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Will Things Ever Be The Same In Our Industry?

Macondo – The 800 lb. gorilla in the room
Macondo in Perspective

• There have been 59 commercial airline crashes in North America since commercial flight began
• 12,000 lives per year, conservatively, are lost in the mining industry worldwide
• The dead zone extending into the Gulf of Mexico is immense and expanding daily
• Yet, there are no recent Congressional hearings, no inquiries and few comprehensive overhauls of regulatory systems.
• In fact the last, and only, time government got this involved in an industry was following the sinking of the Titanic in 1912 – unless, of course, you count the Sherman Anti-Trust Act of 1911 which intervened in our industry to break up Standard Oil
A New Day Is Dawning (or is it a Sunset)

- Committees, Panels, Commissions Looking at Our Industry
- Bureau of Ocean Energy Management, Regulation and Enforcement
- New Rules and Regulations
- The Bottom Line
Congressional/Government Committees

- House Committee on Energy and Commerce
- House Committee on Natural Resources
- House Committee on Oversight and Government Reform
- Senate Committee on Energy and Natural Resources
Agency Committees

- Chemical Safety Board
- U.S. Department of Justice Civil Division
- U.S. Department of Justice Criminal Division
- Deepwater Horizon Joint Investigation by the U.S. Coast Guard and the Department of the Interior
- National Institute for Occupational Safety and Health
Outside Panels

- National Commission on the BP Deepwater Horizon Spill and Offshore Drilling
- BP Internal Investigation
- National Academy of Engineering/National Research Council
- American Petroleum Institute
- Society of Petroleum Engineers
Pending Legislation As Of 6/14 2010

- S 3305, Big Oil Bailout Prevention Liability Act of 2010
- S 3306, Big Oil Bailout Prevention Trust Fund Act of 2010
- S 3308, Bill to Suspend Certain Activities in the Outer Continental Shelf
- S 3309, Oil Spill Liability Trust Fund Improvement Act of 2010
Pending Legislation As Of 6/14 2010

- S 3337, Oil Spill Claims Assistance and Recovery Act
- S 3343, Beyond Petroleum Act
- S 3344, BP Deepwater Horizon Disaster Inquiry Commission Act of 2010
- S 3345, Big Oil Polluter Pays Act
- S 3346 Outer Continental Shelf Lands Act Amendments Act of 2010
Pending Legislation As Of 6/14 2010

- S 3375, Oil Spill Response and Assistance Act
- S 3391, Restoring Ecosystem Sustainability and Protection on the Delta Act
- S 3405, Close Big Oil Tax Loopholes Act
- S 3433, Clean Coasts and Efficient Cars Act of 2010
- S 3461, Acceptance of Offer on Liability and Expedited Claims at Mississippi Canyon 252
Pending Legislation As Of 6/14 2010

- S 3462, Subpoena Power to the National Commission on BP Oil Spill
- S 3463, Survivors Equality Act of 2010
- S 3466, Environmental Crimes Enforcement Act of 2010
- S 3472, Big Oil Bailout Prevention Unlimited Liability Act of 2010
- S 3473, Amend the Oil Pollution Act of 1990
Pending Legislation As Of 6/14 2010

- S 3478, Remuneration for Ecological and Society Tolls Occasioned by Reckless Errors (RESTORE) Act
- S 3489, Terminate the Moratorium on Deepwater Drilling
- S 3492, Emergency Relief Well Act
- S 3497, Oil Spill and Prevention Mitigation Improvement Act
A New Government Agency

- Bureau of Ocean Energy Management, Regulation and Enforcement
- Replaces the Minerals Management Service
- Splits responsibilities
- Over sight and enforcement functions
- Currently very confused
- Has issued two new sets of rules for offshore operations
  - Drilling Safety Rule – taken from API RP 65 –Part 2
  - Workplace Safety Rule – taken from API RP 75
New Rules and Regulations

