

Industry Response to Deepwater Horizon

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Topics

- Joint Industry Task Force Activities
- API Standards and Standards Development
- API Offshore Standards and Publications
- Center for Offshore Safety
- Conclusions



Industry Response



- ▶ **Four Joint Industry Task Forces Formed:**
 - Operating Procedures
 - Offshore Equipment
 - Subsea Well Control & Containment
 - Oil Spill Preparedness & Response

- ▶ **Identify Improvements To:**
 - Prevent blowouts
 - Increase intervention capabilities
 - Increase oil spill response capability

Objectives of JITF

- Make improvements
- Reduce risk
- Increase environmental protections
- Provide rationale for continued drilling in the Gulf of Mexico



Operating Procedures Task Force

- Focus on Drilling & Completion safety, design, procedures and operations associated Deepwater Wells
- JITF met ~2 weeks in May to develop recommendations for DOI focused on (5) areas:
 1. Cementing
 2. Loads and Resistance Deepwater Well Design Considerations
 3. Fluid Displacement and Negative Testing
 4. Abandonment and Barriers
 5. Adopt Safety Case & Well Construction Interface



Offshore Equipment Task Force

- Review Current BOP Equipment Designs, Testing Protocols, Regulations and Data
 - Secondary BOP Control Systems
 - BOP Testing and Test Data
 - Remotely Operated Vehicles
- Recommendations
 - Safety Case Regime
 - A robust MOC process
 - Accessing shear data
 - ROV – standards for GOM
 - Investigate Acoustic reliability



Subsea Well Control and Containment

- Review everything that happens after a BOP has failed/intervention with BOP has failed
- Does not include BOPs, secondary systems or ROV/BOP interface
 - Well Containment at the Seafloor
 - Intervention and Containment within the Subsea Well
 - Subsea Collection and Surface Processing and Storage



Oil Spill Response

- Collaboration between private and public sectors
- Successful incorporation of lessons learned by all stakeholders
 - need agreement of all stakeholders on priorities for successful development of cooperative mechanisms and effective implementation
- Public sector input should be coordinated to avoid confusion
- Education, communication, and cooperation are the key to future improvements



JITF Summary

- Provided input to DOI's 30-day Safety Report
- Included recommendation for IBR of API Recommended Practice on Cementing (RP 65-2)
- Proposal for a new API Recommended Practice on Deepwater Well Design Construction (RP 96)
- Proposal for developing a Well Construction Interface Document to align safety programs (Bulletin 97) – Joint with IADC
- Provide comments to DOI on Interim Final Drilling Rule



Background on API Standards Program

- ▶ The API Standardization Department was formed in 1923, and the first API standard was published the following year on drilling threads.
- ▶ All industry segments now active in standardization:
 - Exploration and Production
 - Refining
 - Marketing
 - Pipeline Transportation and Measurement



Standards Development Process

- API is accredited by the American National Standards Institute (ANSI)
 - Openness, Balance, Consensus, Due Process
 - Regular program audits (conducted by ANSI)
- Transparent process (anyone can comment on any document – www.api.org/standards)
 - All comments must be considered

