



## Bureau of Safety and Environmental Enforcement

### Agenda:

- Greeting and Safety Moment
- Overall summary of rule
- Q&A process
- Standards incorporated by reference
- Implementation dates
- Compliance with permitting and inspections
- Alternative compliance and departure
- Shearing
- BSEE Approved Verification Organization
- Failure reporting
- Questions?



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### Information exchanged during the August 17, 2016, Houston meeting concerning the implementation of the Well Control and Blowout Preventer Rule

BSEE believes that information provided by BSEE personnel during this meeting is accurate and reliable. However, this information may not constitute the bureau's final position with respect to that information. For example, BSEE's response to an oral question presented at this meeting may require supplementation or revision based on a more thorough subsequent review by BSEE.

- If you request a more formalized BSEE position with respect to any particular question, please submit your question to [bseeQandA@bsee.gov](mailto:bseeQandA@bsee.gov) as more fully described later in this presentation.
- Only the regulatory text itself is binding and definitive.



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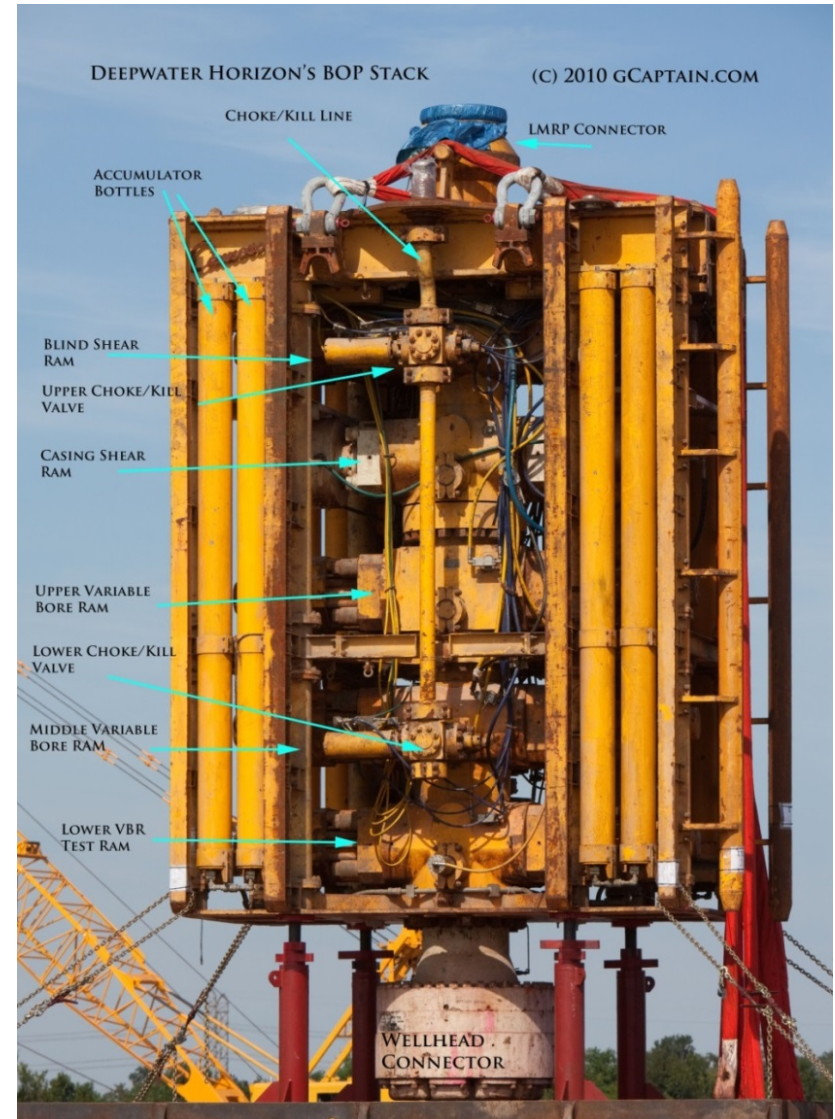
# Summary of Well Control and Blowout Preventer Rule

**Doug Morris**, Chief, Office of Offshore  
Regulatory Programs  
BSEE

August 17, 2016

# Need for the well control regulations?

- *Deepwater Horizon* tragedy
- Other well control incidents
- Revised and new industry standards
- Codification of decades of BSEE policies





# Development Process

- *Deepwater Horizon* – April 20, 2010
- Drilling safety rule- August 2012
- Completion of API Standard 53 – November 2012
- Publication of proposed regulations – April 2015
- Final rule published – April 29, 2016
- Rule effective – July 28, 2016, with implementation staged over several years



# Summary of Content of Regulation

- Incorporation of industry standards as baseline
- Performance criteria for Blowout Preventers (BOPs)
- Establish criteria for maintenance and repair of BOP equipment
- Safe drilling practices and procedures
- Real time monitoring requirements
- Formal third party certification program
- Downhole equipment



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# Q&A Process

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August 17, 2016



# Regulatory Interpretations Overview

- BSEE regularly receives requests to interpret or provide guidance concerning its regulations.
- BSEE's regulatory interpretations provide guidance that is relevant for multiple companies or a particular market sector.