• *Drilling Safety Rule*

  • Making mandatory the currently voluntary practices recommended in the American Petroleum Institute’s (API) standard, RP 65 – Part 2, Isolating Potential Flow Zones During Well Construction (an industry standard program);

  • **Requiring submittal of certification by a professional engineer that the casing and cementing program is appropriate for the purposes for which it is intended under expected wellbore pressure**;

  • **Requiring two independent test barriers across each flow path during well completion activities (certified by a professional engineer)**;
New Rules and Regulations

- **Drilling Safety Rule**
  - Ensuring proper installation, sealing and locking of the casing or liner;
  - Requiring approval from the BOEM District Manager before replacing a heavier drilling fluid with a lighter fluid;
  - Requiring enhanced deepwater well control training for rig personnel;
  - Submittal of documentation and schematics for all control systems;
  - Requirements for independent third party verification that the blind-shear rams are capable of cutting any drill pipe in the hole under maximum anticipated surface pressure;
New Rules and Regulations

- **Drilling Safety Rule**
  - Requirement for a subsea BOP stack equipped with Remotely Operated Vehicle (ROV) intervention capability (at a minimum the ROV must be capable of closing one set of pipe rams, closing one set of blind-shear rams, and unlatching the Lower Marine Riser Package);
  - Requirement for maintaining a ROV and having a trained ROV crew on each floating drilling rig on a continuous basis;
  - Requirement for auto shear and deadman systems for dynamically positioned rigs;
  - Establishment of minimum requirements for personnel authorized to operate critical BOP equipment;
New Rules and Regulations

• *Drilling Safety Rule*
  • Requirement for documentation of subsea BOP inspections and maintenance according to API RP 53, Recommended Practices for Blowout Prevention Equipment Systems for Drilling Wells;
  • Require testing of all ROV intervention functions on subsea BOP stack during stump test and testing at least one set of rams in initial seafloor test;
  • Require function testing auto shear and deadman systems on the subsea BOP stack during the stump test and testing the deadman system during the initial test on the seafloor; and
  • Require pressure testing if any shear rams are used in an emergency.
New Rules and Regulations

• **THE WORKPLACE SAFETY RULE On Safety and Environmental Management Systems (SEMS)**

• The 13 elements of RP 75 that the Workplace Safety Rule makes mandatory are as follows:

• General provisions: for implementation, planning and management review and approval of the SEMS program.

• Safety and environmental information: safety and environmental information needed for any facility, e.g. design data; facility process such as flow diagrams; mechanical components such as piping and instrument diagrams; etc.

• Hazards analysis: a facility-level risk assessment.
New Rules and Regulations

- Management of change: program for addressing any facility or operational changes including management changes, shift changes, contractor changes, etc.
- Operating procedures: evaluation of operations and written procedures.
- Safe work practices: manuals, standards, rules of conduct, etc.
- Training: safe work practices, technical training – includes contractors.
- Mechanical integrity: preventive maintenance programs, quality control.
- Pre-startup review: review of all systems.
New Rules and Regulations

• Emergency response and control: emergency evacuation plans, oil spill contingency plans, etc.; in place and validated by drills.
• Investigation of Incidents: procedures for investigating incidents, corrective action and follow-up.
• Audits: rule strengthens RP 75 provisions by requiring an audit every 4 years, to an initial 2–year reevaluation; and then subsequent 3-year audit intervals.
• Records and documentation: documentation required that describes all elements of SEMS program.
Just the Tip of the Iceberg

• **API PR 96** – New Best Practices
• Promulgated with the conviction that these API Best Practices will be adopted by BOEMRE as mandatory rules
• These Best Practices will be extensive
• Defined in their current form in the Well Construction Interface Document
Well Construction Interface Document