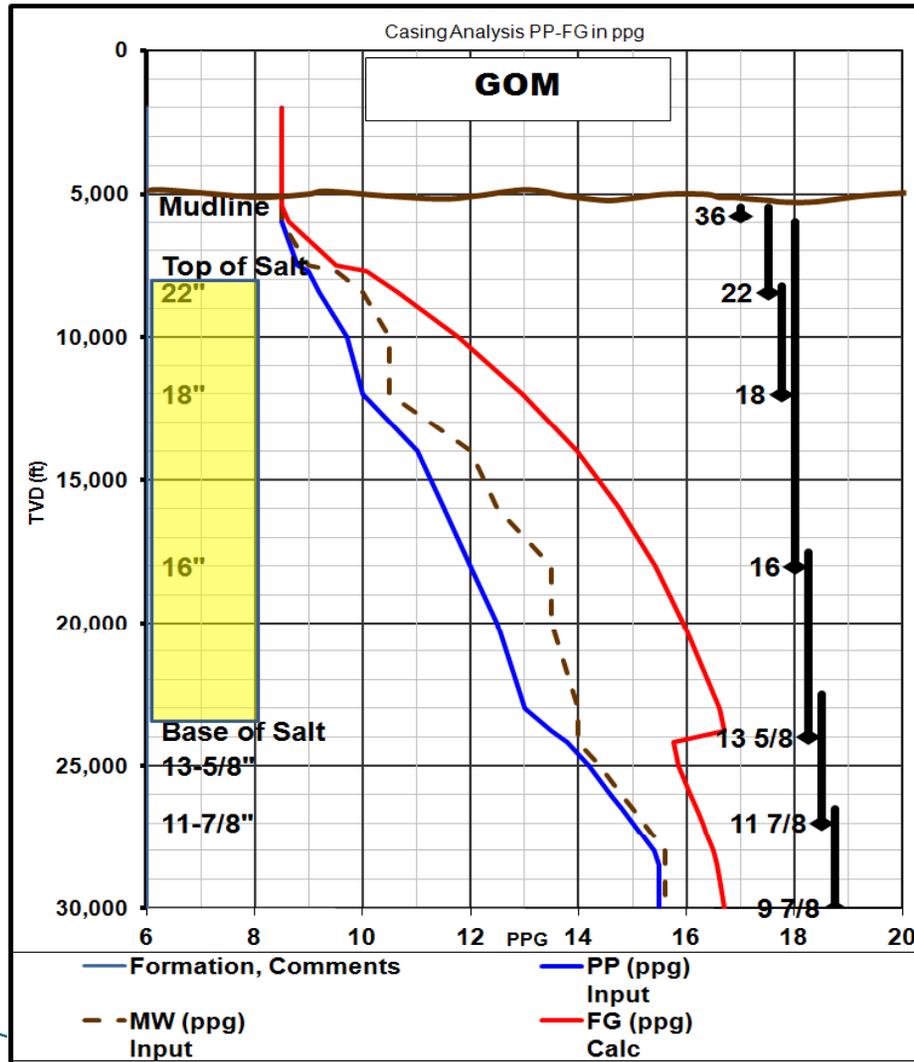


API Standards

- ~600 technical standards covering all aspects of the oil and natural gas industry
 - Standards undergo regular review
- Foundation of Self Supporting Programs
- Widely cited in U.S. & International Regulations
- Basis for Worldwide Operations
- Core of Institute's Technical Authority