# Regulatory Interpretation Process

- Submit a request for a regulatory interpretation by email to [bseeQandA@bsee.gov](mailto:bseeQandA@bsee.gov).
  - BSEE engineers and senior staff in all BSEE regions (HQ, GOMR, POCSR, and AKOCSR) draft an initial regulatory interpretation.
  - BSEE staff and counsel in DOI's Solicitor's Office review and edit each batch of draft interpretations.
  - BSEE finalizes the regulatory interpretation and publishes it on BSEE's web site at:  
<https://www.bsee.gov/site-page/well-control-rule-by-date>



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# Well Control Rule Standards Implementation

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August 17, 2016



# Industry Standards as Baseline

## Incorporation of key industry standards

- Operations involving BOP equipment systems
- Choke and Kill Systems
- BOP and drill-through equipment
- Control systems and diverters
- Packers and bridge plugs
- Quality management systems
- Riser for floating production facilities

# Industry Standards Incorporated

- API Standard 53, 4<sup>th</sup> Edition-Blowout Prevention Equipment Systems for Drilling Wells
  - Provide requirements for installation and testing of BOP systems
- API RP 2RD, 1<sup>st</sup> Edition- Design of Risers for Floating Production Systems (FPS) and Tension Leg Platforms (TLP)
  - Addresses structural analysis procedures, design guidelines, component selection criteria, and typical designs for all new riser systems used on FPS and TLP
- API Q1, 8<sup>th</sup> Edition- Specification for Quality Management Systems
  - Establish the minimum quality management system requirements for organizations that manufacture products or provide manufacturing-related processes under product spec for petroleum and natural gas industry
- API 6A, 19<sup>TH</sup> Edition-Specification for Wellhead and Christmas Tree Equipment
  - Defines minimal requirements for the design of valves, wellheads, Christmas tree equipment that is used during drilling and production operations.

# Industry Standards Incorporated

- ANSI/API 11D1, 2<sup>nd</sup> Edition- Packers and Bridge Plugs
  - Provides minimum requirements and guidelines for packers, and bridge plugs used downhole in oil and gas
- ANSI/API Spec 16A, 3<sup>RD</sup> Edition- Specification for Drill-through Equipment
  - Defines requirements for ram blowout preventers, ram blocks, packers, top seals, annular blowout preventers, annular packing units, hydraulic connectors, drilling spools, adaptors, loose connections and clamps
- API 16C, 1<sup>ST</sup> Edition- Specification for Choke and Kill Systems
  - Equipment covered by this spec includes actuated valve choke lines, drilling choke actuators, drilling choke controls, flexible choke and kill lines, and etc.
- API 16D, 2<sup>ND</sup> Edition- Specification for Control Systems for Drilling Well Control Equipment and Control Systems for Diverter Equipment
  - Establish design standards for systems that are used to control BOPs and associated valves. Diverter control systems are included



# Industry Standards Incorporated

- API 17D, 2<sup>ND</sup> Edition- Design and Operation of Subsea Production Systems, Subsea Wellhead and Tree Equipment
  - Provides specification for subsea wellheads, mudline wellheads, drill-through mudline wellheads, vertical and horizontal subsea trees.
- API RP 17H, 1<sup>st</sup> Edition- Remotely Operated Vehicle Interfaces on Subsea Production Systems
  - Provides guidance for the design and operation of remotely operated tools (ROT) comprising ROT and ROV tooling used on offshore subsea systems.



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# Well Control Rule Compliance Dates

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August 17, 2016



## Effective Date of the Final Rule

- Final rule published - April 29, 2016
- 90 day effective date of the rule - July 28, 2016
  - For the entire rule unless otherwise stated
- Additional compliance dates
  - Discussed in the preamble of the final rule – **Section III Discussion of Compliance Dates for the Final Rule**





## Additional Compliance Dates of the Final Rule

- BAVO (BSEE approved verification organization) – 1 year after BSEE published a BAVO list
  - *e.g.*, MIA (mechanical integrity assessment) report

# Additional Compliance Dates of the Final Rule

**2 years - April 30, 2018**

- **§ 250.732 What are the BSEE-approved verification organization (BAVO) requirements for BOP systems and system components?**
  - 250.732(b)(1)(i) – Shear testing demonstrating that the BOP will shear any electric-, wire-, and slick-line to be used in the well
- **250.733 What are the requirements for a surface BOP stack?**
  - Shear tubing with exterior control lines

# Additional Compliance Dates of the Final Rule

**2 years - April 30, 2018**

- **§ 250.734 What are the requirements for a subsea BOP system?**
  - **250.734(a)(1)**
    - Shear tubing with exterior control lines
    - Shear electric-, wire-, slick-line in the hole
  - **250.734(a)(15)**
    - Install a gas bleed line with two valves for the annular preventer

