RBPS approach

The RBPS approach recognizes that all hazards/risks are not equal. Consequently, it focuses more resources on greater hazards and higher risks.

The elements listed below expand upon the original CCPS PSM elements to reflect 15 years of process safety management implementation experience, best practices from a variety of industries and worldwide regulatory requirements.

- Commit to process safety — Process safety culture, standards, codes, regulations and laws, process safety competency, work force involvement and stakeholder outreach
- Understand hazards and evaluate risks — Process knowledge management, hazard identification and risk analysis
- Manage risk — Operating procedures, safe work practices, asset integrity and reliability, contractor management, training and performance assurance, management of change, operational readiness, conduct of operations and emergency management
- Learn from experience — Incident

investigation, measurement and metrics, auditing, management review and continuous improvement

Learn from experience

One of the most important pillars of RBPS is learning from all HS&E/process safety sources of experience. This is vital for sustainable process safety performance and continuous improvement. We need to expand our sources of learning to those available outside our plant, company and even industry because we cannot afford to learn only from our own mistakes. To learn from experience, companies and facilities should focus on the items listed below.

- Investigate incidents that occur at facilities to identify and address the root causes.
- Apply lessons from incidents that occur at other facilities within the company and within the industry.
- Measure performance and strive to continuously improve in areas that have been determined to be risk significant.
- Audit PSM systems as well as the performance of work activities that make up the management system.
- Hold periodic management reviews to

determine if the management systems are working as intended and if the work activities are helping the facility effectively manage risk.

Improving HS&E/process safety culture

Nurturing the following important features of a good HS&E culture will affect learning the most:

- Provide strong process safety leadership.
- Maintain a sense of vulnerability.
- Empower individuals to successfully fulfill their safety responsibilities.
- Establish a questioning/learning environment.
- Provide continuous monitoring of performance.

Is process safety/HS&E learning important to you? Each day workers make decisions that affect your operation. Are they making the same mistakes made by their predecessors 10 years ago? Are you? Let's set up learning and remembering processes in our companies to avoid repeating the sins of the past that we have already paid the price for and should not have to experience again.

For more information, e-mail Steve Arendt at sarendt@absconsulting.com or call (281) 673-2914. □

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[NEWS UPDATE]

Enerkem plans Miss. biofuels project

MONTREAL — Enerkem Inc. plans to build and operate a second-generation biofuels production facility located in Pontotoc, Miss. In addition, the company signed a Memorandum of Intent with the Three Rivers Solid Waste Management Authority of Mississippi for the supply of approximately 189,000 tons of unsorted municipal solid waste (MSW) per year for use as feedstock at the Pontotoc facility.

Plans call for the plant to be built, owned and operated by Enerkem Mississippi Biofuels, a wholly owned subsidiary of Enerkem. It is expected to produce 20 million gallons per year of next-generation ethanol using a mix of feedstock comprised of wood residues from regional forest and agricultural operations, as well as urban biomass such as municipal solid waste, construction and demolition debris, and treated wood.

In addition to the biofuels production facility, the investment includes an upstream municipal solid waste recycling and pre-treatment center. The total project represents a \$250 million invest-

ment. The Enerkem process will recycle and convert approximately 60 percent of the MSW that crosses the gate at the Three Rivers landfill. The majority of the MSW will be converted into biofuels and the remainder will be distributed to recycling processors. The overall project is expected to create 150 long-term direct and indirect jobs, and to generate an additional 300 jobs during the construction and start-up phases.

“We are pleased to collaborate with the northern Mississippi community on building an unprecedented advanced biofuels project,” said Vincent Chornet, president and CEO of Enerkem. “The project, our first in the United States, will leverage the expertise we’ve gained both at our large-scale pilot facility and at our first commercial plant. This project is unique in that it uses a mix of municipal solid waste — which has negative cost — and wood residues as feedstock, allowing Enerkem to achieve substantial commercial scale and favorable economics.”

For more information, visit www.enerkem.com or call (514) 875-0284. □