API RP96 DW Well Design Construction

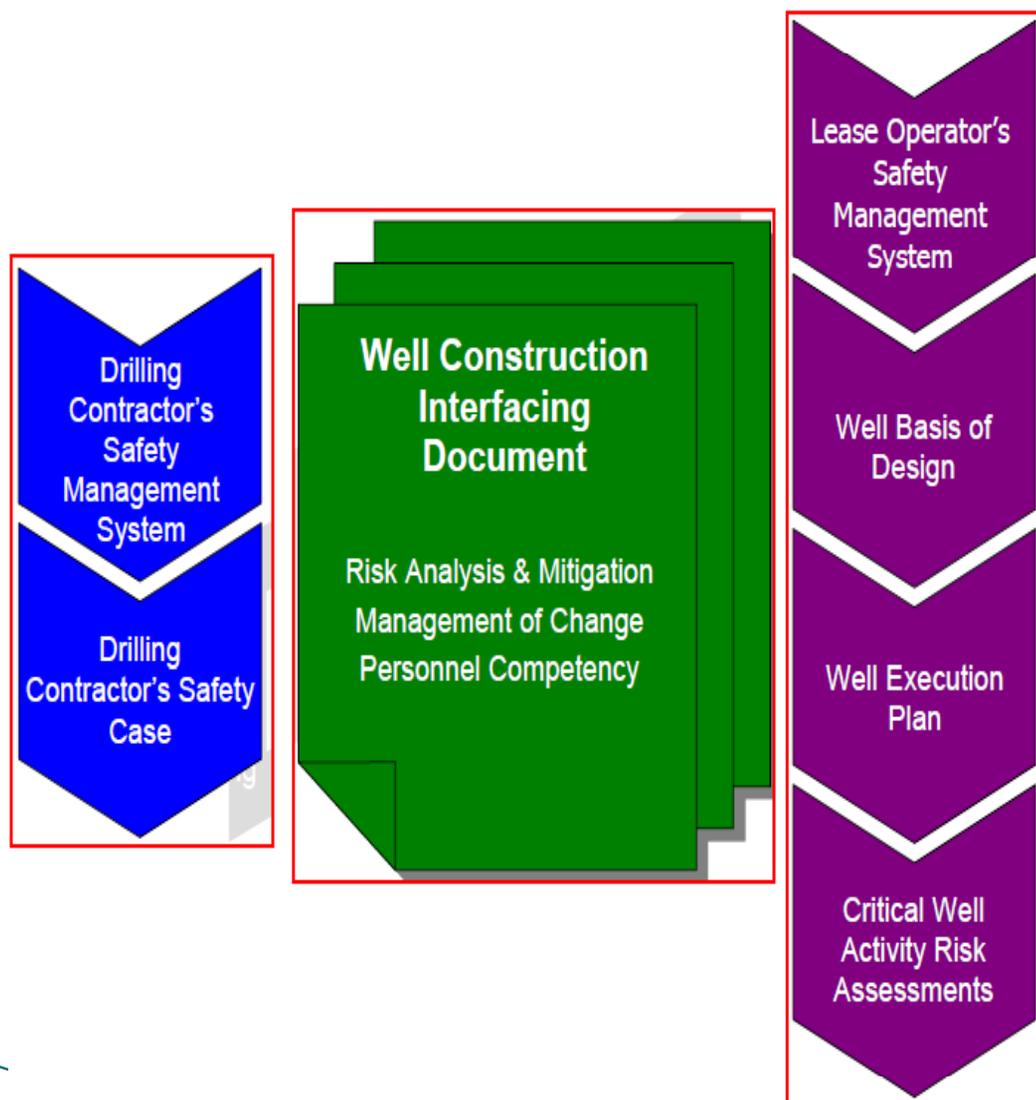


- DW Rig Sys Impact on Well Design
- Barriers
 - Philosophy, type & number
 - Validate, accept & maintain
- Fluid Displacements
- Well Design & Loads
 - Production Liner or Long String
 - Tubing & Casing & APB
 - Wellhead Bending & Fatigue
 - Casing Wear
- Well Op's (Drill, Comp, TA/PA)
- Management of Change
 - Unexpected & Contingencies
 - Interface with Stakeholders

Status - RP passed initial ballot with significant comments, is undergoing second ballot, closes November 18