# Additional Compliance Dates of the Final Rule

**3 years - April 29, 2019**

- **§ 250.724 What are the real-time monitoring requirements?**
  - RTM
- **§ 250.735 What associated systems and related equipment must all BOP systems include?**
  - **250.735(g)(2)(i)** – For surface BOPs, Remotely-operated locking devices must be installed on blind shear rams

# Additional Compliance Dates of the Final Rule

**5 years - April 29, 2021**

- **§ 250.734 What are the requirements for a subsea BOP system?**
  - **250.734(a)(1) – Dual shear rams** – and requirements that are ancillary to the operation of dual shear rams
    - **§ 250.734(a)(1)(ii)** – Shear rams capable of shearing at any point along the identified pipes, tubes, and lines;
    - **§ 250.734(a)(3)(i)** – Subsea accumulator capacity to operate each required shear ram;
    - **§ 250.734(a)(3)(ii)** – Capability to deliver fluid to each ROV function;
    - **§ 250.734(a)(6)(iv)** – Emergency functioning must close, at a minimum, 2 shear rams in sequence;
    - **§ 250.734(a)(6)(v)** – Sequencing of the dual shear rams;
    - **§ 250.734(a)(16)(ii)** – Mitigating compression of the pipe stub between the shear rams.
  - **250.734(a)(3)(ii) – Subsea dedicated bottles for autoshear/deadman**

# Additional Compliance Dates of the Final Rule

**7 years - May 1, 2023**

- **§ 250.734 What are the requirements for a subsea BOP system?**
  - **250.735(a)(16)** – Mechanism coupled with each shear ram to position the entire pipe, completely within the area of the shearing blade



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# Well Control Rule: Shearing

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August 17, 2016



## Additional Shearing Data

- All BOPs by April 30, 2018
  - Drill pipe and any electric-, wire-, slick-line
- Performed on the outermost edges
  - Does not have to be held there the entire test
  - Shows testing is done immediately after shearing
  - 30 minute pressure test at RWP
- Show correction for MASP



# Surface BOPs

- Must be able to shear exterior control lines, electric-, wire, slick-line after April 30, 2018.
  - An alternate cutting device may be used until then
    - After April 30, 2018 an alternate cutting device is not acceptable
- 2 shearing rams must be installed on floating production facilities after April 29, 2019
  - All existing floating production facilities are exempt
  - BSEE does not consider reinstallation of a BOP following the removal of a BOP for required service and recertification to constitute “installation”

# Subsea BOPs

- After April 29, 2021 dual shears must be installed
  - Both must be capable of shearing under MASP with one having the capability of sealing
    - Electric-, wire-, slick-line, and exterior control lines must be able to be sheared after April 30, 2018.
- The non-sealing ram must be installed below the sealing ram



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# Well Control Rule: Alternative Compliance and Departure

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August 17, 2016

# Alternate/Departures

- **§ 250.734(a)(3)**

- (3) Before drilling out each string of casing or a liner. You may omit this pressure test requirement if you did not remove the BOP stack to run the casing string or liner, the required BOP test pressures for the next section of the hole are not greater than the test pressures for the previous BOP test, and the time elapsed between tests has not exceeded 14 days (or 30 days for blind shear rams). You must indicate in your APD which casing strings and liners meet these criteria

- MASP +500 psi for the high pressure test
  - Testing to casing test pressure is a departure

- **250.198- Using different version of standards**

- A detailed list of the differences and why they are safe or safer than the version incorporated by BSEE
- A non detailed list is not acceptable

## Alternate/Departures

- **API S53- 6.5.4.9**
  - Hand wheels shall be installed on all manual locks for surface BOP stacks
- **Stump, Deadman, ROV intervention, Initial on-bottom testing**
  - **All must be to MASP +500PSI for the applicable hole section**
    - For deadman/ROV intervention
      - 22" MASP + 500 psi
      - 1000 psi is not acceptable
    - For Initial on-bottom test
      - MASP +500 psi of the next hole section (18" or 16")



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# BSEE Approved Verification Organization

**Doug Morris**, Chief, Office of Offshore  
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BSEE

August 17, 2016



# BSEE Approved Verification Party

- Provides independent third party review
- BSEE will accept applications once criteria finalized
- List of BAVOs will be published
- Objectives:
  - Design verification
  - Shearing capabilities
  - Verification of repairs
  - Annual mechanical integrity assessment report:
    - Review of documentation
    - Compliance with regulatory requirements
    - Design and compatibility
    - Inspection and repair documentation
    - OEM requirement
    - Traceability
    - Training of repair personnel
    - Conformance to SEMS Plan



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# Failure Reporting

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August 17, 2016





# Failure Reporting

- Ensures API standards procedures are followed
- Reports and analysis provided to OEMs and BSEE
- Objective is to increase data sharing and identify trends
- Working with industry to standardize data
- Anticipate utilizing SafeOCS system

Questions or comments?



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“To promote safety, protect the environment and conserve resources offshore through vigorous regulatory oversight and enforcement.”