The Well Construction Interface Document (WCID) links the Drilling Contractor safety case with the Lease Operator’s Safety Management System (SMS). It includes well-specific information such as the Basis of Design (BOD), the well execution plan, and critical well activity risk assessment. The document exhibits how Management of Change (MOC) and risk assessment processes will apply during well construction activities and assure personnel competency. The WCID also aligns all parties to assure their health, safety, and environment (HSE) standards are not compromised and all applicable regulatory requirements are met while undertaking shared activities. The WCID will assign or delineate specific responsibilities for the Lease Operator's personnel as well as provide a vehicle for the Drilling Contractor to intervene in the case that unsafe acts are identified.
WELL CONSTRUCTION INTERFACE

• BASIS OF DESIGN
  – OPERATION LOCATION AND ENVIRONMENT
  – GEOGRAPHICAL LOCATION
  – METOCEAN CONDITIONS
  – LOCATION HAZARDS
  – GEOLOGIC AND GEOPHYSICAL
  – SHALLOW HAZARDS
  – OTHER GEOLOGIC AND GEOPHYSICAL INFORMATION
  – WELL PORE PRESSURE, FRACTURE GRADIENT, AND TEMPERATURE GRADIENT
WELL CONSTRUCTION INTERFACE DOCUMENT

- WELL DESIGN
  - RISERLESS DRILLING
  - WELLHEAD SYSTEM
  - WELL CONTROL REQUIREMENTS
  - FLUIDS
  - CEMENT
  - WELL DIRECTIONAL PLAN
  - CASING DEPTH SELECTION
  - DRILL AND LANDING STRING DESIGN
Well Construction Interface Document

- WELL BARRIERS
  - WELL OPERATIONS (DRILLING/COMPLETION/WORKOVER):
  - TUBULAR RUNNING
  - CASING CEMENTING
  - WELL ABANDONMENT
  - WELL SUSPENSION
  - WELL COMPLETION
  - OTHER OPERATIONS (FISHING, WIRELINE, ETC)
Well Construction Interface Document

• CASING DESIGN
  – DESIGN CRITERIA/SAFETY FACTORS
  – DRILLING & PRODUCTION LOADS
  – MATERIAL SELECTION
Well Construction Interface Document

• WELL EXECUTION PLAN
  – DRILLING PHASE
  – COMPLETION PHASE
  – CRITICAL WELL ACTIVITY RISK ASSESSMENTS
  – DRILLING CONTRACTOR SAFETY CASE AND LEASE OPERATOR SMS INTERFACE
Well Construction Interface Document

- MANAGEMENT STRUCTURE, RESPONSIBILITIES, AND ACCOUNTABILITIES
  - MANAGEMENT OF CHANGE
  - PERSONNEL MANAGEMENT
  - WELL CONTROL PROCEDURES
  - RISK MANAGEMENT PROCESSES
  - EMERGENCY RESPONSE
  - MONITORING, AUDITING, AND REVIEW
Well Construction Interface Document

- What the WCID will probably look like
The Bottom Line

• Things will change whether we like it or not.
• If we don’t acknowledge that some of this change is not only necessary but good for the industry we will shoot ourselves in the foot – again.
• If we are seen to be in opposition to rational changes whatever shred of positive public perception we have will be destroyed.
• If we don’t act proactively to put better safety and environmental technologies, standards and practices in place, we will have to live with that which is mandated by the government.
• If we have another incident like Macondo, we won’t be drilling in the Gulf of Mexico any more.
The Other Bottom Line

• At least three, certified engineers/geoscientists will be required to certify that a drilling program is in compliance with regulations – a geoscientist, mechanical engineer, fluid engineer.

• Every aspect of the drilling program will, eventually, have to be signed off on.

• This will require no less than 100 seasoned and certified engineers who have substantial drilling experience, just for the Gulf of Mexico.

• Look for some states to follow suit.
The Other Bottom Line

• Current estimates say that inspection and compliance with the new regulations will add $1.4 million to the cost of a deepwater well – that figure, at least initially, is probably low by a factor of 2 to 3

• Until the system is worked out, chaos will prevail

• Lease sales and wells permits will come slowly

• GOM oil production is forecast to fall by 82,000 bopd next year
Thanks For Your Attention