Bul. 97, Well Construction Interface Document Guidelines (WCID) Joint API/IADC



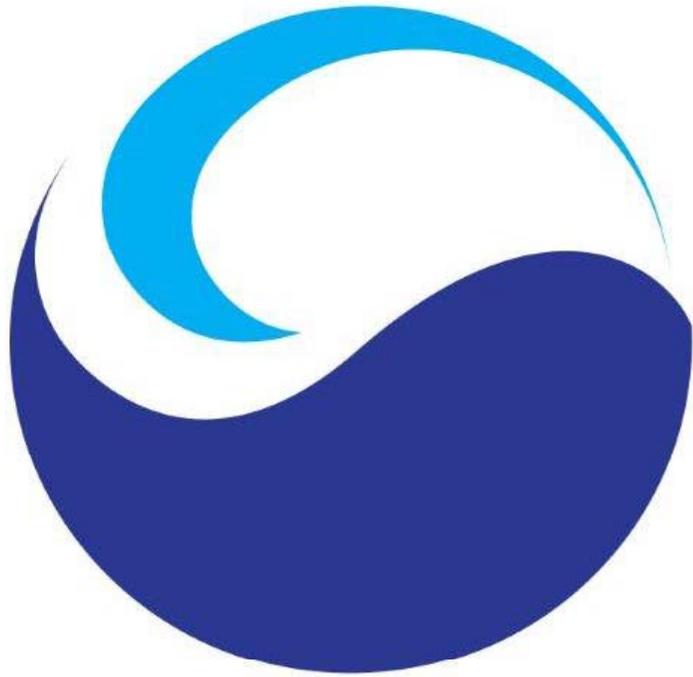
- Well Construction Interface / BOD
 - Location & Environment
 - Geologic & Geophysical
 - Well Design
 - Well Barriers (with Much Detail)
 - Casing Design
 - Well Execution Plan (with Detail)
 - Critical Well Risk Assessments
- Rig Contractor SC & Operator SMS
 - Mgt Structure / RR's / SWA
 - MOC – Rig Contractor & Operator
 - Personnel Management
 - Well Control Procedures
 - Risk Management Processes
 - Emergency Response
 - Monitoring, Auditing And Review

Status – ballot successfully closed early October, comment resolution meeting TBD

Related API Standards Activities

- ▶ Many API Standards have been either newly created or revised as a result of the event
 - 2nd Edition of API Standard 65-2 on isolating flow zones during well construction (Published December 2010)
 - 1st Edition of API Spec Q2 on quality programs for service and supply organizations (est. 2011)
 - 4th Edition of API Spec 16A on BOP design and manufacture (est. 2012)
 - 4th Edition of API Standard 53 on BOP operation and maintenance (est. 2011)





**CENTER FOR
OFFSHORE
SAFETY**

“Industry must establish its own self-policing mechanism to increase safety in the industry” – Presidential Oil Spill Commission – January 2011

- The API Executive Committee and Board of Directors approved the creation of The Center for Offshore Safety (COS) in March 2011
- Membership in COS is open to all companies that operate, drill and/or complete wells or provide support services in deepwater (1000 ft or more)
- COS is organized within API to leverage the existing resources and experience embodied in the long established API GIS group
- COS program features generally align with recommendations from the Presidential Commission report
- The Executive Director and staff will be located in Houston, Texas
- Full start-up is targeted for 4th quarter 2011

Benchmarking



- ▶ **Step Change in Safety** is the UK-based partnership with the goal to make the UK the safest oil and gas exploration and production region in the world
- ▶ **Responsible Care®** is the chemical industry's global initiative under which companies, through their national associations, work together to continually improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes
- ▶ **INPO (Institute of Nuclear Power Operations)** whose mission is to promote the highest levels of safety and reliability - to promote excellence - in the operation of commercial nuclear power
- ▶ **OSHA Voluntary Protection Program (VPP)**, the US Government sponsored partnership with businesses to promote excellence in occupational safety and health
- ▶ **Safety Case Regime** which is a regulatory based safety initiative adopted in a number of countries.



API Executive Committee

API GIS Committee

API Upstream Committee

Center for Offshore Safety Governing Board
Up to 17 members

- Chairman (API-member company rep)
- Producing/Operating companies (6 max)
- Drilling Contractor companies (3 max)
- Service & Supply companies (3 max)
- Industry Association representatives (3 max)
- COS Executive Director

External Advisory Group

- Government entities
- Academia reps
- Others as appropriate

Center for Offshore Safety

- Executive Director
- Technical Support and Administrative Staff
- 3rd party auditor certification program
- API Global Industry Services operations

Independent 3rd Party Auditors



Guiding Principles



- Industry leaders will demonstrate a visible commitment to safety
- Operators, contractors, and suppliers will work together to create a pervasive culture of safety
- Decision making at all levels will not compromise safety
- Safety processes, equipment, training, and technology will undergo constant examination and improvement
- Members will share lessons learned and embrace industry standards, and best practices, to promote continual improvement
- Open communication and transparency of safety information will be utilized to build mutual trust among stakeholders and promote collective improvement in industry performance
- Collaborative approaches will be utilized to drive safe and responsible operations, and mutual accountability
- Everyone will be personally responsible for safety and empowered to take action



Mandatory Adoption of API RP 75

- A facility seeking certification will be required to conform to API RP 75, *Recommended Practice for Development of a Safety and Environmental Management Program for Offshore Operations and Facilities* and other defined program requirements
- API RP 75 will be reviewed to determine how it can be updated to provide greater compliance mechanisms

Audit Protocols

- Initially, API RP 75 will be the standard that will be used to measure performance by third-party certification.
- Audit requirements will also include, at a minimum, BSEE's requirements for a SEMS program as required by the "Workplace Safety Rule"
- Audit checklists have been developed, and practice audits have been conducted. The audit checklist will be made available at no cost to any interested party.
- An "Audit Guidance" document is being drafted
 - to provide a thorough analysis on the use of the checklist
 - guidance on how to conduct API RP 75 audits

3rd Party Audit and Certification

- 3rd-party certification is essential in providing confidence that a certified facility meets specified requirements, and has been proven to drive organizational performance improvements
- Certification services will be provided by 3rd-party certifying bodies (CBs) accredited by API
- Certification of safety and environmental management systems (SEMS) in accordance with API RP 75
- “Facilities” will be required to undergo audits (wells, structures, drilling and workover packages, process equipment, utilities, pipelines and mobile offshore units)



Incidents and Lessons Learned

- Offshore facilities are already required to report safety-related incidents and “near-misses” to BSEE
- The Center will also collect the same data from certified facilities, blind the data to protect confidentiality and perform statistical analysis to:
 - Identify areas of excellence
 - Identify areas for improvement



Leading and Lagging Indicators

- Data collected from COS API RP 75 audits will be collected and analyzed in order to establish trends.
- Leading Indicators – signal future events. Think of how the yellow traffic light indicates the coming of the red light. Audit data trends might be able to predict new events in order to prevent unwanted events from occurring.
- Lagging Indicators is: One that follows an event. The yellow light is a lagging indicator for the green light because yellow trails green. The importance of a lagging indicator is its ability to confirm that a pattern is occurring or about to occur.



Continuous Improvement

- 3rd-party audits and certification of facilities will be based on the framework of “Plan-Do-Check-Act”, a proven effective management practice for driving operational improvements
- Results from the 3rd-party certification and safety performance reports will form part of the feedback loop
- Again, the information gathered from these activities will be used to ensure timely updating of standards, the proactive development of new standards, and potentially additional certification requirements in order to address emerging industry challenges
- The feedback loop will also include government regulators to ensure that government regulations will continue to be relevant to meet any anticipated changes and requirements in the future

Regulatory Interface

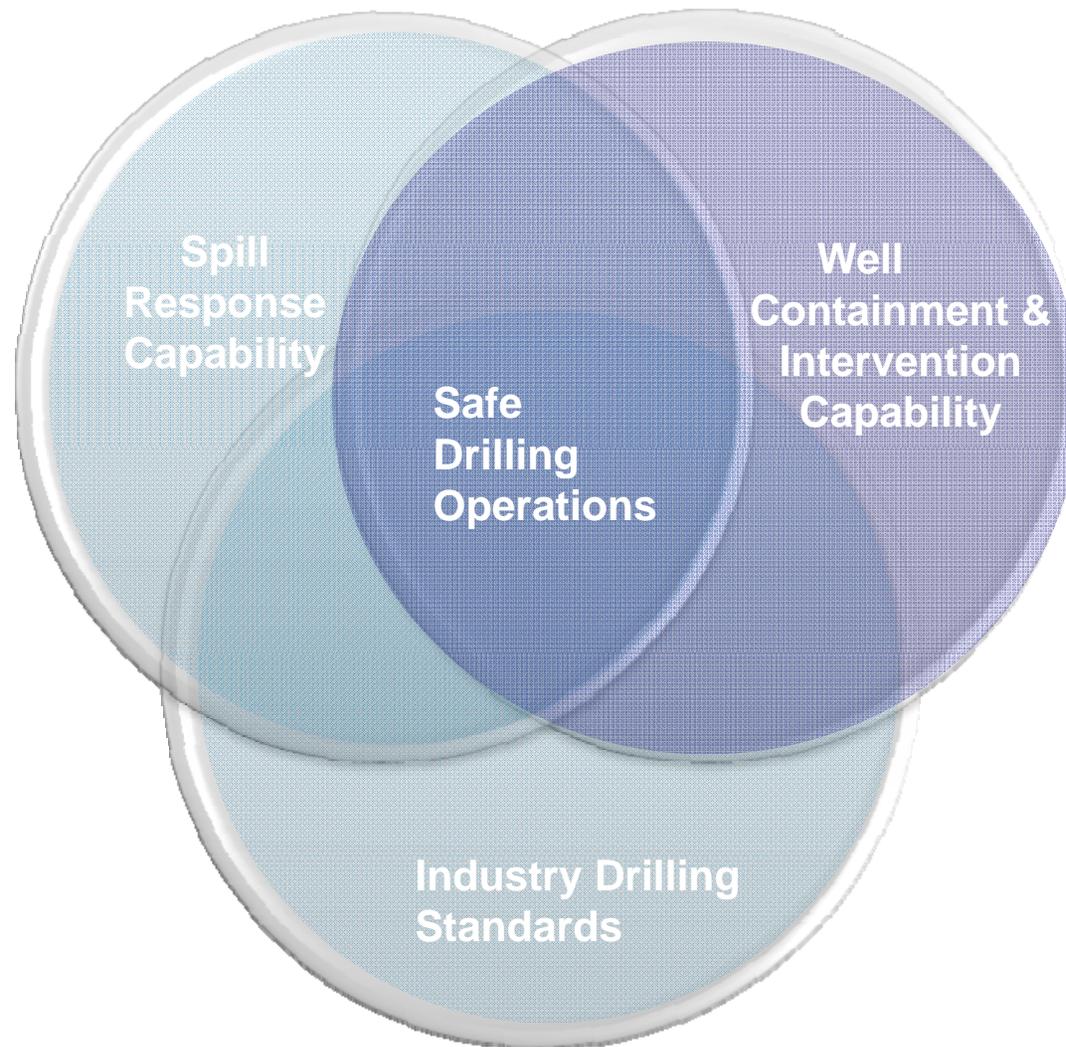
- Stakeholder participation in API's standards development process are open to all direct and materially affected parties:
 - BSEE
 - DOT
- COS will likewise collaborate with regulatory agencies such as BSEE and the U.S. Coast Guard:
 - Review of the status of offshore deepwater safety
 - Development of new standards
 - Evaluation and improvement of existing safety regulations
- A review of the program with the BSEE will be performed during COS annual BOD meeting

Outreach Program

- To promote and sustain public confidence and trust in the oil and gas industry
- To increase public awareness of industry's safety and environmental performance
- To provide a platform for collaboration between industry, the government, and other stakeholders
- To increase membership of deepwater operators and service companies in the Center
- To build strong support with 3rd-party stakeholders to encourage independent promotion of the Center's safety mission and objectives
- To collaborate with other groups representing the oil and gas industry



Restoring Confidence in Deepwater Drilling Operations



Conclusions

- Industry JITFs provided a solid foundation of recommendations and actions to ensure safe drilling operations
- API standards represent industry’s collective wisdom on equipment and operational practices and are an excellent mechanism to advance JITF recommendations
- The COS will meet its mission to “Promote the highest level of safety for offshore drilling, completions, and operations through effective leadership, communication, teamwork, utilization of disciplined management systems and independent third-party auditing and certification.”



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Thank you!

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